



**Australian Government**  
**Productivity Commission**

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**PRODUCTIVITY COMMISSION**

**INQUIRY INTO THE TELECOMMUNICATIONS  
UNIVERSAL SERVICE OBLIGATION**

**MR P LINDWALL, Presiding Commissioner**

**TRANSCRIPT OF PROCEEDINGS**

**AT DUBBO  
ON MONDAY, 30 JANUARY 2017 AT 9.20 AM**

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*(The following text was read by Commissioner Lindwall to witnesses but was not recorded.)*

Good morning. Welcome to the public hearing for the Productivity Commission inquiry into the Telecommunications Universal Service Obligation. My name is Paul Lindwall and I am the commissioner on this inquiry.

I'd like to start off with a few housekeeping matters. In the event of an emergency, Quality Inn staff will direct/assist everyone in evacuating and moving to the assembly point (which is outside of this building).

We will be breaking for morning tea at round 10 am. We look like we'll be concluding the hearing at lunchtime by around 1 pm. If you have any particular questions, or wish to present at this hearing, please see Monika out the back.

The inquiry started with a reference from the Australian Government in April last year that has asked us to examine "to what extent are government policies required to support universal access to a minimum level of retail telecommunications services?" This includes recommendations on the objectives for a USO or equivalent, the scope of services to achieve objectives, specific user needs, and funding and transitional arrangements.

We released an issues paper in June and have received about 60 submissions since its release. We have talked to a range of organisations and individuals with an interest in the issues. We released a draft report in December and have received further submissions from interested participants.

We are grateful to all of the organisations and individuals who have taken the time to meet with us, prepare submissions and appear at our public hearings.

The purpose of the public hearings is to facilitate public scrutiny of the Commission's work and to get comment and feedback on the draft report.

Following this hearing, hearings will also be held in Sydney, Cairns, Launceston, Melbourne and Port Augusta. We will then be working towards completing a final report to be provided to the Australian Government in April. Participants, and those who have registered their interest in the inquiry, will automatically be advised of the final report's release by government, which may be up to 25 parliamentary sitting days after completion.

We like to conduct all public hearings in a reasonably informal manner, but I remind participants that a full transcript is being taken. For this reason comments from the floor cannot be taken, but at the end of proceedings for the day I will provide an opportunity for any persons wishing to do so make a brief presentation.

Participants are not required to take an oath, but should be truthful in their remarks. Participants are welcome to comment on the issues raised in other submissions.

The transcript will be made available to participants and will be available from the Commission's website following the hearings. Submissions are also available on the website.

Participants are invited to make some opening remarks of no more than five minutes. Keeping the opening remarks brief will allow us the opportunity to discuss matters in greater detail.

*(Recording commenced.)*

**MR LINDWALL:** Okay, well, if you both introduce yourself for the record, and we'll see - and sorry for the delay.

**MS MCKAY:** Okay. Geraldine McKay.

**MR MCKAY:** And Alston McKay.

**MR LINDWALL:** Okay, and Geraldine and Alston, if you'd like to make a bit of an introduction, as you say, and just speak normally. I think the microphones will pick up fine.

**MS MCKAY:** Okay, right. Well, thank you to the Productivity Commissioner, Paul and Monika, for coming to Dubbo so that you're accessible for us, because accessibility - this sort of thing is somewhat unique, and we feel quite privileged that you're here.

Now, speaking from - or I am here representing really the Mullaley community. We have had, under the current Universal Service Obligation, a lack of service, which has now been resolved on our landlines. However, we struggle with our internet in our district, and we have a very vibrant agricultural district, and it is limiting the ability of the people in our area to be able to compete, from selling their produce off their farms, like grain sales.

The farmers nowadays with grain trading need to be able to virtually do business from the paddock through the day to hit the market at the right time, and we have had farmers in our area who have been midway through a sale and their internet drops out. So that really is a hit to their bottom line if they can't sell their product.

So we really need the sort of level of service that people in city areas get and expect. Your stock on the stock exchange. They're not going to get halfway through the day and have everything go down and not be able to access - there'd be a revolution. Whereas this happens to us all the time, so we don't have an equitable service in our area. And I know that's common across much of rural Australia, and it's led to the formation of the group Better Internet for Regional, Rural and Remote Australia.

And those people as volunteers, and other members of the group, help troubleshoot the problems that people are having with Sky Muster, with wireless broadband, with fixed wireless, and they're helping people resolve their technical issues that the service providers and retailers are not providing.

So this is as a voluntary thing, whereas the paid companies are not providing that service. All the time we're hearing about the dysfunctional Telstra in particular, where it seems to be the left hand doesn't know what the right hand is doing. When they send out technical people, they'll send someone from Cobar to deal with an issue at Tamworth, and they'll get there and the line hasn't been laid so that that technician can actually connect that installation.

This has been ongoing for decades. We've experienced that sort of thing ourselves personally, and others are still experiencing it now, so instead of a seamless management, it's just - it doesn't work. And somebody in the overall management of the telecommunications company surely should be able to put in processes that make the businesses work that we depend on. That's the thing.

And to survive, to compete, and to contribute to our societies, we need a phone with a voice service that people who are hearing disabled or impaired, like my husband, can actually have a reliable service that when they pick up the phone the quality of the service is good enough.

We deal with - in the line of our business we deal with people over the northwest regularly. We run events where we're communicating with over a hundred people as participants in that event, that the event brings thousands of people to, and if someone is on the NBN satellite phone system it's very, very difficult to communicate with them, because you - with that delay, but then you're speaking over the top of each other. The quality of the service just isn't good enough, and the fact that there's a great deal of time - they will go for days and days and you can't contact them, and I can tell you as an event organiser, when you don't know if your participants are turning up or not, it puts a lot of stress back on the whole management of the event.

The - with Sky Muster, the breakdown in the service which is happening, to the point where it's commonly known as Sky Disaster, not Sky Muster - there are so many people, the beam will be down here, you know - the luck of the draw of the beam that you're under, some of those beams are terribly unreliable, and when - when it comes to lodging your BAS, the Australian Taxation Department has a level of expectations that you will be able to lodge that BAS on time, and the BAS I tried to lodge last week, I still can't lodge. Or I have gotten part the way through, system goes down. Now, that's on wireless broadband. But this is something that's happening and impacting our businesses.

And you've then got to stop that process, go off and do something else, knowing in the back of your mind that you haven't completed your obligation. It's a worry, and you don't need those unnecessary processes. And don't tell me that you can write it down on a piece of paper and post it, because eighty percent of what we posted prior to Christmas didn't reach the other end by Australia Post, so that is not - eighty percent arrived, sorry, twenty percent didn't arrive, so that's - that's not - I mean, you can't say, well, there's, only an eighty percent chance that the BAS is going to get to where it has to go.

This folder here, which is, you know, a few centimetres thick, that's the correspondence that we had as a community with local, state, federal and Telstra to try and get the batteries replaced in our phone exchange, because every time there was a blackout, our phone exchange went out, the mobile towers on top of the exchange, so there was no mobile service, no landline service. If anybody needed triple 0, we have elderly people in the community, we have plenty of snakes in the area, we're in a total dead zone.

Mike will tell you - Mike Marom will now tell you that that's been fixed. We had to go through what it took to fill that folder, plus go to our TV and radio stations, to get the

publicity to get those five car loads of technicians and riggers out to fix our exchange. We should not have to do that. We really should not have to do that.

If you had - and I hear through Better Internet for Regional Remote Australia that this is ongoing, particularly in Queensland, that there is a lack of maintenance of infrastructure. So to maintain the current Universal Service Obligation, no, that's not happening, and we certainly don't need a lesser commitment to that. In fact, with increased technology and our increased need for technology for our businesses, and also for those of us who volunteer, for those who depend on us with what we do in volunteering, which are quite some important things in community, we need that connectivity.

**MR LINDWALL:** Okay. Well, thanks for that, Geraldine. I think you've covered that.

**MR MCKAY:** Look, I don't think there's anything for me to add at this stage.

**MR LINDWALL:** That's all right.

**MS MCKAY:** Other than the stress that me doing this puts you through.

**MR LINDWALL:** How about I start with the current what you've got out there in the community, Mullaley community. Is it - obviously some people would have the copper universal - the traditional telephone?

**MS MCKAY:** Yes.

**MR LINDWALL:** Does anyone have ADSL on those copper lines?

**MS MCKAY:** Our exchange is too old, we are told, to have ADSL. We are only a maximum a kilometre and a half from that exchange - - -

**MR LINDWALL:** Which is not that far.

**MS MCKAY:** - - - and we have been told it's not available to us, yes.

**MR LINDWALL:** Okay. So you're - in your comments you rely on wireless, and I believe you've got mobile coverage - - -

**MS MCKAY:** Yes, which - - -

**MR LINDWALL:** - - - which is an expensive plan, obviously, to have large amounts of data through.

**MS MCKAY:** Oh, what is it? \$250 a month.

**MR LINDWALL:** You've said here \$205 for 23 gigabytes or something like that.

**MS MCKAY:** Yes, yeah. And - - -

**MR MCKAY:** And that's for when it works.

**MS MCKAY:** That's for - yes, that's for when it works. Actually, the latest now - they've - I've dealt with them last week. I'm paying \$250 a month for 16 gig of data, and data is really what we depend on. They've offered \$215 for 23 gig, but they want to lock us in for two years to that. Now, where I see our data usage has skyrocketed in the last 12 months, even though that's relatively small to what someone who lives in a town or city would use, because we don't use anything for entertainment, to lock that in for two years is just ridiculous.

**MR LINDWALL:** And which providers have coverage in your area of the mobile?

**MS MCKAY:** Telstra Business - oh, Telstra. If we were on the other side of a ridge we would have access to Optus, but we don't. It's been tried, and no Optus can work in our area, and the poor Optus people that have access only to Optus, we've had to go out and help people on the highway because they've - that runs past our property because they only had Optus and had no way of contacting anyone when they've broken down.

**MR LINDWALL:** Because there's no roaming agreement.

**MS MCKAY:** No, no roaming. And we do want and need, and would use, roaming, and surely with the fact that there are many providers on land line who use what is basically the Telstra system, surely that can be done with wireless broadband as well.

**MR LINDWALL:** And Geraldine, so you have the mobile wireless data. Do you have also have a - yourself a normal telephone as well?

**MS MCKAY:** Yes, we do, yes.

**MR LINDWALL:** So you're paying for two types of things.

**MS MCKAY:** Oh, that's right, the landline's over and above that.

**MR LINDWALL:** And how reliable is the - you've said that you've had problems with the landline?

**MS MCKAY:** Since they put new batteries in the Mullaley exchange we've had absolutely no trouble. We have yet to have - look, we've had one scheduled blackout and one storm blackout since that was fixed last February, and the landline has worked on both those occasions, so - - -

**MR LINDWALL:** And when it has gone out in the past, have there been lengthy periods when it's been out?

**MS MCKAY:** We had six hours' service in 14 days. That's what promoted or prompted our - my husband and myself calling the meeting, and we had 50 Mullaley area residents,

26 apologies, and 26 letters of - 27 letters of support, and stories of the impact that it was doing to people.

And you're talking about a community of a few hundred people, so we had a pretty good turnout.

**MR LINDWALL:** Yes.

**MS MCKAY:** And the level of frustration - everything from the SES and Fire Brigade, who were impacted - - -

**MR LINDWALL:** And you haven't taken up the NBN as yet, by the sound of it?

**MS MCKAY:** No, given the - well - - -

**MR LINDWALL:** I take it you're in the satellite footprint, not the fixed wireless?

**MS MCKAY:** That's correct. And also we use - because of the nature of our business we use the internet a lot when we're off-farm. We might be in Narrabrai, Moree, Dubbo, Tamworth, so the Sky Muster, being a fixed service, is not going to - it would deal with some of our issues, but we would still need to maintain - so it would be a cost over and above what we currently are paying.

**MR LINDWALL:** So you've got - that would be three services if you had that.

**MS MCKAY:** That's right.

**MR LINDWALL:** You've got your mobile and the NBN, plus your fixed line. What would you want to be able to say that, you know, two services are enough, that NBN and mobile is sufficient and I wouldn't need my - - -

**MS MCKAY:** Given that a lot of the towers that give wireless broadband are in questionable situations for the amount of coverage, the wireless broadband would really satisfy our needs if the coverage was right, and the amount of data that we could get economically was a better deal.

That really would be the thing that worked. Do they call that fixed wireless broadband? They might - - -

**MR LINDWALL:** Fixed wireless to the home, yes.

**MS MCKAY:** Yes,

**MR LINDWALL:** And that's a very good quality, yes.

**MS MCKAY:** Yes, and does that mean that then you can use the wireless when you're away or travelling? No? So - - -

**MR LINDWALL:** No, it is fixed.

**MS MCKAY:** Okay, that's - yes, so it's fixed. Yes.

**MR LINDWALL:** It's targeted to a premises. I mean, it's the same as the Universal Service Obligation. It's a premises-based system - - -

**MS MCKAY:** Yes.

**MR LINDWALL:** - - - not a mobile system.

**MS MCKAY:** Well, for a farming community - so it's not going to work, because the technology that we use on the farms, the information that we need to access on the farms, if you're out spraying you need to have your weather reports that you can access all the time to know what the wind speed's going to do, because we don't need to be having spray drift.

And also if you're out on a farm and you're communicating with businesses that you deal with, you don't need to be going back to a fixed point. It's just not functional.

**MR LINDWALL:** Yes, I think that some farms have their own internal networks, if you like, because - at the moment I think roughly 99.3% of the population have mobile coverage, and about 30% or just under 30% of the geographic area of Australia has mobile coverage, and it would be fairly costly to increase that significantly.

**MS MCKAY:** Yes.

**MR LINDWALL:** So it's always a balance between costs and benefits, I suppose.

**MS MCKAY:** Yes, yes. If the towers were more strategically placed - like, for instance the Mullaley tower is on top of the exchange, but the Mullaley Village where the exchange is just happens to be down over a ridge, secreted from the wider area. There's a tower west of us which - it was put there for strategic reasons, that being that at the time the Deputy Prime Minister of the time was living there. It services half a dozen farms and a couple of kilometres of the highway.

Now, we understand the reason it was put there. Whereas there is a hill across the road from us with good access to three phase power and the fibre optic line, would actually service a massive area. Major roads, highway, and a vast expanse of the area.

So placement of towers is - - -

**MR LINDWALL:** Yes, well, is important of course, yes.

**MS MCKAY:** Yes.

**MR LINDWALL:** Now, could I also ask about that - when you've dealt with - well, you haven't yet, but you're talking about a community in general. Those that have got an NBN connection, and they of course have a separation between the retailer and the wholesaler, being NBNC0, and - what have you heard about the retailers and - - -

**MS MCKAY:** Yes.

**MR LINDWALL:** Because there are quite a few different retailers.

**MS MCKAY:** Yes, yes. The feedback that I'm getting from the community is it's very important to check out the business hours that the retailer operates in, because a lot of outages happen outside normal business hours - - -

**MR LINDWALL:** Exactly, yes, yes.

**MS MCKAY:** - - - and a lot of those retailers don't have adequate - - -

**MR LINDWALL:** Customer service, yes.

**MS MCKAY:** - - - customer service, and some of them have offshore people to talk to and it's very difficult to understand the language barrier. Even - not only the quality of the spoken English, but understanding the way we speak and what we actually mean as Australians is quite a difficulty with some of those retailers, and that's one of the reasons why the volunteers in Better Internet for Regional Remote Australia are doing so much work - - -

**MR LINDWALL:** To help, yes.

**MS MCKAY:** - - - and people are reverting to their wireless broadband - - -

**MR LINDWALL:** Yes.

**MS MCKAY:** - - - BIRRR to troubleshoot their Sky Muster difficulties.

**MR LINDWALL:** So we're definitely talking here about Sky Muster and not the interim satellite - - -

**MS MCKAY:** That's correct, yes.

**MR LINDWALL:** Because Sky Muster's around - hasn't been around that long, and the second satellite's only fairly recent.

**MS MCKAY:** Yes.

**MR LINDWALL:** They do seem to have teething problems. Our report has been quite clear that things should be bedded down and operating properly before, you know, you change systems.

**MS MCKAY:** Well, isn't it 28 February they cut out the interim satellite?

**MR LINDWALL:** Yes, I think that's right.

**MS MCKAY:** And I'm hearing that a lot of people who are on that will actually not have the transfer. One outfit, they were supposed to get their Sky Muster installed in November. That's been put back four times, and they've now been told it will be the end of March, so they'll have a month with no internet.

**MR LINDWALL:** That's - yes, no, that's exactly right, and that's relevant to your point here which I think you made about a very poor NBN installation in terms of workmanship. So how was that resolved? Because this is an interesting dilemma. In the old days where there wasn't a separation between Telstra and the wholesale, Telstra provided both the retail and the wholesale service for the line - - -

**MS MCKAY:** Yes.

**MR LINDWALL:** Now, of course, NBN, if you have a problem you have to contact your retailer, who then contacts NBN if it's an NBN issue. So what's been the response to the - I mean, this sounds like untidy installation, it's an NBN problem, it should be sorted out, I would have thought.

**MS MCKAY:** Yes. Well, my mother, she's 90 years old, she has the NBN to her home, and she has the tidiest house ever, but there's this box with just wires going everywhere. Every time she does her cleaning - well, not every time now, because she knows to give it a wide berth - but she's just got - to me, in a business, your work health safety, it wouldn't cut - it just wouldn't pass muster. Because - - -

**MR LINDWALL:** And she's complained to her retailer?

**MS MCKAY:** Yes, and they've totally ignored her.

**MR LINDWALL:** Has she heard of the Telecommunications Industry Ombudsman?

**MS MCKAY:** No, but I'll have to - she wouldn't have. She wouldn't have - I will have to - - -

**MR LINDWALL:** Well, I mean, I have advice that if you have problems like that and you don't get any support with your retailer - - -

**MS MCKAY:** Yes.

**MR LINDWALL:** - - - you should go straight to the Telecommunications Industry Ombudsman.

**MS MCKAY:** Okay.

**MR LINDWALL:** Because if the retailer is not sorting out your issue, they can actually get quite good results, as I've discovered personally, so - - -

**MS MCKAY:** Very good. Yes, well, we'll take that issue up with her, yes.

**MR LINDWALL:** And the other thing I wanted to ask about, you're aware that your standard phone line comes with a consumer services guarantee, with mandated response times for maintenance and so on, and if it's not resolved over a certain period - I can't remember offhand - - -

**MS MCKAY:** Yes.

**MR LINDWALL:** - - - you get compensation? Are you aware of that?

**MS MCKAY:** Yes. I haven't heard of anyone in our area getting compensation, and - in fact, a lady rang me prior to coming down here saying the Goolhi exchange has been having - which is, like, Goolhi is the next farming area to Mullaley, and they've had multiple outages with their exchange, and I did suggest to her contacting the ombudsman as the path to follow, because they just weren't getting any joy.

One gentleman had eight weeks without any landline service in the Goolhi area.

**MR LINDWALL:** Eight weeks?

**MS MCKAY:** Eight weeks.

**MR LINDWALL:** Did he receive - he didn't receive compensation?

**MS MCKAY:** No, no, as far as I - - -

**MR LINDWALL:** He would be eligible if he hasn't had it for eight weeks.

**MS MCKAY:** Yes, and he has to travel - they transferred his calls onto his mobile, but he has to travel quite a few kilometres down the road to access mobile service. Yes, yes. So there again, I said get onto the Ombudsman.

**MR LINDWALL:** All right. Have you got any other points you want to conclude with?

**MS MCKAY:** Timely text services coming in on the wireless broadband. I've had situations where texts have actually - - -

**MR LINDWALL:** You mean the mobile broadband?

**MS MCKAY:** The mobile broadband, yes.

**MR LINDWALL:** If you say wireless broadband you can confuse with the - - -

**MS MCKAY:** Okay, right. I must say that we're not in sync with a lot of the technical terms, sorry.

**MR LINDWALL:** That's all right.

**MS MCKAY:** But texts have arrived four days after they've been sent. Now, that to me means that there's something going wrong in the system somewhere. And we at times have to - our service can be quite unreliable at times for - I'm not sure what the given reason is - on our mobile. Well, we are right on the - even though we're a kilometre and a half from the tower, it's another tower that we usually pick up our service off, and I guess it gets congested, and there's times that we have to go out and actually stand on a ladder and, you know, send a text. Text in particular seems to be quite difficult for the system, and at times that's caused us quite a bit of business problems.

**MR LINDWALL:** Have you tried alternatives like, you know, some of the data-type text messaging, like Messenger and so forth, rather than a traditional SMS?

**MS MCKAY:** I use Messenger quite a bit.

**MR LINDWALL:** Okay.

**MS MCKAY:** Yes, it's actually - - -

**MR LINDWALL:** That goes through data rather than through the traditional - I mean, that's going to - things are changing, as you know.

**MS MCKAY:** Yes.

**MR LINDWALL:** There's a convergence of voice and data over time.

**MS MCKAY:** Yes. Not everybody - I find that it's not accessible for some people, and quite a few businesses aren't using Messenger, I don't know why, but - yes, with quite a few things, it doesn't seem to be seamless as it should be.

**MR LINDWALL:** Okay. Well, thank you very much, then, Geraldine.

**MS MCKAY:** Yes, okay.

**MR LINDWALL:** And thanks for appearing today, and that's great. And as I say, your transcript will be up on our website in a couple of weeks, ...

**MR LINDWALL:** ... So we might move to - - -

**MS MCKAY:** Thank you very much.

**MR LINDWALL:** So we've got, I think, Barbara and Brett, is that right? Now, if you could just say your names for the record, that would be good.

**MR BANNISTER:** Yes.

**MR LINDWALL:** And the same thing, that if you just give a bit of an introduction about what you want to say, that would be perfect.

**MR BANNISTER:** Brent Bannister.

**MS BANNISTER:** And Barbara Bannister.

**MR LINDWALL:** Welcome.

**MS BANNISTER:** Thanks. We'll kind of tag-team a little in what we say, I think. I mean, I will touch on some of the stuff that I think Brent will take a little bit further.

I guess our interest - I have worked in Education for quite some time. I'm currently complete my doctorate in virtual provisions for gifted students in rural, regional and remote areas of Australia, so I - you know, we - I have an interest in that perspective.

We run an export orcharding business. Our children are all grown, and therefore they don't live at home, so you know, we connect with family. So that sort of explains our interest in this Productivity Commission.

I guess I just wanted to put a couple of things out there. If we bring the current Universal Service Obligation down to a one liner, my understanding is that the government is required to ensure access for all Australians to a voice telephone service, and that this is currently met by a mix of landline and payphone, is that a reasonable - - -

**MR LINDWALL:** The USO is a requirement of the contract with Telstra to provide voice-only services to the premises, yes.

**MS BANNISTER:** Yes, yes, okay.

**MR LINDWALL:** Plus pay phones, too, and that's a contract of \$300 million a year.

**MS BANNISTER:** Yes, and then the second thing that I just wanted to check was that this hearing is about should the government continue to meet this Universal Service Obligation for voice service, and part two, should access to data be added to that obligation? That's my understanding of what it - - -

**MR LINDWALL:** Well, the inquiry is really about - to look at the Universal Service Obligation and then come up with our own thinking about what it should be, if anything, you know.

**MS BANNISTER:** Yes, yes, yes, okay, okay, so - - -

**MR LINDWALL:** And we did say in our draft report that we thought data was obviously becoming more important - - -

**MS BANNISTER:** Sure.

**MR LINDWALL:** - - - and that there is a convergence of voice and data.

**MS BANNISTER:** Sure.

**MR LINDWALL:** But sorry, I shouldn't interrupt.

**MS BANNISTER:** Yes, no, no, no, that's fine, because it actually - if I had those two bits wrong, I could just sit back down no.

**MR LINDWALL:** No.

**MS BANNISTER:** So yes, people in rural, regional and remote areas of Australia have less access to some communication options currently, for example mobile phone service is patchy or non-existent in some areas, or if the service provisions is reliable often there is only a single provider that can be accessed. This lack of competition leads to higher prices and lower value for money options for people living in these areas.

Satellite phone service is not reliable enough for emergency phone calls. You know, even the providers recommend that a landline is installed. If I can just expand on that, we've had a couple of - - -

**MR LINDWALL:** When you talk about satellite phones, you're talking about - - -

**MS BANNISTER:** VOIP.

**MR LINDWALL:** - - - a handset, not a VOIP line?

**MS BANNISTER:** No, I'm talking about VOIP.

**MR LINDWALL:** You're not talking about a satellite phone, per se?

**MS BANNISTER:** No, no, no, I'm talking about VOIP. Yes? We had an opportunity to live and work in Sydney for a couple of years. In that time, our mobile phone ran out of contract and we were looking to renew. You know, suddenly for the first time ever, we had options to choose from from providers. The service that was provided by an alternate to the one that mostly covers the areas of the bush was unbelievable. There was a problem with a SIM card - you know, we run a business. The shop operator came to my house after - like at 8 o'clock at night with a fresh SIM card.

As it turned out, when we moved back out to the bush that particular provider doesn't work where we live. You know, we would have to drive six kilometres to actually get

service to make a phone call. When I contacted them and said, “Look, we’re in a two year contract, however we can’t - you know, we can’t access this service,” they said, “Oh, that’s fine, we just remove you from the contract, that’s” - they were so pleasant to deal with. Nothing was too much trouble, which is not the experience always that we’ve had with the other provider.

I guess - a second point, the use of telecommunications provisions - that’s voice and data - includes connection to family, to health providers, to businesses and friends. It provides employment or allows employment, and access to critical information, for example the Fires Near Me app and news broadcasts. It provides access to education and it provides entertainment.

I feel, and so it’s a personal opinion, people are very welcome to disagree with this, with the exception of entertainment I feel government has an obligation to ensure a minimum standard of access for all Australians to meet their voice and data needs. At present, these are not met for many people outside of metro areas. And I think that’s a really sad state of affairs.

As an educator - point three. As an educator of 25 years’ standing and a current doctoral student, like I said, studying virtual education provisions for gifted students living in rural, regional and remote areas of Australia, the topic is keeping the best and brightest in the bush, I’ve been a speaker at conferences in the USA, in Europe, in the Middle East and Australia, the current requirement for teachers in Australia is to meet the Melbourne Declaration for Educational Standards for Young People in Australia, and I’ll speak to that more a bit later.

There is a significant phenomenon that has impacted rural communities for decades, and it is well researched and documented. The phenomenon describes the geographic, social and professional isolation of educators across a range of sectors, but particularly in schools. This isolation is also felt by students, particularly students who have a high potential for learning.

Without a group of like minds, this isolation can become a real issue. One of the most tragic statistics if gifted rural boys are one of our highest statistics for youth suicide, and it’s wrong.

So I know parents personally who have moved from regional areas to give their children more educational options in the metro area. That means that that rural community is depleted. These are parents who are often working in health industry or government. You know, they contribute financially to the small communities in a really significant way.

They are like all parents, that, you know, we advocate for our children, that’s our job, so they - you know, the community is really depleted when the whole family unit moves away.

Without a - sorry, some of the - some of this is related to peer groups. So some of the choice to move away is related to the peer group, you know, the size of the group as well

as the like minds, but some of it is related to access to communications technologies at home. It has a flow on effect to students, and of course a great teacher will see no student disadvantaged in any way, so teachers are required to come up with strategies to assist students as required. We need to think really carefully about - you know, we might suggest if a student is having trouble with a particular maths problem, there are many, you know, online math tuition things.

Now, we can't recommend that to everybody, because for some people they just don't have either the access or perhaps the data limit. So that disadvantages rural students.

Students in the bush sometimes arrive at university without the necessary tech skills that are required. Sorry. Without the necessary tech skills to meet the required minimum standard expected from university staff to navigate their way around course work requirements, locations, required readings, et cetera, because they've not had the option to do that, you know, where they've gone to school, or if they've been - if they've been working through distance ed or, you know, provisions that are not at school.

Research shows that students in rural, regional and remote areas are less likely to expect to go to university than their metro counterparts. Some of this is due to cost of relocation, which can be so easily overcome with online uni course offerings on the increase. The disadvantage could be easily rectified with the ubiquitous minimum standard of access to data.

If we look at employment, point four, employment comes in many shapes and sizes, and we no longer have a job for life. For people in rural, regional and remote areas to have the same access to employment opportunities, a reliable, fast, large capacity telecommunications service is required.

Take, for example, the writer or producer of a popular TV show who now collaborates on material with others while she and her partner live in a small regional community. It can only happen because she's got access and she's got a big data limit.

*(Error in sound)* There was a denture manufacturer - there's a little tiny *(error in sound)*. It had a big empty shed. It was repurposed to a firm *(error in sound)* that makes dentures wanted to relocate their business there. There were half a dozen families that relocated from Sydney to *(error in sound)*. In twelve months, that business shut down because they couldn't - they needed big, fast, reliable internet. They didn't have it, so they couldn't get the resolution and images and things that they required. That kind of - you know *(error in sound)*. Extrapolate that, and imagine the possibilities.

So point 5, business. We operate an export orchard, and I think Brent will speak more on this. Part of the requirement to meet export standards is regular crop monitoring. We employ a person to come every fortnight during this season to record pest levels, the fruit growth stage and leaf growth stage. This is then loaded live onto a website and can be accessed by potential buyers from all over the world. At least, it would be loaded live if there was mobile coverage.

As well, one of the pack houses that we have used in the past has a live auction for packed fruit from all orchards who are export accredited. Growers can log in and watch the auction take place, or at least they could if they had a big enough data (*error in sound*).

During the growing season, we have need for (*error in sound*) to access buyers and markets, then arrange logistics including pickers, transport, materials, (*error in sound*) et cetera. We also need to stay abreast of government policy development and future marketing opportunities.

We collaborate with design firms for (*error in sound*), things like that, and we have a deep and meaningful relationship with the ATO and a variety of banks. There is just no good reason that people in rural, regional and remote areas should have less access to conduct their business.

I mentioned the Melbourne Declaration earlier. The Melbourne Declaration for Educational Goals for Young Australians, which was made by all state Ministers of Education at the time, is a foundation statement for education across Australia.

The Declaration has two goals. The first is that Australian schooling promotes equity and excellence, and the second that all young Australians become successful learners, confident and creative individuals, active and informed citizens. Two highly commendable goals, in my opinion.

For these two goals to be met, ubiquitous access to adequate, reliable and robust telecommunications is essential. A quote from that declaration is as follows:

Australia, as a nation, values the central role of education in building a democratic, equitable and just society; a society that is prosperous, cohesive, and culturally diverse, particularly valuing Australia's Indigenous culture. Education occurs in more places than the classroom.

And I think I just want to repeat that.

Education occurs in more places than the classroom. Access to adequate telecommunication services for connection and collaboration is essential.

It's also echoed in the Australian Government Human Rights and Equal Opportunity Commission report from the same time that the Melbourne Declaration was made, who state that opportunities for rural students must eliminate negative forms of discrimination based on geographic location.

The Human Rights Commission reports asserts that education for rural and remote students must be available, accessible, affordable, acceptable and adaptable. I assert that this must include access to voice and data so that no rural, regional or remote student is disadvantaged in any way.

**MR LINDWALL:** Okay, thank you. Yes.

**MR BANNISTER:** Moving right along from Barbara, I'm going to concentrate on our farming business. As Barbara said, we operate an export cherry operation at Wellington, nearby. We've been involved in the cherry industry for over 10 years now. We've developed farms and value added operations to cherry operations. We've been involved in the growing and consulting and in packing and marketing fruit.

For those that don't know, the cherry harvest is a very short, intense affair. Our particular farm, we've got about 8,500 trees, and harvest occurs over a three week period. During this period we need to be in constant contact with our buyers as well as picking contractors, the packing shed, export agents and freight companies.

We recognise from our day one that our business model would only be successful if we could market directly to overseas export buyers. The traditional fruit and vegetable marketing system in Australia has long been known to be unprofitable for the vast majority of growers in Australia. We needed, and we continue to need, to bypass the middleman to be successful.

The demand for daily crop information from our buyers includes images of fruit, pack house quality reports, and it's been growing - that demand for information has been growing year by year. What was acceptable ten years ago is no longer today. Higher resolution images of fruit are the most effective way, we have found, to market our fruit to distant buyers.

Our farm is approximately six kilometres, as the crow flies, from (*error in sound*), where there is NBN. Unfortunately, however, the local exchange does not have the capacity to connect us, and we've been told by Telstra that there is no plans currently to upgrade this.

We have recently connected to Sky Muster, and our initial experiences are not good. We have found it to be unreliable, slow, and expensive. Wireless was not a (*error in sound*) for us because of poor tower placement (*error in sound*) local geography of the area. These two factors are going to limit our business' ability to succeed, in our opinion.

With regard to voice coverage, (*error in sound*) coverage in the area at our farm is poor to non-existent. As Barbara described, we initially connected to Optus based on the information on their website, the maps. However, when we relocated to the farm some six months ago, we found that there was virtually no coverage at all and had to cancel this service.

We changed to Telstra, which was only marginally better. This lack of mobile voice service is a massive inconvenience, particularly during harvest, but it's also a very serious safety issue throughout the remainder of the year.

In my opinion, export horticulture has a great potential to revive many rural communities across New South Wales. Ensuring fast, reliable economic data services is essential for these modern horticulture operations. So in my opinion, the obligation needs to continue

for the government to continue to provide voice services, but that definitely needs to be expanded to include data services as well.

I'd just like to touch on equity. Barbara mentioned that equity is an essential provision for students across Australia, and it has been legislated. I think equity for all Australians is an important thing, and there is no reason why businesses in rural and remote areas should be held back because of their geographic location, and I think government has an obligation to ensure that all Australians are treated equitably.

**MR LINDWALL:** Thank you. I have a few questions. I mean, isn't the intent - the application might be another issue. Isn't the intent of the NBN to provide high fast broadband to all premises in Australia who wish to have it, 25 megabits per second at least. Isn't that sufficient?

**MS BANNISTER:** Intention versus actuality. The intention at 25 megabits is fantastic. That's not what happens, and they're - I'm sure you're aware of the Better Internet for Rural, Regional and Remote Australia.

**MR LINDWALL:** Yes.

**MS BANNISTER:** You've been on their - you know. They're - I guess people tend to report problems rather than successes, that - you know, that seems to be a natural thing, but even when, on that Facebook group, there's a call for, "Can we have some positive stories?", the silence is deafening.

So I challenge that the actuality is anywhere near the intention. I challenge that, you know  
- - -

**MR LINDWALL:** But could that be just a - what shall we say? It's a large infrastructure project. In fact, I've been told that the NBN is the largest infrastructure project in Australia's history, that you'd expect some teething problems and it takes longer than they expected and all the rest of that, and that it will ultimately be successful by 2020. And it's not very nice to have to wait for things, and - but this is the nature of any infrastructure project.

**MS BANNISTER:** Well, it's the railway of this century, you know? This is about getting access in both directions. This is about getting, you know, people and produce from rural areas of Australia to Sydney, you know, or metro areas, that, you know, about feeding the nation when the railway was being put in.

This is now how we feed the nation. We have 3% of arable land in Australia, and a lot of it is in metro areas, you know? And they're encroaching. If we go back to your original point, the intention to the actuality, teething problems maybe. But you know, when you look - if we consider it as the railway of our century and we say, well, we're not going to go to - we're going to go to Dubbo, but then you've got to catch a bus to Bourke, you know? Like, that's not good enough. There's a heap of people that live beyond Dubbo.

**MR BANNISTER:** I question the planning that's going on. Six kilometres from Wellington. NBN's at Wellington.

**MR LINDWALL:** What type of NBN is at Wellington? Is that fixed wireless, or - - -

**MR BANNISTER:** Yes, there's fixed wireless at Wellington. However, the - Telstra doesn't seem to have any plans - - -

**MR LINDWALL:** But NBN's not necessarily Telstra - - -

**MR BANNISTER:** No, no, no, but in terms of us getting access through to NBN, we're limited by the copper connection through to the local exchange.

**MR LINDWALL:** Well, you could get - you can get satellite, I suppose. That will be Sky Muster. So what you're saying is that you're outside of the fixed wireless. There's a fixed line footprint, a fixed wireless footprint, and then a satellite footprint.

**MS BANNISTER:** Yes.

**MR BANNISTER:** That's right.

**MR LINDWALL:** And fixed wireless - as far as I can see, fixed wireless and fixed line give similar types of output.

**MR BANNISTER:** Of course.

**MR LINDWALL:** You can get 100 gigabytes - 100 megabits a second.

**MR BANNISTER:** And unfortunately we're shaded by a large mountain on the outskirts of Wellington, and that's the geography of the area, but - - -

**MR LINDWALL:** But aren't these types of problems - I don't want to discount it, because my parents live on a remote farm - that this is the challenges of rural and remote living for centuries, that yes, before farms were very isolated, before (*error in sound*) came along, and then people were using HF radios for education purposes, then they moved (*error in sound*) radio, then they moved to, you know, the standard telephone.

I mean, I heard someone from a very isolated children's parents association tell me that a student - a gifted student was learning the violin over the phone, which I thought was rather remarkable, actually. And that technology is now allowing amazing advances in communications and allowing people to live in areas which they wouldn't have been able to enjoy those types of benefits.

So there's a very large positive story here.

**MS BANNISTER:** Absolutely.

**MR LINDWALL:** It's just - obviously you're frustrated, and I can understand that, that -  
- -

**MR BANNISTER:** We need to recognise the challenges and be working towards implementing solutions. From my perspective as a consumer, and in my dealings with the telecommunications providers - - -

**MR LINDWALL:** Yes.

**MR BANNISTER:** - - - there doesn't seem to be a cohesive plan to recognise the obvious problems that we can see now going forward. You know, if, because of increased demand as the NBN has come through a township, the local exchange is - doesn't have a sufficient capacity, where's the plan to increase the capacity there?

So that's my biggest concern. I'd be happy if I knew, with my business, that there was a solution being thought of or being proposed down the track. I don't see any.

**MR LINDWALL:** So do you agree with our assessment, which was to divide our analysis of the issue - which of course was about voice to the premises - into availability of the service, accessibility of the service - in other words, if you're hearing impaired and so on - - -

**MS BANNISTER:** Sure, yes.

**MR LINDWALL:** - - - and then the affordability of the service. So in principle, the availability was supposed to be, and maybe isn't, sorted by NBN service to the premises. The affordability is addressed through various other measures, and often consumer subsidies, and the accessibility by both - or the various programs under Telstra's aegis at the moment, but also technological solutions.

Is that a reasonable way of looking at? We (*error in sound*) after all asked to look at the \$300 million a year going to voice, and to see whether that was an efficient use of that money, could it be used in a more efficient way, and - - -

**MS BANNISTER:** Look, I mean, I think the reliability - and it's been mentioned - and you know, we've mentioned and previous people mentioned it, we can't - we don't yet have something that if there is an accident in the workplace and, you know, farms are great places for accidents to happen, we don't yet have a reliable alternative to a voice landline. You know, you cannot trust anything else that we have got.

So \$300 million, you know, how many people - if I turn that around and say, so how many people would it be acceptable, you know, to be badly injured or perhaps fatally injured because a landline was withdrawn and there was no other access?

**MR LINDWALL:** Well, we did say that you shouldn't withdraw it until the NBN's been bedded down.

**MS BANNISTER:** No.

**MR LINDWALL:** We did say that.

**MR BANNISTER:** And reliability speaks to accessibility - - -

**MR LINDWALL:** Yes.

**MR BANNISTER:** - - - which is, you know, what it's all about. And in terms of operating a business or growing a business or, you know, expanding the economic health of these rural remote areas, there's no reliability. You know, you can't launch out into a new business venture. So reliability and accessibility, you know, are linked together in my mind.

**MR LINDWALL:** So if the NBN achieves its objective, which is very high reliability if you actually look at the NBN's objectives, and 25 megabits a second, is there an issue then? Would that be satisfying - - -

**MS BANNISTER:** If it reaches. But I mean - - -

**MR BANNISTER:** Yes.

**MS BANNISTER:** - - - is it still going to be 99% of - you know, it's not aiming for 100%.

**MR LINDWALL:** Oh, it's - well, its mandate is to provide services to people who request it, to all premises. Now, I think there's an assumption that not everyone will want it. That's another issue.

**MS BANNISTER:** Sure.

**MR LINDWALL:** And you can see that happen with cities. A lot of people just have mobile contracts and don't have NBN, because they don't want to pay for two things, so - - -

**MS BANNISTER:** Yes, yes, for sure, yes.

**MR LINDWALL:** We probably should move on. Final comments?

**MR BANNISTER:** No, that's all, thank you.

**MR LINDWALL:** Thank you very much.

**MR BANNISTER:** Thank you for the opportunity.

**MS BANNISTER:** Thank you.

**MR LINDWALL:** Now, we're supposed to have morning tea from 10 to 10.20, but because we've delayed and it's almost 10.20, could I say two or three minutes, if you want to go and get yourself some cake or something? There's something to eat. So let's five minutes, and then we'll start the next one at 25 past, if that's all right.

**ADJOURNED**

**[10.18 am]**

**RESUMED**

**[10.28 am]**

**MR LINDWALL:** Thank you.

**MR COADY:** Yes, thanks Paul. My name is Trevor Coady. This is my wife Jane Coady. I'm basically here to represent the Washpen Bush Fire Brigade, and so I'm a Senior Deputy Captain of the brigade at present, and I was a Captain for ten years prior to that.

Washpen is in the Canobolas Rural Fire Zone, west of Yeoval, and it joins the Goobang National Park for approximately 30 kilometres. Washpen and Baldry Brigades have a total park boundary of about 53 kilometres along the eastern side of the national park. The area of the Washpen and Baldry Brigades is 770 square kilometres, and this area has no mobile phone service.

**MR LINDWALL:** At all?

**MR COADY:** At all. Oh, that's not - no, "at all" wouldn't be quite accurate, but you've got to chase around to find a spot. When it comes to fires, the response time can make the difference between someone losing their home, or a pasture fire can turn into a catastrophic event.

The old saying, "If it's small, you can put it out with a garden hose." On a number of occasions during my time as Captain I spent from 45 minutes to an hour trying to contact brigade members by landline or CB radio. This is a difficult task. Today we have a population decline, and more women from the land are now working off-farm. You have to be lucky to contact people on their landline.

The delayed response time can have a monumental impact. The cost of a large fire to individuals who lose their home, livestock, pasture, and the public who foot the bill for the fire is massive. The recent Woolomin fire has cost well over \$2 million, with 160 personnel, 25 tankers per shift, helicopters, three fixed wing aircraft, Hercules, seven dozers, and the list goes on. And for the potential loss of life.

On 3 December 2001, lightning started three fires on private property and one in the Goobang National Park, all within the Washpen Brigade area. While the fires in open country were contained that afternoon, the fire in the National Park continued to burn, and the section 44 declared on 3 December was finally revoked on 3 January 2002.

During the firefighting, operations were severely hindered by the lack of communication between the on ground captain and the incident control team. This was highlighted on 19 December when a backburn operation was ordered by the incident management team stationed at Peak Hill without consultation with the ground crews. Local brigades were not in favour of extending the backburn another 15 kilometres when a catastrophic fire day was forecast for the next day.

There was no direct communication with the incident management team, whereby a strong message could not be conveyed. As a result, the personnel on the ground the next day could not cope with the extra backburn and a terrible day.

Lives were placed in danger and 12,000 hectares of private property were burnt out, 4,000 sheep, 130 head of cattle, and a number of farm buildings and hundreds of kilometres of fencing lost.

Following the Goobang Fire, the Coroner recommended, among other things, quote:

That there be established a mobile telephone repeater in the Goobang National Park to service the community and to provide additional communications during fire.

Unquote. And I have presented the inquiry with a copy of that Coroner's report.

In subsequent years, the Rural Fire Service Brigades within the Canobolas zone have been diligent in trying to get to fires early. This has been hindered greatly by the lack of mobile service. You just can't get anyone on a landline. Pagers have been a useful addition to notifying members of fires, but they are limited as they are only a one-way communication. The Rural Fire Service cannot receive a reply that the message has been received, and that crews are responding.

A system has been developed called the Broadcast Alert Response Turnout, the BART system. This is an app on phones and on tablets, and it allows a two-way communication. The Rural Fire Service sends out a message, and crews can respond with a "message received", "on my way", or "not available".

Unfortunately, we cannot utilise this amazing tool. Rural people suffer disadvantage in accessing emergency service in the event of accident or significant health event, such as heart attacks. Significant delays due to poor communications can mean life or death. I work alone, and throughout - and the thought of an accident is not a pleasant thought, and it scares the hell out of my family, knowing that I am getting a bit older.

It is unfathomable that, in North Vietnam, in a remote village, people have mobile service, yet in Australia's rural areas where businesses are conducted that provide a significant proportion of the nation's GDP, have no mobile service available.

Productivity is compromised while waiting for returned calls. I have to sit and wait for hours - for a number of hours, sometimes, when waiting for important calls. Often people

you call assume you have a mobile service, and don't even return your call. When you go to town four days later you find messages on the mobile that you have missed.

Even your own website requiring registration today had a compulsory mobile phone number box, which we could not comply with. This is unacceptable in the age of technology. All businesses today need mobile service.

Rural people need to be involved in the future. This can only be achieved with appropriate services. Future generations are not interested in living in areas that lack the infrastructure and easy accessibility and services. To do so leaves them feeling out of touch and excluded. The farming business has satellite broadband. This service may be slightly better than what we had previously, but its comparison with our city counterparts is far slower, drops out frequently, and is more expensive.

In the first month of instalment, we had no service five times, each time from one to three days. Not good enough when you have wages and bills to pay. Thank you.

**MR LINDWALL:** Thank you. Do you want to say anything as well?

**MS COADY:** Just - yes, the day - the time we had to pay - we didn't have any - our satellite - Sky Muster wasn't working, we actually had to drive 62 kilometre to parks so we can hook up to and get mobile - get internet service so we could pay the shearers' wages. So you know, little things like that is quite a big - big thing, really.

**MR LINDWALL:** Thank you.

**MS COADY:** Yes.

**MR LINDWALL:** So if I go back to the point on your fire brigade - - -

**MR COADY:** Yes.

**MR LINDWALL:** Now, correct me if I'm wrong, but I can understand that in the past a lot of people obviously stayed at home and they had their landline, and therefore you would still use CB radio obviously quite a lot, but you could be more certain that you would be able to contact the community members about a potential fire or get them to come and help through the landline, but that's now become less obvious because people are obviously, for reasons of second incomes, they're working or whatever. People are using mobiles now so it means that whilst you've still got the CB radio, you've got no opportunity to talk to the landline as you would have in the past to the same extent, so therefore you're relying more on the mobile which, as you say, you've got no coverage.

**MR COADY:** Well, certainly that's the case. I mean, you know, you go back 20 or 30 years ago and most wives were at home, and quite easy, if it's a landline and you've got people around it's useful. Regarding the CB radios, they are only - they're very up and down too, because we're in a very undulating country, so it's - - -

**MR LINDWALL:** That's UHF level, isn't it?

**MR COADY:** Yes, yes, so they're not all that reliable. There's times when I've spent that time at home, you know, hours, trying to contact people to go to a fire, then you jump in your vehicle and drive 30 kilometres to the fire and you've got very broken CB. So really, you're not - you do not have an impact on the fire, and as Captain it's important. You do not have an impact on the fire for two hours, nearly, and in that time - - -

**MR LINDWALL:** Do you use those mobile satellite phones?

**MR COADY:** No, we don't, no.

**MR LINDWALL:** Is that a cost thing?

**MR COADY:** I think that - well, that's definitely a cost thing, yes.

**MR LINDWALL:** Yes.

**MR COADY:** Yes.

**MR LINDWALL:** So I mean, if they became more affordable, they could be an alternative to mobile, or - for that purpose?

**MR COADY:** Well, I think - well, they'd have to become a fair bit more affordable, I think, both in the purchasing costs and the cost of making calls.

**MR LINDWALL:** Have you - are you aware of Mobile Black Spot Program?

**MS COADY:** Yes, we did register for that.

**MR LINDWALL:** Yes, and what's been the response on that?

**MS COADY:** Well, they haven't put anything in our area. I know that closer to Cumnock and Yeoval they might have put an extra tower in there, but not out - - -

**MR COADY:** I think - I'm not sure if it's related to Black Spot. They did upgrade the tower at Yeoval, and I think that actually - might have actually decreased the area a bit.

**MR LINDWALL:** Upgrade to get less.

**MR COADY:** Yes. So it's certainly - - -

**MR LINDWALL:** I mean, you're right. I can take the point, as we did a study I wasn't involved in personally, but about emergency services at the Commission, and the technology that's now available for police, ambulance, fire brigade et cetera to respond to incidents in towns is much enhanced to the past, and allows more targeted responses, earlier responses and so on.

**MR COADY:** Yes. So we do have the - are in the unfortunate position that we don't have a lot of young people coming home. We do have a lot of older people moving on. The population - the fire fighters we have are getting older, and to ask those people to continue to do what we were doing 30 or 40 years ago, it's not fair for a start.

You did make mention of the intent - of what the intent would be.

**MR LINDWALL:** Of the NBN?

**MR COADY:** Yes. Well, that's of the NBN. You know, I mean, the face of everything's changed. The world's changed. And we, as primary producers, have been forced into these changes by government policy, by business policy, particularly banks - I mean, they don't want us to write out a cheque anymore.

**MR LINDWALL:** Yes, yes.

**MR COADY:** You know, we've got to do everything over the internet and pay our bills that way. We've sort of been forced into it, and I think if governments and business are forcing us into it then perhaps they should, you know, get their act together and keep up with the times.

**MR LINDWALL:** Do you have an NBN service?

**MS COADY:** Yes.

**MR COADY:** We do.

**MR LINDWALL:** And that's through the Sky Muster, is it?

**MR COADY:** Yes, yes.

**MR LINDWALL:** And it's been a bit unreliable, I take it?

**MR COADY:** Well, if you want to end up in a divorce court - - -

**MS COADY:** That could be - that could be, as you said, teething problems, possibly, because it was bad initially. It has got a little bit better in the last month, but the thing about that is our daughter who lives in Orange gets 200 gigabyte download for - and that includes their home phone for \$89, and we pay \$130 and we get 15.

**MR LINDWALL:** 15. 15, yes.

**MR COADY:** And our - - -

**MS COADY:** In peak time. I think there's an extra 30 in off-peak but - - -

**MR LINDWALL:** I know. Off-peak's a very - - -

**MS COADY:** That's right, and all our business is in - obviously in peak time, so you know, the difference is - - -

**MR LINDWALL:** Have you used the satellite service for voice calls?

**MS COADY:** I have, yes.

**MR COADY:** Yes.

**MR LINDWALL:** And what do you think about it?

**MS COADY:** That is better than it was. There's certainly a delay between the video and the - and the voice, but it is better than it was.

**MR LINDWALL:** And when - you know, the model of the NBN, which has the NBNCO is a wholesaler, and then the retailer is whoever you choose - - -

**MS COADY:** Yes.

**MR LINDWALL:** Did you get good information about which retailers are available on the satellite service and what their offerings were and the types of data throughput you might get out of them?

**MS COADY:** No, not really. No, I don't believe we did. No. We got information from our own provider, but we didn't receive anything as a sort of a public kind of information about what was out there.

**MR LINDWALL:** And without naming your provider, have you had problems where you had to deal with the retailer? And how they have sorted it out with, say, it's an NBN problem versus a retailer problem?

**MS COADY:** We've actually been very lucky. We didn't have any kind of connection problems, it just all - that went smoothly, but our - one of our neighbours didn't have any service at all for a month with her provider, and she was really quite upset.

And another - one of the other neighbours as well had difficulty in getting that initial connection. Like, they've just sort of - wouldn't work.

**MR COADY:** I think there is - sorry. There is a reasonable amount of difference in the providers, I think.

**MR LINDWALL:** Yes.

**MR COADY:** It doesn't come all back to the - - -

**MR LINDWALL:** No, no, it is a lot of the providers.

**MR COADY:** Yes.

**MR LINDWALL:** They control how much throughput you get, for example.

**MR COADY:** Yes. And you know, and the service, like having a - you know, being without a service for a month - well, that was the provider's fault, and - - -

**MR LINDWALL:** So do you also have a standard telephone?

**MS COADY:** Yes.

**MR COADY:** Yes.

**MR LINDWALL:** So you've got the two contracts. And did you say you have a mobile contract, I guess, too, just for going to Sydney, so - - -

**MS COADY:** Yes, which is a minimum plan for our mobile, because you can't use it for 80% of the time, so it's just a minimum.

**MR LINDWALL:** So if you had, hypothetically, a good NBN service and the mobile service was reasonable, would you deal without - would you get rid of our landline?

**MS COADY:** Yes. All of our children don't have - don't have landlines anymore, but basically - yes.

**MR COADY:** Yes.

**MR LINDWALL:** But you wouldn't do it unless you had - - -

**MS COADY:** That's right.

**MR LINDWALL:** - - - confidence that you had a good NBN service - - -

**MS COADY:** Yes.

**MR LINDWALL:** - - - and reasonable mobile service.

**MR COADY:** You'd certainly have to have good mobile service.

**MR LINDWALL:** Yes, yes.

**MR COADY:** I mean, our landline is basically - we very rarely have any problems with it, unless we have a lightning or, you know, extreme wet conditions. Sometimes we may have, but at least it's reliable.

**MR LINDWALL:** You haven't been able to get internet through it, though, I assume?

**MS COADY:** No.

**MR LINDWALL:** No?

**MS COADY:** No.

**MR COADY:** No.

**MR LINDWALL:** That's ADSL, that would be.

**MS COADY:** Yes.

**MR COADY:** Yes, we're about 16 or 18 kilometres from the exchange.

**MR LINDWALL:** Probably too far, yes, yes.

**MR COADY:** And I think it's five kilometres it is, or something.

**MR LINDWALL:** Probably even less, sometimes. Yes, you can get farther, I think, but -  
--

**MR COADY:** Yes. Yes, so no, we're way out of range for that. Satellite's our only option, which - - -

**MR LINDWALL:** Yes.

**MR COADY:** I mean, it has improved, and it's not working too badly at all, but if it's - reliability is probably the biggest thing there.

**MR LINDWALL:** Okay. Did you have any final comments you wanted to make?

**MR COADY:** No, I don't think so.

**MR LINDWALL:** I think we've got a clear message about what you wanted to say, thank you.

**MR COADY:** Very good.

**MR LINDWALL:** Thanks very much.

So now we've got - is it Judy? Yes, and the Isolated Children's Parents' Association.

**MS SINCLAIR-NEWTON:** Hi Paul.

**MR LINDWALL:** Thank you. Just say your name for the record and perhaps give a little bit of an introduction.

**MS SINCLAIR-NEWTON:** Yes. Judy Sinclair-Newton. I'm the immediate past president of the Isolated Children's Parents' Association. I've lived out past Walgett, north-western New South Wales, for about the last 30 years, and currently living in Dubbo.

Our organisation is focused on access to education, so this review is very important to us, and we've had a lot of feedback from members about it. So I guess a lot of our families are living in remote areas of Australia, often doing distance education with their children, which relies heavily on communications, mostly through internet.

Then we also have a lot of the small rural schools as well, and a lot of them also have a lot of issues with no mobile coverage, poor internet services and that sort of thing.

Yes, so I guess probably one of the main things that we're hearing from members is issues around latency. If kids were to go on - - -

**MR LINDWALL:** The satellite phone, yes.

**MS SINCLAIR-NEWTON:** The satellite, yes. So we've got - you know, if you can think of kids doing speech pathology or something like that, where, you know, the latency is a real issue. Music lessons, all those sort of things that they do online these days. Members are also saying, you know, it's a real issue as far as safety, and I guess also the important thing to remember for our members is the home is the business, is the schoolhouse, and the business - and the home as well, so that all sort of comes into the one area.

I think that's about it, yes, as an intro.

**MR LINDWALL:** Yes, that's fine, yes. Could I ask about the latency? Because I understand the biggest problems with latency on the satellite phone or the NBN satellite is when you're calling from a satellite service to another satellite service, where there is a double hop to the geostationary orbit, so it has to - it goes up to the satellite, back down to a ground station, back up to a satellite, back down to another communication.

And I tried the NBN satellite service calling to a normal landline or to a normal mobile service, and I didn't think the latency was such an issue, but maybe I'm wrong. But - so are a lot of the teachers also on satellite services then?

**MS SINCLAIR-NEWTON:** yes.

**MR LINDWALL:** So you can get a double hop type of issue?

**MS SINCLAIR-NEWTON:** Yes, the remote areas. Mount Isa, northern Queensland, and yes, the Sky Muster hasn't lived up to what we had hoped as well, so there's still issues

with that. I guess a lot of the weather conditions, especially in northern Australia, with the wet seasons, where roads might be out for weeks, you know, repairs can't be done, that sort of thing, and people are relying on that landline to have as a backup.

Yes, if you could imagine trying to do school with the kids and you can't access anything at all for a month, that's a big chunk out of a kid's education.

**MR LINDWALL:** So the students are using both the landline for communication with their teacher, obviously, but using the mobile - sorry, the NBN satellite service for downloading the material and watching videos, that type of thing?

**MS SINCLAIR-NEWTON:** Yes, mostly they'll do an hour online. Yes, might be different times of the day. And they'll have all their other schoolmates on their as well, and with their teacher, and they're using whiteboards, and it's an interactive sort of lesson, and then they might just do reading or something like that with the landline.

**MR LINDWALL:** And that does have the latency issue, clearly, but - - -

**MS SINCLAIR-NEWTON:** Yes.

**MR LINDWALL:** - - - what's the alternative, I guess? Because a lot of that data has to be going through a broadband service, not through a voice service.

**MS SINCLAIR-NEWTON:** Yes, I'm not sure. So you're saying that there shouldn't - there shouldn't be any latency on the - - -

**MR LINDWALL:** No, I'm not saying - or there is latency. I think it's the nature of a satellite which is - stays over a single point, and so there's a long distance to travel, and, you know, communications travel at the speed of light, but it takes a bit of - there is a delay.

**MS SINCLAIR-NEWTON:** Yes.

**MR LINDWALL:** I think it's about 1.2 second, something - a bit less than that.

**MS SINCLAIR-NEWTON:** Yes. I think the kids, as far as - I mean, they've adapted over time. You know, they know there is a little bit of a delay, and they'll wait before they speak and that sort of thing. But I guess it's when you've got that interaction or where you need to have someone doing the same thing at the same time - - -

**MR LINDWALL:** It's very difficult.

**MS SINCLAIR-NEWTON:** Yes, that's where it becomes really difficult, yes.

**MR LINDWALL:** But I guess I'm asking, what's the alternative to that? Is there - and I'm not sure there is any technology that - I mean, mobile, yes, but - the - I thank you, by the way, for the submission that's put in by the ICPSA.

**MS SINCLAIR-NEWTON:** Yes.

**MR LINDWALL:** It did say in here that - it did say about increasing mobile phone coverage, which is part of the Mobile Black Spot Program, but didn't say how much more. What - how far does the association think that mobile phone coverage should be extended to?

**MS SINCLAIR-NEWTON:** Well - - -

**MR LINDWALL:** Currently - just to put it in perspective, 99.3% of premises by Telstra have mobile phone coverage, and that's about 29% of the geographic area of Australia. So to go from 29% to 100% would be probably impossible. So but - I guess I'm asking how much would it take for most of the problems you're talking about?

**MS SINCLAIR-NEWTON:** Oh, yes, I think that's the issue. I mean, people realise that it's just unrealistic to have that mobile coverage everywhere, and that's why, you know, they want that landline, and they've also asked that the data be included in the USO so that there's - - -

**MR LINDWALL:** Isn't there an education package on the NBN service?

**MS SINCLAIR-NEWTON:** Yes, there is an education for it.

**MR LINDWALL:** 50 gigabytes or something like that?

**MS SINCLAIR-NEWTON:** Yes, there's been special allowances, and that has been welcomed, and it's something that we work with government, and they are able to adapt things there. But there's - yes, there's still - that doesn't sort of solve problems with latency and that sort of thing.

**MR LINDWALL:** Yes.

**MS SINCLAIR-NEWTON:** And I guess moving forward, you know, people are seeing what's happening in the rest of Australia and the things that our kids are doing, where our kids are being held back, and yes, until we have that - have something that there isn't any - you know, we can alleviate the majority of that latency, yes, that's still - - -

**MR LINDWALL:** Which is the issue that Barbara raised earlier - - -

**MS SINCLAIR-NEWTON:** Yes.

**MR LINDWALL:** - - - about the types of educational challenges for people in remote areas, from rural areas, yes.

**MS SINCLAIR-NEWTON:** Yes. Yes.

**MR LINDWALL:** It's - what else - - -

**MS SINCLAIR-NEWTON:** Yes. Well, as far as the Black Spot, we had submissions into that as well. Members have been asking that the small rural schools, they are considered, especially when there is no other sort of form of communication. I think Clair School, down south New South Wales, was one that was identified.

**MR LINDWALL:** So that would be handy for improving the voice connectivity, right? But it won't necessarily - it will address some of your issues, but in terms of large amounts of data, mobile phones are still relatively expensive by nature, so if you're streaming videos from universities or schools it does take a fair bit of bandwidth.

So it's hard to imagine an alternative to an NBN type of service for that. I don't know. What do you think?

**MS SINCLAIR-NEWTON:** Yes. I'm not - I can take - I can take questions on notice. We've got another colleague that will - - -

**MR LINDWALL:** Okay.

**MS SINCLAIR-NEWTON:** - - - that will be attending another hearing down there, or - - -  
-

**MR LINDWALL:** I guess I'm interested in knowing, for students in - who don't have - who are reliant on the NBN or some service, broadband service, to have education, whether it be at primary, secondary or even studying university courses, you can, on the broadband - what type of total bandwidth, if it was a mobile connection, would you need to have? Is the 50 gigabytes per month allocation via the NBN sufficient?

**MS SINCLAIR-NEWTON:** Well, I guess with school about to go back, so - and that was per student, with a maximum of three?

**MR LINDWALL:** Up to three, I think it is.

**MS SINCLAIR-NEWTON:** Yes, so I guess that will be tested in this year coming. I haven't heard that it's not sufficient, but I think overriding that has been a lot of the issues with connecting to the satellite.

**MR LINDWALL:** I have heard that if someone uses it up in something that's not related to their education it can crowd it out, if you like, but I would have thought it probably would for most purposes be sufficient. But it's not going to alleviate your issue about latency, I don't think.

**MS SINCLAIR-NEWTON:** No, no.

**MR LINDWALL:** Unless you have a mobile or something.

**MS SINCLAIR-NEWTON:** No, and I guess there's a few different issues with the, you know, insufficient internet connection, and then we've got if the landline was to go then we're looking at the latency issue if we're just relying on the - and then we'd just be relying on that one service that's the Sky Muster service to be able to deliver your phone, your internet, your education, deal with your business, staff that are out there that their only connection is through that one service.

And then areas like Clair School, which is a little isolated school that - I think they also held the Emergency - Royal Flying Doctor Services things there as well. In that case they purely just wanted something where they could ring someone.

**MR LINDWALL:** Yes.

**MS SINCLAIR-NEWTON:** For - you know, emergency services, emergency times. It wasn't so much to do with data and providing education sort of that way. It was just so that they had some sort of service being out there, isolated in a - yes.

**MR LINDWALL:** Oh, it's amazing technology. I mean, I met Martin Laverty, the head of the Royal Flying Doctor Service, and he showed me a technology for mobile phones where it has a EPG, and the people in remote areas who had an NBN connection could put their fingers, and it would tell whether they were having an angina attack or something more serious.

**MS SINCLAIR-NEWTON:** Oh, okay.

**MR LINDWALL:** And so rather than having to send a pilot with a doctor to a remote community, they could prescribe some medicine, and they knew exactly what the problem was there and then, so that's a big advance compared to - because that doctor who's flying to the area is a doctor who's not flying to someone else who has got a problem, obviously.

**MS SINCLAIR-NEWTON:** Yes, that might be more of an emergency, yes.

**MR LINDWALL:** So yes, no, it's amazing changes, but the physical limitations of the satellite with latency, there's no solution to that, it's just straight physics. But the mobile does have lower latency, yes.

**MS SINCLAIR-NEWTON:** Yes. Yes. So I guess that's why the phone - - -

**MR LINDWALL:** Yes, okay. Would - my final question, though, is if you had a reliable NBN service and a reasonable mobile phone coverage, would you have a landline under those circumstances?

**MS SINCLAIR-NEWTON:** I guess answer on behalf of members, no, we wouldn't require the landline service, but it's quite - it's fairly unlikely that - yes, that that's going to happen any time soon.

**MR LINDWALL:** We made an estimate in our draft report that there are 400,000 premises in the satellite footprint in Australia, of which about 30,000 - sorry, 90,000 don't have mobile phone coverage. But we said in our report that rather than having a Universal Service Obligation which is targeting everyone, whether you live in Sydney or anywhere, that it should be targeted to those that have got problems with availability, affordability, or accessibility. That is what we - - -

**MS SINCLAIR-NEWTON:** Yes, I think - yes, we'd concur with that. Yes, it's - as I said, we welcome this review, because it is quite outdated, a lot of the things that are there - - -

**MR LINDWALL:** Yes.

**MS SINCLAIR-NEWTON:** - - - and unnecessary, but yes, just need to recognise that there access and availability issues - - -

**MR LINDWALL:** Okay.

**MS SINCLAIR-NEWTON:** - - - that need to be safeguarded.

**MR LINDWALL:** Well, thank you very much then, Judy.

**MS SINCLAIR-NEWTON:** Yes, that's okay.

**MR LINDWALL:** All right, we'll move on to our next person then, which is Peter, if I'm not mistaken. Thank you again, Peter, and again, if you'd just say your name for the record - - -

**MR MCMILLAN:** Sure.

**MR LINDWALL:** - - - and give whatever introduction you'd like to.

**MR MCMILLAN:** Sure, thank you. Thank you, Commissioner. My name is - - -

**MR LINDWALL:** Paul. Very informal.

**MR MCMILLAN:** My name is Peter McMillan from Regional Development Australian Central West. I am the executive officer there. Regional Development Australia is a network of 55 committees across Australia that are looking for the regional economic development of their communities, in terms of economic growth, productivity social inclusion, and the like. And we have done a fair amount of work in telecommunications over the past 12 months because we have found consistently that telecommunications is a key issue for regional businesses and communities.

We have also found that certainly 12 months ago there was a significant amount of misinformation or misunderstanding about telecommunications and the opportunities that

it brings, and how to get advantage of NBN and get ready, I guess, for the digital economy.

So we have done a fair bit of work surveying businesses, talking to businesses in the region, about the issues and challenges they face in that space, and also about how we can work with businesses to get more adoption of export opportunities that the digital economy provides.

So if I may, I'd just like to give a bit of context for some of that work. We have also published a telecommunications support guide, which is available on the net, to provide interested individuals and organisations with information about the NBN and the Mobile Black Spot Program and how they can get involved to get behind that, and to rectify some of the challenges in regional New South Wales.

As for us an organisation that represents the regions, and the opportunity that regions can provide the Australian economy, we note that the New South Wales regions alone account for 30% of the gross state product in New South Wales, and they are vital to ensure their competitiveness, that they can engage fully with enabling technologies, and participate in domestic and global business, which increasingly is using e-commerce and internet technologies.

And we heard some excellent examples and case studies from previous speakers such as the Bannisters around how agribusiness increasingly needs to adapt to increasing technological demands, whether it be in farming, crop management, yield management and other areas. Certainly with education, with online education at tertiary level and at schools, as we have also heard, with e-health and developments.

A lot of our regional communities are facing challenges through less services in smaller communities and the need to participate through e-health and online in that environment.

So regional areas are important economic contributors to Australia's economy and, from a productivity perspective as well, it's essential in our view to provide them with access to the technologies that are going to allow them to participate in productivity improvement initiatives, whether it be on the farm, in businesses, sending photos of wool samples, for example, over to China, as happens in Orange, a number of different businesses.

If they fail to have those technologies, they will quite simply fall behind their competition, and that will have adverse productivity implications for Australia as well.

So in our view, while we fully accept that the current TSO has cost and benefit implications, we just ask that the benefits to the national economy through being able to participate in growing exports to Asia, through being more engaged with the international business community, are fully recognised as part of that benefit side of the equation.

I think also it's time to move beyond the notion, as some people refer to these lifestyle choices and trade-offs, 40% of people in New South Wales live in the regions. A lot of

people work in productive businesses providing food and fibre to people in metropolitan areas. It's much more than lifestyle choices.

These are fully functioning economies that face threats and opportunities. The NBN provides an enormous opportunity to grow the economy. It shouldn't be seen as one where regional citizens are expected or should be expected to take second-rate outcomes in terms of technological connectivity.

In terms of the Mobile Black Spots Program, we have 370 black spots in the central west of New South Wales, and we understand that on the national map there are some 10,000 reported black spots nationally. We would suggest a cautious approach to suggest that of the 400,000 households, that only 90,000 are not in - don't have mobile coverage, and the reason for that is that, through our consultations, we have found that a lot of people in areas that do supposedly have coverage have very variable coverage, and the depth of coverage does vary considerably.

So it is probably understating the true extent of the Mobile Black Spot issue to suggest that there are only 90,000 households affected. We think the number will be much greater than that, that have Mobile Black Spot implications for connectivity.

Regional businesses that we've surveyed - and we did a survey of 50 businesses in 2015 - are nervous about the abolition of a standard telephone service. 77% of those surveyed rated reliability as the number one issue for telecommunications, and believe that the standard telephone service should remain.

In terms of the reasons for that, it is seen as a lifeline for communities and for people in the regions, not just from the perspectives of social inclusion, but also from safety and reliability. And the home phone standard line service has served people well, and understandably withdrawal of that service would be met with some concern unless there is a high level of confidence that the alternatives will provide adequate quality voice services in one way, shape or form, and at this stage that hasn't been demonstrated, as is noted in the Productivity Commission's draft report.

So at this stage, a withdrawal of the TSO obligation as soon as practical doesn't necessarily mean, in our view, that that will be any time soon, until we have confidence in regional areas that the Voice Over Internet Protocol and other technologies can adequately provide that safeguard that communities won't be isolated and will have a lifeline to their family, friends, and emergency services when they need it.

We'd just like to note - or question, I guess, the adequacy of the Sky Muster interim - Sky Muster satellite service for meeting the needs of both data and voice. At the present time, the customers on that service are able to get up to 150 gigabytes of data per month. That's a maximum.

In terms of what is available to consumers through retail plans, they can get up to 150 gigabytes, but it is a split between peak and off-peak periods. In our research, the maximum amount of data you can get in a peak period, which is from 7 am to 1 am, is 70

gigabytes, and off-peak is the residual amount, so that's from 1 to 7 am in the morning, and that's just clearly not a workable option to say to businesses in the region that half of your data you can have, but it has to be between 1 am and 7 am, unless they're working in international business and have legitimate business transactions in those times.

But more fundamentally, the amount of data that we're using in Australia, and no doubt globally, is exponential, as the report has noted at page 4. The graph is indeed - it's headlined, "The exponential growth in data usage," and it is truly exponential. And nobody, from what we can see, really knows where that's going to end up. Nobody is suggesting, that we're aware of, that that's about to plateau or to decline in any short period of time, and most people are saying they expect it to continue to increase.

And the problem that we have, or the concern that we have with Sky Muster, is that according to the Australian Communications and Consumer Action Network, ACCAN, the average Australian household uses between 69 and 131 gigabytes of data a month. Now, 69 gigabytes is right on the limit of the maximum amount of data that consumers can get at the present time on the retail plans.

Now, our understanding is that once that data limit is reached, the - certainly the internet service providers we have spoken to is that it's impossible to get more data once you've reached your limit. So it's quite conceivable that unless consumers and businesses are careful in monitoring their usage they could eat up all of their monthly limit and not have any data over to make a phone call, which is just quite unsatisfactory.

**MR LINDWALL:** Well, phone should be prioritised, I thought. Well, you can get it - anyway, keep going.

**MR MCMILLAN:** That was - that was our understanding, once data was reached, that VOIP isn't available, but that can perhaps be explored further. So in any case, if there is a data limit of around 70 gigabytes, businesses do need to be very choosy around what data they are accessing, and it does place limitations on their ability to engage freely in the digital economy. It does mean sacrifices need to be made with balancing family usage and business usage. And that is not a situation that we feel is in regional Australia's best interests.

So we note that at the present time it's - that will be the solution for some 400 households - 400,000 households. But we very much encourage development of local solutions that can be explored in communities that improve better data usage and pricing.

And just on the subject of pricing, as has been mentioned already, the inequity in pricing is a factor that puts businesses and consumers at a relative disadvantage to metropolitan areas, where you can currently get a Telstra plan of 1,000 gigabytes a month for some \$90 to \$95 per month, plus a T box or Telstra TV thrown in as well, Foxtel.

In comparison, you're paying around \$190 to \$200 for 150 gigabytes, of which a lot of that is split between peak and off-peak. So our main concern is that the Sky Muster

service may not provide the safeguard, may not deliver the quality, the reliability and affordability that the current - having a standard phone line currently provides.

And one of the things I would just like to point out, in the NBN's very own user guide for the Sky Muster service, the question is, "Can I use the NBN Sky Muster service for Voice Over Internet Protocol or VOIP services?" The answer that NBN themselves give is, "Your internet service provider may offer a VOIP service and you may need additional equipment. This service does not replace your normal telephone landline, and should not be relied upon for emergency calls." So against that context, a reliance on Sky Muster replacing phones is a long way off in our view, until that's demonstrated and proven.

I just wanted also, if I could, just to refer to a couple of points that are raised in the draft report, and also just perhaps reiterate some of our main arguments. Certainly we support the notion that - and it's an exciting notion, that we are in a data age with connectivity, that's fantastic, and we certainly support a re-framing of the Universal Service Obligation to include voice and data.

But we do maintain that that should be enshrined in an alternative - whether it be a Universal Service Obligation or whether it be a legislative framework, those rights should really be protected for people in Australia in some legislative guise, rather than being a policy objective per se. So we would like to see some strengthening around broadband voice services in regional and rural areas that provide those access to core services and the basic standards, however defined.

And before that happens - and given the Commission has noted that the reliability is yet to be ascertained. We do believe it's necessary to understand the full extent of NBN services and their limitations before landlines are disconnected. Reliance on the standard telephone service is still high, as we've said, and we'd need to have some transitional arrangements in place and alternative services to ensure that businesses and residents aren't detrimentally impacted before the removal of any service obligation.

We've said in our submissions some aspects that we feel could be considered as part of acceptable baseline requirements. We just reiterate what's already been said this morning about the importance of being able to access core services including government services, e-learning and online education, tele-health delivery and emergency services.

And also, as an example, there are seven communities with primary schools in the central west which are within the satellite footprint and adversely affected by mobile black spots at the present time. So we should note that until such time as we get an improvement in mobile black spots, a rectification of a lot of the black spots, and a sure technology in the high-speed broadband space, we should take a very cautious approach to reducing any obligation to provide a standard telephone service in our communities.

In terms of the actual - without being repetitive, I guess the experience of the regions, from what we're hearing, is quite different from some of the characterisation of the telecommunications experience outlined in the draft report. For example, the significant narrowing of the digital divide across rural, regional and urban Australia doesn't resonate

with a lot of people when they're on Sky Muster plans, for example, compared to what metropolitan people can get, so there - arguably there's not a significant narrowing of the digital divide in that context.

Business instant access to information has not been achieved today, and a lot of businesses constantly have been telling us about their frustrations with their online experience with internet crawling to a halt at peak times, taking too long to download information, oversubscribed services, promised speeds and experiences not realised in practice, and for example it was mentioned this morning about the 25 megabytes per second minimum upload that NBN has warranted. Well, that's not - that's a maximum of 25, as far as the retail service providers are concerned. So it's not necessarily in practice what NBN wholesale speeds are mandated.

Access to data - it's a big concern whether we will have enough access to sufficient data at an affordable price in regional areas, especially those people that are on satellite services.

In terms of consumer needs being overwhelmingly met by a wide range of digital applications and technologies, again, we just - on point - page 7, we'd just like to, I guess, reiterate that hasn't been everybody's experience within our region.

As for the recommendations, it might just be helpful just to mention a couple of remarks in that context. Draft finding 6.1, "After the full rollout of NBN infrastructure, and in the absence of the Telecommunications Universal Service Obligation, retail broadband including voice services are likely to be available to all premises across Australia."

Again, that just probably needs to be reconciled with NBN's own statement that customers should not rely on the Sky Muster service for providing Voice Over Internet Protocol calls, certainly in emergency situations. And also their representations that copper - that standard phone lines will remain.

They're probably the main points.

**MR LINDWALL:** Oh, okay.

**MR MCMILLAN:** Apologies, that was a little long winded.

**MR LINDWALL:** No, no, no, that's fine, that's fine.

**MR MCMILLAN:** But we need to make sure that - it's a critical issue for regional Australia, and for the sake of taking a little bit longer to emphasise what we are being told by businesses consistently, I think it's important the Productivity Commission hears those sentiments.

**MR LINDWALL:** On the satellite, it's the nature of the beast, isn't it, that it's a technology that, once you launch it, it is at - it has a capacity, it can't be upgraded. You've had to launch more satellites, basically, to add more bandwidth, so you can

understand why they have limits, but I guess what I ask on that is, do you think it would be a good idea if retailers published the average and, say, the minimum bandwidth that they're offering for their service, so that the customer might have a better idea of what they're choosing between?

**MR MCMILLAN:** Absolutely. I mean, I think it's one thing to guarantee a minimum of 25 megabits per second. And people can lock onto a number then, and say, "Well, at least I'm going to get 25. It might be a bonus if I get more than that."

**MR LINDWALL:** Yes.

**MR MCMILLAN:** But when it's on a retail plan saying a maximum of 25, what does that mean? There's no assurance.

**MR LINDWALL:** There is none. And some communities - have they thought about approaching NBN and arguing for an extension of fixed wireless instead of satellite? Because if more communities were on fixed wireless, there'd be fewer users of satellite, by definition, and - - -

**MR MCMILLAN:** Yes, that's one thing that we've discovered, I suppose, that's very important. It's a real opportunity. And some communities in Queensland, I think it's Dalby has been widely reported as having - I think it's Ready Net or Sky Net up there, that is providing a community-based internet solution.

And there are alternative technologies available, such as microwave. You can do fixed wireless extensions. You can have Wi-Fi. All different sorts of options. We're told that basically anywhere where there's a vertical structure you can put a tower on it, you know, you can fix - you can do lots of things with alleviating black spots, and also getting together to address high speed broadband solutions as well.

So there are case studies like that, but they're not well known, and they're not well understood at the present time, and we think there is an opportunity there. So I think whilst there are limitations from a capacity perspective with satellites, it's important that consumers and businesses know that if - you know, getting together with local government, with business chambers and regional development organisations to say, "How can we come together as a community to come up with a better solution that gives us more data at an affordable price?" It's very important.

**MR LINDWALL:** Because often - I'm not sure if you're aware, but there's a lot of what is called dark fibre that goes past to mining communities or - - -

**MR MCMILLAN:** That's correct.

**MR LINDWALL:** - - - to even defence installations - - -

**MR MCMILLAN:** That's correct.

**MR LINDWALL:** And fibre is effectively unlimited in capacity.

**MR MCMILLAN:** Yes.

**MR LINDWALL:** So if you can link into that it would provide an alternative.

**MR MCMILLAN:** It is. And there are a lot of inquiries at the present time on various aspects of telecommunications, whether it be roaming or black spots, and indeed this inquiry. And it is a very fast-moving space, so it's important if possible to put that information in one central place, and that's why we've put together the Telecommunications Support Guide, to give people that information.

**MR LINDWALL:** I accept your point about the reliability of the satellite service, and I suppose the NBN's argument would be that it's early days and there are teething issues, but I just also wanted to make the point that no technology is 100%. I mean, even the existing copper-based TUSO service is not reliable. My mother has had hers, and she lives in a remote area without mobile coverage - or not remote, it's not that far from Canberra - and has had her phone out for more than a month on at least two occasions.

**MR MCMILLAN:** Yes.

**MR LINDWALL:** So I would think that when you're, you know, in a regional area, you want to have redundancy - - -

**MR MCMILLAN:** Yes.

**MR LINDWALL:** - - - so that if something is not available then you've got an alternative as much as possible.

**MR MCMILLAN:** Correct, and our understanding is that those risks aren't anywhere near as great for fixed wireless and fibre to the premises or fibre to the node technologies, that there will be a higher degree of reliability for Voice Over Internet Protocol.

But so our real concern is the Sky Muster footprint. That's what our concern is in respect to that area. And until such time as I think we can say with confidence to people in regional areas that yes, your Sky Muster service will allow you to be able to engage in voice calls with a high degree of reliability and quality at an affordable price, then we're not there yet.

And certainly with data caps and limits - if there wasn't any data caps and limits on Sky Muster it might be a better situation, because you wouldn't have to have such a heavy reliance on your data usage, which is really only one sixth of what is provided in metropolitan areas.

**MR LINDWALL:** So I mean, would you be more happy with the Sky Muster if, for example, access to government services were unmetered and voice was - because voice is not much, it's about 150 kilobytes a second at most. In fact, it's less. So if those type of

services weren't so metred, and then - so if you reached your limits on, you know, downloading Netflix or something then so be it, but you've still got access to, you know, the Tax Office, to Centrelink and other types of government services, and banks?

**MR MCMILLAN:** Yes. Well, regional businesses, for example, have to travel greater distances to see clients and suppliers, so ironically they have a greater need to use the internet and Skype and services like that. So any initiatives that alleviate some of the pressure from data usage such as the ones you've mentioned would go some way, no doubt, to helping.

I guess in time, subject to capacity, it would be great to see more data available through satellite uses. But of course realistically that's not going to be a short term option. We think the real - the real value is in communities looking at alternatives to Sky Muster wherever they can, yes.

**MR LINDWALL:** And have you got any comments on the Mobile Black Spot Program?

**MR MCMILLAN:** Yes, we are strongly supportive of programs that rectify black spots. We note that there are some - the Australian National Audit Office has identified some issues with that program. We don't make comment about those issues, which are being examined, but fixing black spots in regional areas is critical, and even if you can get a black spot fixed on your farm or at your house or on the fringes of a community, that doesn't mean when you're travelling between communities you're not going to have black spots.

So business connectivity is adversely impacted by travelling between towns, between customers and between regions. It's a very significant issue for the regions. It's going to take a long time to rectify all the black spots, of course, so communities need to get involved to work out which are their priority black spots, and that's some work we're trying to do at the present time.

**MR LINDWALL:** And we haven't commented at all today about payphones, which is part of the USO. Is there anything you'd be able to say about that?

**MR MCMILLAN:** We don't have any data around the usage of payphones, although we would say that having a community payphone isn't an acceptable alternative or backup for the people that aren't able to use the phone in emergency situations. So one payphone per town, where people have to travel distances to come in and queue up and use a public payphone when the internet is down, isn't a satisfactory solution in our view.

**MR LINDWALL:** What about the alternatives that have been trialled in some communities of, like, a Wi-Fi hotspot?

**MR MCMILLAN:** Yes, a lot of people that we have spoken to support the development of Wi-Fi, free or cost effective Wi-Fi in communities, absolutely.

**MR LINDWALL:** You'll just have to speak up a bit.

**MR MCMILLAN:** Yes, sorry. Yes, a lot of businesses and people and communities support Wi-Fi. They want to see more Wi-Fi in regional areas, so that's something that we certainly see as part of a total solution.

As most people would know, in Europe and elsewhere there's a lot of free Wi-Fi available, public Wi-Fi that's free. We don't have that at this stage in Australia, and that's something that we would like to also see. And a number of local councils are exploring opportunities in public areas to have free community Wi-Fi, which is a pleasing development.

**MR LINDWALL:** Is there anything else you wanted to talk about? Is there anything - final points that you want to make, Peter?

**MR MCMILLAN:** Just in summing up, the main issue that we feel is that telecommunications, in terms of business, is really essential infrastructure these days, and that if we can better engage businesses in the regions to have access to the best high-quality affordable internet that we can, it will transform regional economies and have a productivity national economic outcome for the country.

**MR LINDWALL:** Thank you very much.

**MR MCMILLAN:** Thank you.

**MR LINDWALL:** Thanks, Peter.

**MR MCMILLAN:** Thanks.

**MR LINDWALL:** We've got - sorry? Okay, well, that's Annette, is that right, from the Country Women's Association? Welcome, and if you could just state your name and position and give a little bit of an introduction, if you like.

**MS TURNER:** All right, then, thank you. Annette Turner, Country Women's Association of New South Wales. I have a bit of an introduction prepared. Before I go on, may I just say, I am here for the Country Women's Association, but also I've been listening to the two previous speakers, and they also relate to me. It's not just an insular problem, so - - -

**MR LINDWALL:** Yes.

**MS TURNER:** The Country Women's Association is the largest women's organisation in Australia. The CWA of New South Wales was formed out of a desperate need in 1922. I'll just leave a little bit of that out.

Today CWA remains an Australian institution and a strong voice for women across the country. I thank the Productivity Commission for the opportunity to provide the comment

on the Australian Government Productivity Review of the Telecommunications Universal Service Obligation draft report.

The USO introduced in the 1990s is now recognised as an out of date - as out of date, as it covers basic landline and payphones only. Rapid developments in telecommunications have revolutionised the way we communicate, and I welcome the recognition that change to services must be applied.

I am speaking on behalf of the rural, regional and remote members of the Country Women's Association, and listed below are my points for consideration. Whilst we agree in principle that there are more efficient and modern ways of delivering communications, we are concerned that the PC hasn't fully understood the extent of the digital divide that exists in rural, regional and remote Australia.

This is especially so when considering the issue of reliability. Many of our members complain of significant downtime when their internet or mobile service equipment and local infrastructure have issues. Although not TUSO-related, mobile outages are extremely common, and when they do work we have extremely low speeds, and no clear commitment to infrastructure upgrades.

This needs to be taken in account when considering the TUSO, as often the landline is the only way to communicate. Some families report poor connectivity with emergency services, which can have significant consequences. Often compensation is offered retrospectively for two months, with nothing further to be provided. The issue is that residents have had a reasonable service that has declined.

TUSO and Telstra's monopoly are outdated and need to be replaced by more flexible and competitive arrangements, but we also need further incentives for investment into rural infrastructure.

When considering if the NBN could play a role in providing a minimum baseline broadband and voice service, the issues of reliability need to be fully considered. In the view of the CWA, the NBN is not a sufficiently reliable platform to deliver TUSO service. We do not consider that VOIP is an acceptable replacement for a fixed line. Reliability concerns, combined with latency issues, mean that the TUSO, as it exists, should not be phased out until suitable alternatives are secured for both voice and data services.

VOIP services are affected by background noise, rain, bad weather, and in particular during thunderstorms we are subject to power outages. The most recent in our area was for two days, and it would leave us without communication and exposed.

Consideration should be given to mandating minimum callout and repair times. The Mobile Black Spot Funding Program has been an important initiative to alleviate at least some of the lack of coverage issues. If there are savings and efficiencies to be delivered through the review of the TUSO, there should be thought given to putting excess funds into more mobile black spot funding.

We urge the Productivity Commission to give serious consideration to the idea of extension of the TUSO to cover data services. Overall, any changes to the TUSO should not negatively affect regional people, either through service provision or cost.

Telephone services to the members in the far west are delivered by the Next G Wireless Link (NGWL), and I am concerned that the repeal of the TUSO may result in loss of landline and the consideration of future services being delivered.

Increasingly, we are being directed to use the online services, which is quite unachievable with small download packages currently available. As a Next G Wireless Link local link customer, we were required to sign a waiver of our USO CSG as a condition of connection, so I feel it is vital that the WLL be considered as a USO service.

The PC draft states that most of the country is covered with mobile services. I am 16 kilometres from White Cliff and have purchased a Yagi antenna at considerable cost to boost my zero or one bar signal up a bar - it's usually one bar. If I stand next to the booster, I get four bars. It's not always convenient to stand in the one position while conducting day to day business, and may I say, our best coverage is in the bathroom near the toilet.

I believe telecommunications - - -

**MR LINDWALL:** Making phone calls when you have a bath, yes.

**MS TURNER:** I believe telecommunications to be an essential service, and that accessibility and affordability are two important issues in the increasing digital divide, especially in regional, rural and remote areas. I must have a landline to make phone calls. The landline offers voice communication that is instant, with no delay, and this is important, whether discussing business or conducting education lessons or just having a personal conversation.

Our ability to make voice contact should not be considered as an in-emergency situation type of delivery, but should - we should be able to expect the same as our city cousins as we all - as we have already been able to enjoy that type of communication.

If we are limited to the download of 50 gigabyte, and once over we are slowed to half speed, this situation would render voice services unusable. Increasingly, data hungry technology means I go over my 25 gigabytes in 10 days. All Australians have the right to participate in what is becoming a digitalised society and economy. We urge the PC to give serious consideration to the idea of extension of the TUSO to cover data services. Overall any changes to the TUSO should not negatively affect regional people, either through service provision or cost. Thank you.

**MR LINDWALL:** Thanks very much for that. Could I ask about this Next G Wireless Link? What exactly is that?

**MS TURNER:** It's - - -

**MR LINDWALL:** It's a mobile service, is it?

**MS TURNER:** It is, and we work from the tower in White Cliffs.

**MR LINDWALL:** So you don't have a landline as well, then?

**MS TURNER:** I have a landline, yes, which works from - - -

**MR LINDWALL:** So you've got both?

**MS TURNER:** Yes, yes, and it was part of the condition, because we went from our old party line telephone, with the fencing wire and the old post to - with the manual exchange to the automatic exchange, and we signed away our rights then, as I said, to the customer service guarantee.

**MR LINDWALL:** So your landline doesn't have a customer service guarantee?

**MS TURNER:** No, that's right.

**MR LINDWALL:** I hadn't been aware of that.

**MS TURNER:** It's a long-forgotten, yes, piece of information.

**MR LINDWALL:** That's interesting. The - and you've got an NBN service, satellite service?

**MS TURNER:** We have. We work from the Next G service at the moment, and I am seriously not considering going on the NBN.

**MR LINDWALL:** Oh, okay.

**MS TURNER:** I am thinking of working with - I currently have the service in the house, the 25 gigabyte, two iPads, two telephones with shared data, which takes me up to 50 gigabytes, but that costs me \$330 a month.

**MR LINDWALL:** This is through the Next G wireless?

**MS TURNER:** Yes, through the Next G, and I'm considering staying with that, but I have the good fortune to be in that position.

**MR LINDWALL:** Okay. Because that has no lag, latency issues?

**MS TURNER:** That's exactly right.

**MR LINDWALL:** But the - but you would still keep your landline as well?

**MS TURNER:** Most definitely keep the landline, because there's lots of issues. You know, flat batteries, power outage. Quite some time back we had a fire on the national park. There was a power outage. Everything went flat, and it was down UHF's to communicate, so - - -

**MR LINDWALL:** But the landline's gone out - - -

**MS TURNER:** - - - you'd need the landline, which - yes.

**MR LINDWALL:** But that's gone out too, hasn't it?

**MS TURNER:** No, if you've got a battery backup, it's not, no.

**MR LINDWALL:** My mother's - so just - so you have the landline, so you have two contracts, effectively?

**MS TURNER:** We have several contracts, yes.

**MR LINDWALL:** Yes, I meant to say, yes. Now, on the terms of poor connectivity and compensation, is that because people were unaware of their rights - which you waived, of course - but other people who are members of the CWA who do have normal landlines, have they received compensation, or have they - - -

**MS TURNER:** They - we received compensation because it's a more than - - -

**MR LINDWALL:** Yes.

**MS TURNER:** It's more than an inconvenience, it's quite serious.

**MR LINDWALL:** Yes.

**MS TURNER:** Like, I had problems back before Christmas with my emails being out for two months, and trying to - we've become our own technical support officer by being on the phone to Telstra for five hours to try and sort the problem. So it's in situations like that that they will offer a compensation.

**MR LINDWALL:** And to be clear, just because I just want to be sure about this, when you talk about VOIP, Voice Over Internet Protocol, not being sufficient, you're talking about the NBN satellite service, aren't you? You're not referring to the NBN fixed line or fixed wireless?

**MS TURNER:** Yes, I'm only talking about the satellite, yes, absolutely, yes.

**MR LINDWALL:** Because the VOIP services there are very good.

**MS TURNER:** Yes, yes. And I believe - I'm speaking from the point of view in VOIP - I've been involved in technology right from the beginning and used VOIP a fair bit with travelling, and of course I'm going on that standard of VOIP, of Voice Over Internet Protocol, so I'm not aware of the current, but it would be satellite, which I would imagine there would be issues there.

**MR LINDWALL:** Now, you know that - and thanks, by the way, for your submission.

**MS TURNER:** Right.

**MR LINDWALL:** The issue we are asked to examine is a \$300 million contract for 20 years till 2032, or the Universal Service Obligation, and I guess the philosophy that we've tried to put through in the report is that a lot of the technology delivering landlines is getting antiquated - - -

**MS TURNER:** Yes.

**MR LINDWALL:** - - - and it's very hard to maintain, and you want to provide an incentive for future investment to be for data, not voice type services, because that's a convergence of the two.

And so do you agree with that in the philosophy of that if you're going to get - if you're investing new money, it should be in data provision rather than voice provision? Data provision that provides good quality voice service, mind you?

**MS TURNER:** Okay. I think - I constantly hear that technology, as you well know, is moving quickly, and we have no idea how fast it's about to move. Being involved in a lot of technology at the moment, I could say landline would be important, but what is to come, maybe data and using the service that way, would be more important than using, you know - than the voice services.

**MR LINDWALL:** Yes, so I mean, in the end we're trying to say that, you know, the taxpayer is investing in a whole lot of things, Mobile Black Spot Program, the - there's a billion dollars' worth of different packages. There's \$300 million allocated to the Telecommunications Universal Service Obligation. And as you know, the USO is across the country, so it provides - if you want a service in the middle of Sydney or somewhere in the back of Bourke, you are entitled to get it through that.

And do you agree with our philosophy that rather than having it universal in that sense, that it should be targeted to where there is a need in terms of availability, affordability, and accessibility?

**MS TURNER:** Well, I would say yes to that, but that's coming from - maybe from a selfish point of view of, you know, covering my area, but yes.

**MR LINDWALL:** I mean, the logic I tried to think about is that the availability is - should be sorted out by - you should be - whatever premise you have, you should get a

good service, it appears, but obviously the amount of subsidy you get in terms of the cost of the subscription should vary according to your own needs, so it should be means tested. That was the basic.

And I have got a very good sense today from the various conversations that the NBN satellite service is not doing that at this stage.

**MS TURNER:** No. And that's - I'm not very excited about it, and as I said, I made the decision not to go on it as yet, because if - - -

**MR LINDWALL:** But you'll keep monitoring it?

**MS TURNER:** I will keep monitoring, yes, and that we - at the moment we're slowed at 50 gigabytes, but we don't know how many gigabytes we'll use. A neighbour monitored through service provider with software and discovered she was using seven gigabytes a day, so whilst they're saying wow, you can have 50 gigabyte and then you've got your off-peak - which is fine for me, because I can work at 2 and 3 in the morning - I'm not really excited about - and I do need a lot especially with - the CWA has 10,000 members, and head office is 1,000 kilometres away, so I'm relying on technology all the time, and I'm using it up, so I'm not very - - -

**MR LINDWALL:** Yes. And as you know, some things are bandwidth hungry, and other things are more efficient.

**MS TURNER:** That's right. And all of our technology is becoming - at one stage I couldn't work out why we were going over, and we'd purchased a new television, which was a smart television. It took me six months find that out, so - and this is it, and we've been - - -

**MR LINDWALL:** Smart TVs are all right if you're in a city with a fixed line service with unlimited data, yes.

**MS TURNER:** Yes.

**MR LINDWALL:** Any other final comments you'd like to make, Annette?

**MS TURNER:** Just the black spots.

**MR LINDWALL:** Yes, we should talk about that.

**MS TURNER:** I know - I am quite realistic. As I say, I moved to the outback when we had an old party line phone, so I realise I'm lucky that I've got what I've got at the moment, but I travel across the state, and I'd say that I would have coverage for 50% of the way, and that actually starts from here on.

I was recently speaking to a business just out of - between Wilcannia and Cobar, and they were saying that they don't have any coverage whatsoever, which surprised me, because

they have an emergency airstrip across the road. They employ workers, and they have no coverage whatsoever.

So virtually if there's, you know, any emergency - - -

**MR LINDWALL:** Yes, yes.

**MS TURNER:** - - just out of Wilcannia, and you lose it fairly quickly. Wilcannia doesn't have very good coverage at all. So the black spot, for me - I don't - you know, I realise that it'd be wonderful to have coverage right across the state. We travelled to Adelaide the other day, and from the border to Adelaide, which is 500 ks, we had coverage nearly all the way, so the mobile black spots are something - - -

**MR LINDWALL:** Would you consider buying - they have attachments now that give you satellite phone connectivity?

**MS TURNER:** I'm just in - I'm going to talk about that. I'm just in the process of buying one for my husband, who's home by himself. I rather like the thought of a sat sleeve, and the costing for that - what, it's \$150 or a bit more a year for a - which would cover all services. But the government just recently removed the subsidy. And I thought that that was an excellent solution in that you would have coverage wherever you go, but the Thuraya sleeves are about \$900, and there was an 85% subsidy on that which has been removed. And I would love to see that come back on, because I would actually buy one for myself, because there's days when I'm travelling alone that I would purchase.

So I think - and I meant to mention that before. I think that's another alternative. That's just another gadget, another contract, but - - -

**MR LINDWALL:** Yes. Well, I mean, it, as you say, depends on the cost a bit, but - and you'd have to monitor your usage, because satellite calls are more expensive, but other - I mean, it's handy if it's an emergency or something like that.

**MS TURNER:** It would only be used on death, when death was imminent, I'd say. Because it's, what, a dollar a minute, I think. But still, I think that that's a brilliant solution, but the subsidy needs to come back on for - - -

**MR LINDWALL:** You mean handsets, sleeves?

**MS TURNER:** On the Thuraya sleeve itself, because that makes it affordable for so many people, and the hundred - or \$15 a month contract is just nothing compared to the, you know, the lives that it could save.

**MR LINDWALL:** Well, thank you very much, Annette.

**MS TURNER:** That's okay, thank you.

**MR LINDWALL:** ... Does anyone else want to appear, to comment anymore? It can be people who have already said something or other people, as you wish. Please.

**MS MCKAY:** Geraldine McKay again. Just a comment on the mobile black spot tower program. I noticed in - we just have been in Barnaby Joyce's New England electorate. We're now in Mark Coulton's electorate. Mark Coulton got hardly any black spot towers for his massive electorate. Barnaby Joyce got quite a lot of towers for his electorate, pretty much all east of the New England Highway, in higher populated areas, and mostly provided by Optus, I am told, because according to our politicians there was a reluctance of Telstra to step up. They're looking at a profitability situation. And a number of those Optus towers overlap existing areas. Like, it's just a small black spot area.

So really, political influence, political power, and the preparedness of the providers to actually step up to make that - those black spot towers happen, there's a lot of things that we as communities have to negotiate there that really aren't what I would call fair and equitable for the community, and not really in the best interests of finding a solution to the Black Spot Program. That's it.

**MR LINDWALL:** Thank you kindly.

**MS MCKAY:** Thank you.

**MR LINDWALL:** Please, yes. Hello.

**MR MAROM:** Hi, Paul. I'm Mike Marom. I'm the area general manager for Telstra. We will have a formal submission in Sydney to the USO review, but just to clarify just a couple of points that have come up today, firstly with respect to payphones, we are absolutely in favour of a review of payphones. Certainly wish to explore the concept of community telephone services as a way of replacing that, and also obviously the savings there we could then plough back into our mobile network.

The general reform delivery of voice services, absolutely in favour of a review. However, we do feel that - and I think a lot of comments today regarding the NBN would suggest that we probably need to wait a little while until the NBN is fully operational and operating to an extent where there's a high level of reliability, whether that's satellite services or other services. So we're certainly in favour of a review, but do think that there needs to be some time with regard to that.

Satellite, there's been a lot of comments around satellites. I think, you know, we're also quite keen to work with government, NBN, as well to look at VOIP solutions as well, and overall, look, very keen to participate in a review and make sure that we're providing ultimately a good service to those people that need them best. Clarifying a couple of things around Black Spot.

**MR LINDWALL:** Yes.

**MR MAROM:** Firstly, there is a little bit of a misnomer about co-location. So any carrier is able to co-locate under the Black Spot Program. So as a matter of fact, in our case we are co-locating on 24 of 70 Vodafone sites. With regards to investment, we feel that the Mobile Black Spot Program is a significant step forward in providing connectivity - mobile connectivity to rural communities, and as such, we have managed to, in the first two rounds, obtain over 500 sites under the program. Because we bid for them.

So we're very pleased with that record. Also, to clarify a little bit of a misnomer or a point of note with regards to roaming, we have a real concern if roaming is mandated. It will not create any stimulus for investment, and we're very proud of the fact that we introduced 2G, we introduced 3G and we introduced 4G, and we're now working on 5G. And we bought Spectrum and, you know, some of the challenges we have with regards to our pricing are directly because we've invested in network.

And that investment is open to all carriers, not just Telstra, so I think it's important to understand that roaming is not a panacea. It might look good on the surface, but it will not increase the amount of investment. And potentially stifle investment. So look, I just wanted to just clarify a couple of those points, just to make sure - more for the benefit of the audience here today in Dubbo, as opposed to our formal submission, which will be in Sydney.

**MR LINDWALL:** Yes, thank you.

**MR MAROM:** Thank you.

**MR LINDWALL:** Is there anything you can comment about the Telstra satellite? The voice satellite?

**MR MAROM:** Not really, no.

**MR LINDWALL:** No? It's all right. That's - you know, a small number of years, it's interesting talking - - -

**MR MAROM:** And with regards to Next G wireless services and also voice services, for those 5,500-odd customers that are on those, we are actually reviewing those services at the moment, so there might be some changes to plan mix there, so stay tuned.

**MR LINDWALL:** Okay, thank you very much.

**MR MAROM:** Thank you. Thanks, Paul.

**MR LINDWALL:** Now, does anyone else want to - okay, well, what have I got to write here? I think I'll have to start wearing glasses. That concludes today's scheduled proceedings in Dubbo for the record, and I'll adjourn the proceedings and we'll resume tomorrow in Sydney. Thank you everyone.

**MATTER ADJOURNED AT 11.53 AM UNTIL  
TUESDAY, 31 JANUARY 2017 AT 10.00 AM**



**Australian Government**  
**Productivity Commission**

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**PRODUCTIVITY COMMISSION**

**INQUIRY INTO THE TELECOMMUNICATIONS  
UNIVERSAL SERVICE OBLIGATION**

**MR P LINDWALL, Presiding Commissioner**

**TRANSCRIPT OF PROCEEDINGS**

**AT SYDNEY  
ON TUESDAY, 31 JANUARY 2017 AT 10.01 AM**

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**MR LINDWALL:** We might, ladies and gentleman, get underway shortly. I have a brief introductory stuff that has to be said each time, and today hasn't got so many people. I mean, you never know, other people might turn up. Tomorrow's a bigger schedule in Sydney, so if we're ready, we'll get going, and then I'll ask for our first witness to appear. So all right.

So good morning. Welcome to the public hearings for the Productivity Commission's inquiry into the Telecommunications Universal Service Obligation. My name is Paul Lindwall and I am the commissioner for the inquiry.

I'd like to start off with a few housekeeping matters. In the event of an emergency, SMC Conference and Function Centre staff will direct and assist everyone in evacuating and moving to the assembly point.

We will be breaking for morning tea at around 10.30 am. We would like to be concluding the hearing at lunchtime by around 1 pm, unless other people turn up who wish to appear. If you have any particular questions, or wish to present at the hearing, please see Luke at the back if you aren't already registered.

The inquiry started with a reference from the Australian Government in April last year that has asked us to examine "to what extent are government policies required to support universal access to a minimum level of retail telecommunications services?" This includes recommendations on the objectives of a USO or equivalent, the scope of services to achieve objectives, specific user needs, and funding and transitional arrangements.

We released an issues paper in June and have received about 60 submissions since its release. We have talked to a range of organisations and individuals with an interest in the issues. In December, we released our draft report, and have since then received quite a few submissions which are still flowing in.

We are grateful to all of the organisations and individuals who have taken time to communicate with us, meet with us, prepare submissions and appear at these hearings.

The purpose of this round of hearings is to facilitate public scrutiny of the Commission's work and to get comment and feedback on the draft report. Following these hearings in Sydney, hearings will also be held in Cairns, Launceston, Melbourne and Port Augusta. We will then be working towards completing a final report to be provided to the Australian Government in April. Participants, and those who have registered their interest in this inquiry, will automatically be advised of the final report's release by government, which may be up to 25 parliamentary sitting days after completion.

We like to conduct all hearings in a reasonably informal manner, but I remind you that a full transcript is being taken. For this reason comments from the floor cannot be taken, but at the end of proceedings for the day you will have an opportunity to make brief presentations, including commenting on previous submissions or previous hearing comments.

You are not required to take an oath, but should be truthful in your remarks, and you are welcome to comment on the issues raised in other submissions, as I mentioned.

The transcript will be made available to participants and others on our website following the hearings. Submissions will also be available on the website and are available on the website.

I invite you to make brief opening remarks, preferably around about five minutes or so - I'm flexible - and then we'll have a questions and answers after that.

So I'd like to invite Malcolm Moore as our first participant today. So - - -

**MR MOORE:** I assume I'm sitting here, am I?

**MR LINDWALL:** Yes, please. And Malcolm, if you could just state your name for the record, and - - -

**MR MOORE:** Certainly.

**MR LINDWALL:** - - - any capacity of which you're representing yourself or an organisation, please do then. And then just give a statement, whatever you wish to say today.

**MR MOORE:** Okay. Voice is clear? All right.

**MR LINDWALL:** It doesn't amplify, it just records.

**MR MOORE:** Oh, that's good. I'm Malcolm Moore. I've - I'm a very practical expert consulting telecommunications engineer, who has worked on almost every type of telecommunications infrastructure in Australian throughout most of my technical engineering management career since 1966.

As I see it, this USO topic is primarily about the economics of significantly changed telecommunications infrastructure, its maintenance practices and cost overheads, in relation to the engineering-based history of gradually advancing telecommunications technologies from about 1974 through to about 1993, then through to about 2000, then through to today.

Nobody likes to be the bearer of bad news, so I'll start with the bad news and finish with the good news. My initial question was, when I read through, is there any experienced telecoms engineers involved with this draft policy? Because - and if not, why not? Because I thought this would be a mandatory to get this draft documentation accurate and relevant first time round.

Now, I know that this is a political document, but I'm rather concerned that the relevant references used in this PC draft document did not include the base reference Davidson

Report 1982. I don't know if it's readily available, but I've got it on memory stick, but I'd arrange.

Two, were primarily from other federal government departments, the ABS, ACCC, ACMA, et cetera, and as I understand it it's been primarily written by policy officers, journalists and academics. I might be wrong there, but it just - just the way I read it, it appears to be like that. And critically, I don't believe that those people have an engineering background.

And three, were generally - most of those documents are around 2016 and in my opinion, highly inaccurate and/or misleading, and I'll explain why shortly. They have confused or replaced the word "technology" with "competition", interchanged them in lots of places. They have confused the economic and business meaning - I'll start again. They have confused the economic and business meaning of competition, which is a major issue, and they have confused retail products and services with wholesale infrastructure and vice versa.

And further, if you - oh, and four, did not take - or did not include any telecommunications engineering based references in the documents that I saw, to set a realistic economic time-based relation for phasing in and phasing out various technologies.

Now, this is extremely important when it comes to the USO, because the USO is all about how well the infrastructure that is in place operates and what the overheads of it are. Now, further, because of the above, the draft document has an extremely thin and very patchy history that I saw in there. There may be more, but I didn't see much of it. It totally omitted the relative telecommunications economic overhead costs that are historically related to the current and earlier telecoms technologies. It has omitted the massive economic impact on the gradually developing silicon-based and solid state and associated telecom technologies from the early 60s. Now, that's a gradual process. It's still going on.

And three, it's oblivious about the radical reduction in telecoms overhead maintenance costs due to digital technologies introduced from about 1980, and fully implemented by about '93, that should have, from what I understand from my seeing, should have terminated the (indistinct) before it even came in, in other words.

There is a TQM exercise called Chinese Whispers - Total Quality Management. If you get a group of people and you pass a message verbally to them and then ask them to pass it on, and they pass it on, pass it on, pass it on, the message you get back is usually very different than the message that was sent in, and that, I think, is what has happened with the government documents that have been used for a reference. Because they're recent documents, they've used other recent documents, they've used them, and they've used recent documents too, and those people don't have the engineering background to go right back to the first one and get it right the first time, and that's why you've got what I saw as a multitude of errors - or that I see as errors - in the document all the way through.

It seems that nobody in this area has got the long, accurate expert history about the whole what's happened all the way through, and they've only picked up the last few weeks or months or years, and it's unfortunate.

In my opinion, what - the very large of what is written in this draft document is full of sweeping statements that are innocently - they are incorrect in almost every way. For example, there's a piece there at the start, the telecoms technology infrastructure is - they say it's fast moving. It's not fast moving. It's like a - it's slow and it's certain. It's like a glacier. It just gradually comes through.

I have worked in this stuff for several years, and - oh, I've worked in research for several years too, and that's all about building a better mousetrap. You ask the people there, "What are you doing?" "I'm trying to make this work better." It's not about competition. Competition for them scares them, they don't want to have a part of it. And it's about making something work better.

Competition has absolutely nothing to do with telecom technology advancements, because that comes out of research. Sales and leasing of retail telecom products and services is fast-changing, and that's what I think is being confused with the technologies, because that's the retail side of things. And the reason it's been fast-changing is because it's the - it's the mode of competition. To have profits, you've got to change things swiftly or you don't have profits.

The leasing of telecoms wholesale products and services is very slow, and moving in line with technology rollouts, and usually takes many years if not decades. And if you look at the telecoms technologies that are in the country areas, I can almost assure you that almost nothing has changed since 1993. Almost nothing. A little bit here, a little bit there.

And on top of that, from experience that I have had in other countries that I have worked with since then, it is not uncommon to move equipment out of the major capital cities into country areas - that is, old equipment - and use it there, and put new equipment in the city areas.

One of the classics of that is ADSL. ADSL modems work on the length of line, and most of the urban lines are 0.4 millimetres diameter. So what happens is if you have an ADSL modem capable of 8 megabits a second in download speed in a city area, and you think, "Oh, we'll bring in a new 24 megs and put that one there and get rid of the old one, we'll put that in a little country town."

Well, a little country town has got a radial distance of about 800 metres, so that's all capable of 24 megs, so what do they have? Maximum 8 megs. You put the new 24 meg DSLAM in a city area and what do you have? Because the average length of the line is 2.9 kilometres its average speed is 8 megabits. So you put the wrong equipment in the wrong place. Why? Because that's what competition is all about. It's not about actually engineering things properly. And they've done that time and time again.

The Davidson report - the primary purpose of the Davidson report was to find a way to justify the USA-driven splitting up of the then highly productive and effective Australian Telecoms Infrastructure Commission to facilitate USA private sector investment.

And there's a story behind that, and that comes from USA itself. In 1981, there was a problem of the non-metropolitan telecoms engineering costs were a cost centre. Private costs of technology - the technologies in those days were expensive. The killer was metering. All metering was done by hand, all of it, and they even had a call centre in Woolies - oh, down - up there, a lady would take a roll of magnetic tape down to Pitt Street by hand because they didn't think that they could actually put it on a broadband line and send it through in seconds.

So metering only became electronic after about 1985, and that really made the costs of telecom come down, and it provided the availability of services, because you couldn't do - without having the digital switches that were introduced after 1980 and got effective by about 1988, you couldn't put in a range of products like call forwarding, like, you know, call answering, like the 13 numbers. They could - that was physically impossible before.

Yes. So basically that's all the bad news. The good news is if you want any help on this, I'll be glad to help you.

**MR LINDWALL:** Okay, thank you. All right, Malcolm. Well, yes, I acknowledge that, like in any subject that the PC undertakes hearings, or for that matter any other organisation that conducts hearings, they may not have necessarily the expertise in a particular discipline, in this case engineering.

**MR MOORE:** Yes.

**MR LINDWALL:** But this is - like any other hearings, we accept evidence in various sources. You know, the staff and I have read quite a lot of material and literature, so is - are there defects? But in the end, what are we trying to do here? This is a policy question.

**MR MOORE:** That's right.

**MR LINDWALL:** And in the end the government is, through both a levy and taxpayer funding, has a Universal Service Obligation. Separately, it is building an NBN infrastructure. Separately, there has been a growth, not through government intervention, of the mobile phone networks. And the government's asked us to look at all of those three things and what's an optimal path forward.

And I guess that's what we've tried to do. Have we done it perfectly? Probably not, but I mean, we certainly appreciate any advice that we could improve it. I mean, when you said that there haven't been terribly much changes, I assume you're talking about the physical matters of things such as wavelengths and spectrum and things such as that, as opposed to the dramatic change in the use of technology which, for example, in recent

estimates 2.2 zettabytes - in other words, 2 by 10 to the power of 21 bytes of data - is being transmitted around the world each year, which is quite amazing to me.

**MR MOORE:** Yes.

**MR LINDWALL:** And that's growing exponentially. We know that people are using technology in ways that I think 10 or 20 years ago they wouldn't have anticipated. You think about GPS locators and communications where people in remote areas now have a way of communicating and finding information that they couldn't in the past. You can now undertake research and collaborate with the researchers in other universities very easily who might be on the other side of the planet, which was very difficult 10 years ago or 15 years ago.

**MR MOORE:** Exactly.

**MR LINDWALL:** So I guess what I'm asking is - and on the competition side, well, government policy, as we've commented in the past in Commission reports, has been good and bad at times and, you know, when the Postmaster-General's Department was split out and became ultimately Telecom, and then that wasn't privatised and wasn't structurally separated, some people said that was good and some people said it was bad. Well, that's a matter of assessment. My view was that it was - it would have been better to be structurally separated.

The NBN is structurally separated, but that has some - its own issues, for example. You know, if you have a retailer on the NBN and you're a customer and when it's a problem that's an NBN problem, some retailer might try and shift blame - say it's the retailer's problem, try and shift blame to the NBN, and the NBN might try and shift blame to the retailer. So the confusion to the customer can be quite acute there, so - so I understand all that.

So I guess what you're - what I'd like to know, is what in particular in our recommendations would you like to comment on at this hearing, given that you've given us submissions which we much appreciate, and they're quite lengthy submissions. In terms of changing the policy, we've said that the USO - you know, it is a fact that people are using voice less than they had in the past. I used to have a landline myself, and now I don't. I have an NBN connection, it's been rolled out, I've got fibre to the premises.

So I would be interested in some of your tech - since you're an engineer, about what can be done in the satellite regions, for example, where currently the satellite area is 400,000 people, so if you know the NBN is the premises - - -

**MR MOORE:** Yes, I do, I understand it quite well.

**MR LINDWALL:** We - you know, 400,000 in that, and they're subject to the latency that comes from a geostationary orbit.

**MR MOORE:** Major issue. Major issue.

**MR LINDWALL:** What is the alternative there?

**MR MOORE:** Okay.

**MR LINDWALL:** How can you improve the services - - -

**MR MOORE:** Very simple.

**MR LINDWALL:** - - - to the remote communities and regional communities at a cost effective - it has to be cost effective.

**MR MOORE:** Okay. Number one, multiple things. Physically separate Telstra, number one. Put the NBN into Telstra's infrastructure and get it out of being a private company. So there's no handover of - all the handover's done by one group, internal to itself.

**MR LINDWALL:** So you mean make the NBN a private - - -

**MR MOORE:** It would be part of the infrastructure business, not a competitive business. Competitive business is retail, retail reselling. That's competitive business. That's where Telstra should be. Optus should be all the rest of them. The infrastructure should be one infrastructure business that is a natural monopoly, not a competing monopoly. You've got an NBN fighting against Telstra, and they're in a cartel relationship. You know the perfect competition model?

**MR LINDWALL:** Yes.

**MR MOORE:** Where all the model - all the products are the same size, all the buyers are the same, so everything's all even. The theory of the second best proves that does not work, so they move into cartels. As far as I understand it, NBN and Telstra are in a cartel relationship.

**MR LINDWALL:** I'm not sure NBN and Telstra would - and they can talk about that later on - would say that they're in a cartel arrangement, and I suspect that - you know, obviously where you have - you have more competition in cities by definition than in the country areas.

**MR MOORE:** Yes.

**MR LINDWALL:** But if you go to satellite, I think there's 10 or 12 retailers.

**MR MOORE:** I'll come to that. I'll come to that. I'll come to that. The moment the NBN goes and moves into an area and says, "We're going to move in fibre," Telstra pulls out and says, "We're not going to do any more ADSL." That to me is a cartel arrangement, because those customers are then cut out.

But if you want to do it economically in the country areas, there's about three things straight off. I showed a little chart on here - and I just can't pull it straight from the top of my head, but about 20 - - -

**MR LINDWALL:** This is your second submission or your first submission?

**MR MOORE:** Second - - -

**MR LINDWALL:** That's number 68, if I'm not mistaken.

**MR MOORE:** Second submission, page 10.

**MR LINDWALL:** 68, let's have a look.

**MR MOORE:** TSA, correction, number 2. Page 10.

**MR LINDWALL:** Page 10, right.

**MR MOORE:** There's a little chart on there, looks like that.

**MR LINDWALL:** That's 12 - oh, yes.

**MR MOORE:** Okay. This is a breakdown of the information provided by the My Broadband Government data, showing the broadband in Australia. I just broke them down into something more practical to do analysis on it. If you look at the urban areas, there's about 95, 98, 99 per cent of the pair copper wire is used for ADSL. So people are not using their phones, they're using that pair copper for broadband.

You go to country areas, the villages, there's 2,500 villages in the country areas, only 27% of those lines have ADSL on them.

**MR LINDWALL:** Isn't that because the copper runs are too long and the degradation - -  
-

**MR MOORE:** No, no, no.

**MR LINDWALL:** Well, how long is the maximum copper run to use ADSL 2+?

**MR MOORE:** At what speed?

**MR LINDWALL:** Well, say 12 megabits a second.

**MR MOORE:** At 12 megabits? About - about two kilometres.

**MR LINDWALL:** Okay.

**MR MOORE:** But a village - - -

**MR LINDWALL:** See, my mother lives on a place which is about 25 kilometres to the nearest - - -

**MR MOORE:** Well, that's an exceptional situation. Most of these village situations for these, they're within 750 metres of the little exchange hub. Most of them have got optical fibre to them. Most of them are using that fibre for 2 megabits a second or thereabouts for voice band communications. Most of those can have one gig or 10 gig, to keep it at the top, for almost no cost at all. Most of those places can have a mini DSLAM for about \$3,000, so you can have that put in place for about \$50 million for two and a half - - -

**MR LINDWALL:** Using existing copper line?

**MR MOORE:** Using existing optical fibre that feeds to their places - - -

**MR LINDWALL:** Yes, yes.

**MR MOORE:** - - - and the existing copper lines. And that can be done in nine months. So that would get that right out of the way immediately.

**MR LINDWALL:** But it sounds so easy, so why hasn't it happened?

**MR MOORE:** Because it would threaten the USO, as far as I'm concerned.

**MR LINDWALL:** The government's not bound by the USO in terms of that. If it wanted to spend money on something it could.

**MR MOORE:** No, but if Telstra goes and makes that area profitable, to me that seems to be a threat, to have a non-profitable area suddenly look profitable, suddenly then the USO's in threat. And if you're going to lose \$270-odd million a year, I think I'd be looking at ways to make sure it's not profitable. That's if I was doing the business, but I'm not.

The other thing to look at is if you look in a country - in an urban area, the CBD is the money-making area, and the area around it, where the homes are, that is not money-making. They're a consumer area. So if you look after the CBD you make the big money on that, you provide minimum service that you can to the country - to the suburban area, and everybody's happy.

**MR LINDWALL:** So if we go back to your point about the villages - - -

**MR MOORE:** Yes.

**MR LINDWALL:** - - - and of the 400,000 premises that are in the USO satellite service - sorry, not the USO, the NBN satellite reach, is - what percentage of them would you say would be able to have that type of service.

**MR MOORE:** I would say 80%.

**MR LINDWALL:** 80% of them?

**MR MOORE:** Yes, straight off.

**MR LINDWALL:** And what would you have for the other 20%?

**MR MOORE:** That's what I was just coming to. In the country areas, the economics is back to front. You wouldn't provide the villages with all the infrastructure. The farms are the ones that make the money. So then ask the question, how come we're not providing good infrastructure to the farms? We're crippling them from doing good business.

And giving them satellite - would we run a capital city on satellite communications? You've got to be kidding. So we have got extensive optical fibre in the inter-exchange network, the part that the NBN doesn't seem to know about, and the people who did the NBN design seem to have - academics have no idea about it, by the looks of things. But the people - the farms can be set up with inter-homestead optical fibre. It's not expensive to plough in when you're going only 300 millimetres deep. You can do it with a single tractor. You don't have to be six fibre like most of this, you can put in 72 or 140 fibre if you want to. You can go from homestead to homestead to homestead.

In most situations they are only four or five kilometres apart, in most situations, so you can provide them with - well, it's effectively like a party line they used to use years ago, but actually separate optical fibre pairs to them.

On top of that, the big killer is you've shown in your document that the amount of internet usage is rising exponentially. We've now got to consider that you need to have more paths to connect, not faster but more paths. You need alternate routes so you can get through. You need to have these runs that would feed past the homesteads to also be the inter-city connections, and you do that at the same time, so the cost of the inner city connections would have more than covered the costs of putting the homestead connections through there.

They could put remote optical pick-up points in farm areas and every five, ten kilometres, that's easy done, and you could pick up from those and go to any homestead from that point for almost nothing. So it's there. It's really easy. It just hasn't been thought about the right way.

**MR LINDWALL:** You know, the digital radio concentrators that are used - - -

**MR MOORE:** Yes.

**MR LINDWALL:** - - - they're pretty old technology.

**MR MOORE:** They came out in the late 70s, yes, they are. I had a look at that. There's Murray - Boyd Murray from CSIRO, I was talking with him about those some time ago. Because they were asked to design the Ngarra system, which is like what I would call an overkill of what's involved, but if they pared that technology right back they could make a radio system about the size of a pack of cards that would cost about \$200, I would think, because I used to work in that sort of area.

They could put into that and provide 300 megabits a second on DRCS instead of what they've got now, so you could get - you could hop over hundreds of kilometres with that, quite cheaply.

**MR LINDWALL:** Quite cheaply?

**MR MOORE:** And bingo, you've got it. And then that connects with optical fibre and off you go, so again, it's - we are using technologies that are northern hemisphere based. We're not using ones that match Australia. The northern hemisphere is very high density compared to Australia.

**MR LINDWALL:** Yes.

**MR MOORE:** That's why we've got - well, since about 1995 when - no, since about 1985 when global manufacturing really kicked in, we've basically lost that internal expertise on how to design networks, and you usually go to other places for that.

**MR LINDWALL:** So basically you're saying that of the 400,000 premises in the satellite region - - -

**MR MOORE:** Yes.

**MR LINDWALL:** - - - quite a few could be catered for relatively inexpensively - - -

**MR MOORE:** Yes, very inexpensively, yes.

**MR LINDWALL:** - - - with technology - drawing upon existing technology.

**MR MOORE:** Exactly, yes.

**MR LINDWALL:** That's something that's interesting to examine further, but could you comment a bit also about - since your technical background - about the merits and demerits of fibre to the node and fibre to the premises?

**MR MOORE:** I haven't done - - -

**MR LINDWALL:** Given you mention that, you know, copper can have very fast - - -

**MR MOORE:** Copper can have very fast speeds, there's no doubt about it. The problem with copper - it comes in categories, and you've probably heard Cat 5 cable. Cat

5 cable is used for data connections up to - help me - it's 100 megabits a second, I think it is?

**MR LINDWALL:** Maybe even more, I would think.

**MR MOORE:** I think Cat 6 does a gig, so see, so yeah, Cat 5.

**MR LINDWALL:** Might be.

**MR MOORE:** Cat 4 cable is for carrier systems, analogue carrier systems, before digital came in. Cat 3 systems is for voice frequency. Cat 3 is maybe 50, maybe 200 kilohertz. That's the stuff we're using for ADSL. It's like getting a pushbike and running it at 80 or 90 miles an hour, or kilometres an hour. Yes, kilometres. At 100 kilometres an hour. Pushbikes don't like.

**MR LINDWALL:** We have people in the Productivity Commission who ride that fast on a bicycle.

**MR MOORE:** So this will work providing the line is very short, because the losses are very high. Why would you do that with old cable? The problem is this cable - it is relatively new, but it's polyethylene. They have gel in it. The gel actually breaks down the polyethylene, and it also cuts into the - it cuts into the copper, so it's a bit of a loss system, why would you do that? The - - -

**MR LINDWALL:** So you're saying it should be replaced?

**MR MOORE:** Well, if you get them replaced - if you can replace them, why don't you put optical fibre in the first place?

**MR LINDWALL:** Well, you would, yes.

**MR MOORE:** It's simple. The conduit they're normally in is a 20 millimetre conduit. It is kinked in often in many cases. I have never seen blowing of cable where they actually blow air through the cable and just feed it through. Apparently, what I've seen, it can blow it in as fast as you walk.

So if you have the right setup in the right places, you could go house - or premises after premises after premises and blow cables in as fast as you could walk to them, if you had the right setup going. I think it's a case of getting methods and practices worked out to get those things to happen.

**MR LINDWALL:** Okay.

**MR MOORE:** I think it's quite easy, personally. So they don't need to put in fibre to the - sorry, what do they call it?

**MR LINDWALL:** Premises?

**MR MOORE:** Put in fibre to the premises.

**MR LINDWALL:** Yes.

**MR MOORE:** Do not put in copper to the premises, that's a backwards step.

**MR LINDWALL:** No, no. But you've commented earlier that we should leverage off the copper in the areas that are covered by the satellite, yes?

**MR MOORE:** It's there. It's there.

**MR LINDWALL:** But you wouldn't replace that?

**MR MOORE:** I wouldn't replace that necessarily at this stage, because it'll become optical fibre later on and/or radio for - see, you could also use radio in a village area and cover the whole lot. That's another way of doing the same thing, if it's small enough.

Optical fibre in - ADSL in country areas, yes, that will work for the next 10 years in little bush town scenes, that will be fine. And the other thing too is there was a report I saw I come out about three years ago, two years ago, talking about speeds, and the common consensus was about 17 megabits a second is quite fast enough for most situations.

So "most situations" - yes, it will do for most situations.

**MR LINDWALL:** Well, at this stage. I mean, I'd be interested in your view about baselines, because 17 megabits a second, if you told someone 20 years ago they would think that's wonderful and how they could even want to use it, but you know, you don't know in 20 years' time what people will want.

**MR MOORE:** Between you and me, I was in Telstra headquarters in 1995, and I was having a chat with a bloke, and I heard a person call down the corridor, "Hey, we just got 6 megabits a second ADSL working through five kilometres," and we all looked at each other and said, "Wow, 6 megabits a second, that's really fast." It was in those days.

And considering we were doing 56 kilobits a second, that was a big difference.

**MR LINDWALL:** No, indeed.

**MR MOORE:** So that was - that was - we all thought, "Oh, that's fast." But I would think these days we'd need to look at - excuse me - at a base band of around about 50 megabits a second, bidirectional, not asymmetric. Because we're going to be moving into high-definition multi-screen multi-camera video conferencing, standard business.

And you consider if you're on a farm and you're selling 100,000 head of sheep or something, and you're on the phone, you have a chat about a few things first of all, then

you get into the stock and station, what you want and how you want it organised and shifted.

**MR LINDWALL:** Yes.

**MR MOORE:** So you can do it by phone, but you can also do this by having a video connection these days with - they can see the farm, they can see the sheep, they can see - - -

**MR LINDWALL:** Yes, we heard that in our hearing yesterday in Dubbo about cherries and the high resolution images that need to be made, but - - -

**MR MOORE:** Exactly.

**MR LINDWALL:** - - - I mean, how would you - for people in remote and rural Australia who have, say, a fixed line - fixed connection, however it is delivered to the premises - - -

**MR MOORE:** Yes.

**MR LINDWALL:** - - - how would they amplify that through their property, do you think? Since I think it's impractical, isn't it, to extend mobile coverage to 100% - - -

**MR MOORE:** No, I disagree.

**MR LINDWALL:** Yes, okay.

**MR MOORE:** I disagree. This radio black spots is a fiasco. Again, we're not thinking - we're not thinking putting Australia first. We're thinking of putting America or putting Europe first. The homesteads are the places that should have the radio base stations. Not the cities, not the towns. Put the radio base stations at the homestead, or near the homestead. Give them an IP PAVX. Give them free calls to their mobiles on their property, or near their property, off that base station, so they can be anywhere on their property, have the mobile connection. People are going past, they can pay them for the use of it. You'd have no radio black spots all over Australia. Really simple.

**MR LINDWALL:** Who should pay for that?

**MR MOORE:** If - another issue, if you do a bulk purchase of this sort of equipment - when I was working at Nortel, the typical discount was something like in the order of 36 to 40% for major providers. The alternate operator's got 5 to 10%, so - - -

**MR LINDWALL:** You have to be careful about the bulk discounts, because I can give you an anecdote from my days many, many years ago where Defence purchased 30 years' supplies for a particular aircraft which is no longer in use, so stored all this weaponry which is no longer in use.

**MR MOORE:** Yes.

**MR LINDWALL:** So you know, if you buy a whole lot of stuff which is out of date, you've got to be careful about that, surely.

**MR MOORE:** Okay, well I'll be more specific. We're buying DMS 100 switches. If the alternate operator wanted to buy them, it was going to cost them, say, \$2 million. If one of the major suppliers - major providers wants to buy it, it's not going to be \$2 million, it's going to be maybe \$1.6 million, \$1.4 million. Same thing. And they get it at the front of the production line and they get support right up front. The people on the alternate side, nothing.

**MR LINDWALL:** What - can you comment, Malcolm, on 5G and the implications of mobile 5G, do you think, given your technical background?

**MR MOORE:** I did see a thing on that this morning, from the ACMA thing. They had LTC not LTE on their report, and I thought, well, there's another little error. 5G as far as I understand it is going to be much shorter wavelength. That means much shorter distance. I would - I would see 5G as being useful in office blocks. That's where I'd see it to be useful. It would be useful in and around houses and those sort of things, but I think 4G's the - what's going to be the big one, and 5G is more likely a pipe dream, at this stage.

**MR LINDWALL:** Okay. So if I could understand your policy prescriptions, is that the government, as a government, should directly invest money not through - to private companies, is that basically it?

**MR MOORE:** I think they should - I think they should physically separate Telstra and put their investment into the infrastructure.

**MR LINDWALL:** Isn't that being done through NBN? NBN is 100% government owned.

**MR MOORE:** No. No, no, no, no. NBN is running as a public company - sorry, as a competitive company in direct locked horns argument with Telstra, as far as I understand it, and they're advertising. That money is - they shouldn't be advertising at all.

**MR LINDWALL:** Yes, but how would you structure NBN otherwise?

**MR MOORE:** As a "get in and do it" company, not a "look what we're doing" company.

**MR LINDWALL:** So you should seize property rights from the competitors?

**MR MOORE:** They shouldn't be competing. They should be working as one - - -

**MR LINDWALL:** But that goes against Australian competition law, competitive neutrality and - - -

**MR MOORE:** No, no, no, this is - competition should be restricted to retail reselling, not infrastructure. I was at the World Broadband Conference in 2010, down the road here, and some days after we got - everybody got to know each other, we're all sitting in a group, and every company was there, and they said, "Well, how is it working?" and they - "Oh, gee, tell me about it."

And I said - you know, they said, "Well, I see that one company's put optical fibre from here to Brisbane. Well, they're making good money on that. Okay, we'll put optical fibre in there, we'll put it in place. Oh, we're not making the same money we thought we'd make." "Yeah, we saw you do that, we put optical fibre too, we can't make any money on it." So we've got a triplicated system that does not work.

**MR LINDWALL:** Aren't you erring in the way that you're accusing the commission? That is, you've said that we haven't got the technical expertise in engineering, but have you got the technical expertise in economics? I mean, that is our speciality, after all.

**MR MOORE:** True, true.

**MR LINDWALL:** So we do understand competition and - - -

**MR MOORE:** I understand that, yes.

**MR LINDWALL:** - - - things such as that.

**MR MOORE:** Well, when you have triplicated networks that are - when two are redundant, you then ask a question, is that economical or not?

**MR LINDWALL:** Well, that's how the space missions to the moon were conducted, by competition between providers to - otherwise it wouldn't have been achieved by 1969. Competition does have a huge benefit in many ways. But anyway, are there any final points that you'd like to discuss with us?

**MR MOORE:** No, I think you've covered everything I needed to say there.

**MR LINDWALL:** I much appreciate your turning up.

**MR MOORE:** I appreciate being here, thanks very much.

**MR LINDWALL:** And look, I think we can have a morning tea now, and then we'll continue. Thank you very much.

**ADJOURNED**

**[10.42 am]**

**RESUMED**

**[10.59 am]**

**MR LINDWALL:** Phil, if you just state your name for the record and give your opening remarks, if you can?

**MR SMITH:** Yes, I can do that. Okay. My name is Phil Smith. I'm Chief Regulatory Officer and founder of OptiComm Co Pty Ltd. We are a fibre to the premises provider for greenfield estates, both broadacre and MDU. We've been operational since 2007, and in fact we're accredited to have come up with the Layer 2 business model that now NBN has adopted nationally. So we've kind of been in that fibre to the premises and that Layer 2 wholesale business for longer than anybody basically in Australia.

With respect to the submission we put in, which wasn't an extensive submission, but it was - we tried to make it more what you wanted, which was more a policy type statement. We believe that the USO still has relevance, but only on the broadband side of things these days.

The standard telephone service has pretty well had its day, and the majority of the technology now, whether it be satellite, fixed wireless, even fibre to the premises, most retail service providers now are doing over the top telephone services rather than standard telephone services.

So in relevance to regional areas, I believe broadband is more important than the telephone service, and the public telephone has definitely just about had its day. With the, you know, the relative ease of getting affordable mobile services, and with the Black Spots Programs, you know, the majority of Australians can get access to a mobile network.

So we do generally believe that the broadband is the key for an ongoing USO. We believe that the USO funding through the levy that is with a broad range of carriers and carriage service providers with the thresholds that are already set are relevant, even in a broadband environment.

We do believe that NBN Co. should be the primary responsibility for the USO provision of wholesale - on a wholesale basis, with retail services being competitive on top of that. So we don't believe there needs to be a retailer of last resort.

**MR LINDWALL:** Last resort.

**MR SMITH:** We only need really an infrastructure provider of last resort in those - particularly those non-economic areas. We also believe that NBN Co. should act as a wholesale aggregator. Now, this is something that NBN has rejected, but we have been pushing this and have commonality with Telstra on this, that we believe that NBN Co. should be a wholesaler of wholesalers to ensure that there is a level playing field with retailers across Australia.

That includes opening up the B2B, the business to business interfaces, and allowing interconnects between the likes of OptiComm networks and other providers of infrastructure so that all retailers can get to all networks.

We also believe that NBN Co. should be, really, the company that gets the funding at the end of the day, because they've got a - you know, to actually service the non-commercial areas of Australia.

We consider that the service to be provided - sorry, the USO should be provided as a mechanism - or we believe that the USO with the standard telephone service has been successful to date in providing ready access and affordable access to a standard telephone, but I think it's very much out of date these days.

Now, we - when we put the submission in, we considered a few other programs that have been going on. Obviously the Black Spot Mobile Program, and my comments about the mobile. But the more important one is the Bureau of Communications Research paper, and now consequently since we did this submission it's now come out with draft legislation which is - submissions are due this Friday. And as far as we're concerned, a great big new tax on providers like us is an unacceptable way of funding the broadband to the non-economic areas.

We see it basically as a way that the government and NBN is protecting a monopoly and are putting a new levy, tax, whatever you want to call it, on their competitors.

The amount that they are trying to recover was determined by NBN without detail, and then passed down to providers like ourselves. Now, in terms of what it means to OptiComm, a third of our wholesale access revenue would go straight back to the government for - or to NBN if this poor piece of legislation is implemented.

It breaks, we believe, competitive neutrality rules, and we also believe that it is against basic competition rules. Now, I agree that there's retail competition, but we do compete with NBN at a wholesale level for business in the greenfield market. That has been allowed since day 1 with legislation, that developers can choose their provider, and basically when we win those, winner takes all, type of thing.

So we have had a legitimate business, and we continue to have a legitimate business according to legislation, but imposing a - what we believe is a very unfair levy or tax through the Bureau - or what the Bureau has come up with is an extremely bad way, mainly because it doesn't actually produce the outcome that they want. The outcome they want is to fund broadband in the bush, and our estimates that the first year will be only around about \$21 million that they'll collect, and they're saying their shortfall over 30 years is \$9.8 billion, so it's - excuse the French, it's a piddle in the ocean.

So if you want to really achieve funding for the non-commercial, the USO is the best way to do it. That's really the crux of our submission. I think - - -

**MR LINDWALL:** You mean - sorry, I'll ask you when you finish.

**MR SMITH:** Yes, yes, no, no, I'm pretty - I'll open it up to questions.

**MR LINDWALL:** When you say the USO, you mean the USO funding?

**MR SMITH:** For broadband, yes, yes. That would then go to NBN.

**MR LINDWALL:** But that's goes with current users through a levy itself, the TIL, so - -  
-

**MR SMITH:** Yes, look, the reason why we disagree with the Bureau of Communications Research and the current legislation is that it's too narrow. It had too many exemptions.

**MR LINDWALL:** Okay. So could you, just for the record, distinguish between how the levy for the TIL is calculated and affects you - affects OptiComm versus how the proposed new one that's been - - -

**MR SMITH:** Okay, so with the TIL, there are a lot more carriers involved. All carriers and carriage service providers are levied, so the load is spread fairly evenly across the whole industry. So from our perspective, it would be a few percent of our revenue, not 30%. The Bureau's proposed new legislation is going to take up to 30% of our revenue, without distinguishing even what services we provide.

So if it's a 12 line service, that's more than 30%. For 100 services, it's less. But - so all it will do is drive prices up. And we've also got the competitive pressure of the ACCC trying to declare services at the NBN price. Now, as far as we're concerned that's not correct either in terms of competitiveness. NBN's our competitor. Why should they be setting the price, is our view.

So from our perspective it's more the narrowness of the proposed legislation that's going through versus the broader - - -

**MR LINDWALL:** TIL.

**MR SMITH:** Yes, the TIL will collect significantly more money than the one that we're  
- - -

**MR LINDWALL:** So what's the explanation that's been put to OptiComm about why it should be a narrow base rather than a broad base?

**MR SMITH:** They believe it should only be levied on wholesalers or infrastructure providers, but they have exempted, for example, Telstra Velocity, with the possibility of selling that to NBN, but it hasn't happened, so why exempt them from day one?

There are a lot of anomalies. As well, they haven't levied any of the fixed wireless or mobile carriers who can deliver broadband services of equivalent speeds to us, so it is very, very narrow - - -

**MR LINDWALL:** Okay.

**MR SMITH:** - - - is our argument.

**MR LINDWALL:** So you're not necessarily arguing which is an alternative funding means, which is for government to pay directly out of consolidated revenue?

**MR SMITH:** Look, the other part of the argument of them coming - of the government now coming and trying to get some money out of us through this other levy, not the USO, the wholesale levy, is that - look, we - sorry, I've lost my thread on that one.

**MR LINDWALL:** That's all right.

**MR SMITH:** We believe that we're in a competitive market with - in the fixed line market. So it's only going to levy fixed line. The reason why they're doing that, the real reason, is not to raise funds. The real reason is to clip TPG's heels, because they have come out and done a competitive rollout in brownfield of fibre to the node infrastructure.

So - but where unfortunately they couldn't just put a levy out for TPG. They had to make some kind of distinction, and unfortunately, we're the guys that are going to be caught.

**MR LINDWALL:** The meat in the sandwich, is what you're saying.

**MR SMITH:** We are the meat in the sandwich. Now, we as a company have operated since 2007, as I said, with zero government input. We have been self-funding, and investors investing money based on a business model that has now literally been destroyed by the proposed new tax on us.

**MR LINDWALL:** So would it be fair to say - would your argument be that OptiComm, and, I don't know, TPG and others, Telstra, to the extent that they build fibre networks in brownfields and greenfields, that they're actually reducing the burden on NBN, and that allows NBN to roll out faster to other parts of the country?

**MR SMITH:** I agree with that. We can - if you do the mathematics of the data that is currently available in the public domain, it currently costs NBN \$2,100 per lot to build up a greenfields site, and they only collect from the developer \$600 of that, which means there's a shortfall.

So every one that we win, we actually are saving NBN capital expenditure. So it is saving them money, and if they did agree to a wholesaler of wholesalers, they'd be getting revenue back through that mechanism, because there'd be a margin, so they'd be getting something out of those rather - without any capital.

**MR LINDWALL:** Could you explain to us how a wholesaler of wholesalers would work if you were to envisage it?

**MR SMITH:** Okay, so the way it would work is there is a common business to business interface which would be based on the NBN one, because that's the most mature one out there. What has happened with the NBN B2B, we submitted a letter to Mitch Fifield, to the minister, that Comms Alliance - in a working committee with Comms Alliance.

**MR LINDWALL:** Is that letter public?

**MR SMITH:** It's not a public letter, but we have provided it to the Productivity Commission.

**MR LINDWALL:** Yes.

**MR SMITH:** And essentially the committee - the Comms Alliance committee, under instructions from the previous minister, Malcolm Turnbull, he asked to investigate the B2B interface. So what had actually happened is NBN had built a business to business interface based on standards coming out of Europe, and then they tweaked it, and the rest of the industry doesn't know what those tweaks are.

So we've asked the minister to adjudicate firstly that the B2B become a proper B2B, and it's administered though Comms Alliance. But secondly, the second corollary to that which came out in the meeting and got stifled by NBN, they wouldn't agree to it, was that NBN then becomes a wholesaler of wholesalers, where we do interconnects between our points of interconnect and NBN's points of interconnect, such that if a customer rings a retailer, they can put an order on NBN, and NBN can say, "Oh, that's in OptiComm, I can deliver that," and back that service provision request through the B2B, ends up with us. We provision it, tell NBN it's our provision, and happy days.

Telstra wants to do it that way, because they want one interface into the wholesale group, and they're very strong on wanting to do that. As I said, NBN see it as competitive advantage that they've got Telstra on their network and we don't currently.

**MR LINDWALL:** I see.

**MR SMITH:** We've got most of the other retailers, but we don't have Telstra.

**MR LINDWALL:** And what - and if you just have this type of interconnect, what type of pricing would - how would pricing be set?

**MR SMITH:** At the same NBN price.

**MR LINDWALL:** Yes.

**MR SMITH:** No change to the retail price for those. It would be done within the wholesale. Now, if we have to pay this new levy, we have no margin to give. So it destroys that, you know, competition.

**MR LINDWALL:** Now, while we've got you here, in terms of rolling out fibre optic to greenfields, I would suspect it's cheaper than doing for brownfields, normally. Would that be a fair assessment?

**MR SMITH:** It is, plus we can, like NBN does, get a contribution from the developer - -  
-

**MR LINDWALL:** Yes.

**MR SMITH:** - - - which helps the - - -

**MR LINDWALL:** As opposed to brownfields.

**MR SMITH:** Correct.

**MR LINDWALL:** You purely operate in the greenfields area.

**MR SMITH:** We do, that's correct.

**MR LINDWALL:** Would you consider - but just - you're not limited to that, presumably?

**MR SMITH:** No, we're not limited to that. We did trial four building of fibre to the basement, and I believe that is non-economic for us to do it, and that - this was prior to NBN doing fibre to the node, so we trialled it before that, thinking it was a better technology for multi-dwelling units, or apartments. But we have stopped doing that. We don't do that to brownfields. So we are very much concentrated on greenfield.

**MR LINDWALL:** Yes, yes. And what about - because one of the issues that's come very strongly through this inquiry are the people who are reliant on NBN satellite, and of course there's a debate about voice calls made through the satellite service.

**MR SMITH:** Yes.

**MR LINDWALL:** And we've talked to others about that. But obviously the fewer people that are in the satellite - using satellite, the more bandwidth there will be for them, and so - are there any technologies that could be used to reduce the number of people in the satellite bandwidth area - - -

**MR SMITH:** Yes.

**MR LINDWALL:** - - - that are actually efficient or relatively inexpensive?

**MR SMITH:** Look, I - the satellites have gone up now, and unfortunately it is an expensive way to service those areas, and you could use other technologies to get to remote locations. One of the things that happened in - I know it's Europe, and the distances aren't as great, but what they did there for the rural areas was to provide rolls of cable to the farmers and the implement to go on the back of the tractor, and the farmers actually went in and rolled their own cable out, if they wanted it.

**MR LINDWALL:** Yes.

**MR SMITH:** Which was a great concept. That was never - that was never considered here, which I think was very poor. I do believe, like with small villages, it's not hard to provide fibre certainly to the exchange. Fibre to the node technology, you get your node close enough to the customer, is still a very viable technology, certainly in the short term. I'm a great believer in fibre to the premises. That's what we still do.

**MR LINDWALL:** Yes, of course.

**MR SMITH:** I think it's superior technology to fibre to the node, but fibre to the node is still delivering reasonably fast speeds.

**MR LINDWALL:** Yes.

**MR SMITH:** And the technology seems to be moving on even further, that they can get faster than 100 meg these days with - but it's all about physics. It's about getting close to the house. The fibre to the distribution point is the new technology they're trialling now, which basically puts the - you're only using the piece of copper from the pit outside the house into the house, and yes, they're getting very high speeds with that technology.

So there's new technologies out there.

**MR LINDWALL:** Yes, yes.

**MR SMITH:** What will happen if you start leveraging all the fixed line guys through this kind of funding and you don't - or you wipe out your competition through NBN, fixed line will become so inefficient that the wireless guys and fixed wireless guys will come in and go, "Yes, you beauty, we've got this to ourselves," because they can offer far cheaper prices and so on. You can see that in the mobile space now. You know, the likes of Optus and Telstra are now offering very, very big caps on the capacity.

I trialled my phone the other day on Telstra 4G and I got 144 meg. You know, there's a lot of people - in fact, a very good friend of mine who I sail with rang me yesterday and said, "I want to put the NBN in my area, fibre to the node," but the Telstra guy said, "It's probably cheaper for you to go mobile."

So we're already seeing competition.

**MR LINDWALL:** The - now, in the areas which OptiComm service with the wholesale fibre, right - - -

**MR SMITH:** Yes.

**MR LINDWALL:** - - - you have to sell it to retailers the same as NBN?

**MR SMITH:** Correct, we wholesale it in the same kind of way.

**MR LINDWALL:** And are the retailers the same retailers?

**MR SMITH:** Yes.

**MR LINDWALL:** There's no specific retailer for OptiComm areas?

**MR SMITH:** No, we're not vertically integrated at all. We don't own a retailer. There are some that only - that have chosen not to go on NBN because of the cost of going onto 121 POIs.

**MR LINDWALL:** Yes, of course, yes.

**MR SMITH:** Where we run one POI per state, which is cheaper for the smaller guys. So we do have some small guys that used to do ADSL with Telstra or TPG or somebody and OptiComm, but haven't made that leap yet to go into NBN.

**MR LINDWALL:** So how many, if you can say, approximately, number of customers would be at the retail level of OptiComm networks?

**MR SMITH:** We currently have 30,000 customers, but we have - and we've passed 50,000 lots of land, but not everything's built yet.

**MR LINDWALL:** Yes, of course, yes.

**MR SMITH:** And we have another about 250,000 under contract.

**MR LINDWALL:** And which states are you in at the moment?

**MR SMITH:** All states except WA - sorry, Northern Territory and Tasmania.

**MR LINDWALL:** Okay, that's interesting. And now, you've also seen, as well as the levy proposal about SIP legislation, you've seen consultation about that, and - - -

**MR SMITH:** Yes.

**MR LINDWALL:** Have you got any comment on that that you'd like to make?

**MR SMITH:** Probably not, not off the top of my head. I'd rather reserve - - -

**MR LINDWALL:** No, that's all right, yes.

**MR SMITH:** Yes.

**MR LINDWALL:** I'm just seeing if there's anything else I - oh, because we have, as you know, in our draft report, recommended to phase out the TUSO over time - - -

**MR SMITH:** Yes.

**MR LINDWALL:** - - - what are the implications for your company or for that matter for the NBN network in terms of cost, perhaps, or usage et cetera?

**MR SMITH:** Of phasing out the - - -

**MR LINDWALL:** If you haven't - if you don't have the standard telephone service - - -

**MR SMITH:** Yes.

**MR LINDWALL:** - - - and you don't have payphones, are there any additional costs to OptiComm from that, if the government were to decide that?

**MR SMITH:** I don't believe there would be anything from OptiComm. No extra costs.

**MR LINDWALL:** So there would be some people, because they are in greenfields, who might have wanted, you know, a standard telephone service, and they don't want to use broadband for whatever reason, they would then contract through a retailer to OptiComm.

**MR SMITH:** Yes, correct, or take a mobile service, yes.

**MR LINDWALL:** But that doesn't really cost you anything more.

**MR SMITH:** No, it doesn't. It doesn't cost us anything.

**MR LINDWALL:** Okay, all right. Any final points you'd like to make?

**MR SMITH:** No. It was really the - fighting the poor bit of legislation that's just been proposed is our biggest problem.

**MR LINDWALL:** Yes.

**MR SMITH:** And we 100% support the Productivity Commission's view that - that's the point I was trying to make earlier, was that we believe that the original costing of NBN included the regional areas, and to impose a tax after the event I think is very poor.

**MR LINDWALL:** Okay. Well, thank you very much, Phil. So now we're on to Laurie, I think, is that right? Hello.

**MR PATTON:** How are you? I'm good, how are you?

**MR LINDWALL:** Very well. Could you just state your name and - - -

**MR PATTON:** I will do all of that.

**MR LINDWALL:** - - - give a bit of a presentation like normal.

**MR PATTON:** I will do all of that. Yes, thank you very much. Hello, everybody. Yes, so for the record I'm Laurie Patton. I am the Chief Executive of Internet Australia, which some people may recall from its past as ISOCAU. We are a chapter of the Global Internet Society, which is the largest group of individuals and organisations working to defend and promote the internet. We are - - -

**MR LINDWALL:** You don't have to - everyone likes the internet.

**MR PATTON:** Everyone likes the internet.

**MR LINDWALL:** You're doing a very good job of promoting it.

**MR PATTON:** Thank you very much. We are a member-based organisation, and we represent everyone who uses the internet. We're not an industry lobby group.

The Internet Society's slogan is that the internet is for everyone, and so that I think probably is the key to our views in relation to the USO. I'd make the point that the only reason we ever had a universal plain old telephone service is because the government built one and funded it, and so we believe that the USO should be funded by the government.

The current USO model I think works arguably because there are only a small number of telephone providers, whereas there are who knows how many US ISPs could be RSPs, and nobody seems to know, but the estimates are somewhere north of 250 and maybe more than 400.

It's interesting to note that in the context of the data retention scheme that nobody, including the Attorney-General's Department, actually has a list of ISPs.

Our primary concern is - in relation to the USO, is three groups of people. People who are financially strained, people who are in remote, regional and rural areas, and people with a disability. And for many of those people, access to the internet, access to data, is as important if not more important than voice. And that's certainly becoming the case more and more as new applications come on board that actually make the internet far more user-friendly, especially for people with disabilities.

We have a basic concern which is, I think, relevant to this consideration, and that's the relationship between NBN and its RSPs, and the analogy that I usually like to give is that

of the seller - the manufacturer and the seller of automobiles. And if you have a dealership, you are required to sell a certain number of cars, and if you do really, really well you get bonuses. If you do badly, you lose your dealership.

At the moment there seems to be a pass-the-parcel exercise going on. Nobody wants to take responsibility when a consumer complains that their service hasn't been connected or it's unreliable or its speeds aren't what were advertised, and there are many, many reasons why that can be the case. They can be technical, or they can be to do with the CVC provisioning of the respective RSP.

Why I raise that is because I think that's critical to any consideration of how you might have a workable USO arrangement. We believe that NBN should have the overriding and basic responsibility for ensuring that everyone has access to broadband, and that this should include an overriding responsibility to ensure that there is a workable USO.

Rather than be prescriptive at this stage, we'd prefer to review all of the suggestions on how that might be structured and the technical constraints, some of which were just discussed, and as always, we're happy to talk to you, either on the record or off the record, with our considerable technical expertise.

Look, probably just one issue that we have discussed and we have not yet come to a conclusion on, and that is in relation to the fact that there are really only a handful of organisations that have the ability to connect to all 121 points of interconnect.

So that raises the issue of who should be the one that actually delivers to the customer? And there are two options, one - two that we have talked about, anyway. One is that there is a small group of RSPs who undertake to be the provider of last resort, and the other possibility is that it should be opened up to anybody that wants to.

But the difficulty, of course, is that most of the RSPs are relying for backhaul and other facilities from a handful of major providers. So within that context, our view is that it's really important that there is an extension of the USO to include data, and that that should be primarily over voice, and that it should be funded by the government.

**MR LINDWALL:** Okay. Thanks very much for that, Laurie. Could I start out by saying that - just be clear that obviously the USO as it is is about voice communication to the premises.

**MR PATTON:** Yes.

**MR LINDWALL:** I don't think from what you're saying that you disagree that we're moving towards data, and data includes voice to some - - -

**MR PATTON:** Yes. Yes.

**MR LINDWALL:** Now, the other things that we did say is that whilst a Universal Service Obligation means that there's an obligation to provide a service everywhere in

Australia, we looked at it from a perspective which said that some areas you probably don't have to worry about universal service, they're well serviced, and maybe you should target it to the problems.

**MR PATTON:** Yes.

**MR LINDWALL:** As you noticed in our report, we divided it between, you know, availability of the service, accessibility to the service, and affordability of the service. Is that a reasonable - - -

**MR PATTON:** Yes, and I think that's why in the end we believe that NBN should have a fundamental overriding responsibility, because they are the ones who are best able to determine where there is accessibility and where there isn't.

**MR LINDWALL:** Yes. And, as you say, technology has - is improving accessibility in many ways. In phenomenal ways, actually. But in terms of your analogy with car dealers, there's one thing that is a bit different, I think, is that if you go to a car dealer and you order a Ford or a Holden or a BMW or whatever, you know what you're going to get.

You go to an RSP, you order a, you know, 25 megabit service or a 50 megabit service, you might only get a 12 megabit service. It's like going to a car dealer and finding your Ford doesn't have a door or something like that. Is there a way in which, if it's not already happening, which government could encourage or even demand that retail service providers actually inform the public better about when you contract for 50 megabits of service, that means a minimum of what and an average of what, rather than being anything considered reasonable above zero, really?

**MR PATTON:** Yes, that gets us into slightly tricky territory. So I'd have to say, as an overriding principle, we are fundamentally opposed to the use of fibre to the node because it's a technically inferior service, and one of the difficulties in the current arrangement is that it's virtually impossible for an RSP to tell you what sort of speed you're going to get until NBN's connected it up.

Now, that's a particularly serious issue in the case of fibre to the node because you could have a slow service or a very slow service. If we were talking about fibre to the premises or fibre to the distribution point, we'd be talking about a fast service or a very fast service. And so what we're hearing is people are tending to sign up for the slowest speed, because that's the least likely way they're going to be disappointed, and we rather suspect that there are RSPs out there who are encouraging people to sign up to the slower speeds because that means less chance of an unhappy customer, and it's also cheaper under the CVC model.

So we have a fundamental problem with that whole issue, which is why we support testing of speeds. We encourage people to use the - there are a number of them, I don't need to mention them - the retail speed checks. But you can't do that until after the thing's connected.

I think we do need to look at a mechanism whereby there are, if not penalties for failing to deliver the speed that was sold, at least an obligation to immediately revert to a lesser speed tier.

**MR LINDWALL:** So how do you - and maybe I'm opposite to the people you just mentioned, since I do have fibre to the node at my premises recently and I signed up for 100 megabits a second and I was very disappointed with the results that I got.

**MR PATTON:** What did you get?

**MR LINDWALL:** About 12 megabits a second. And - - -

**MR PATTON:** That would be - that's - that's - by the way, that's not - that doesn't put you on a shortlist.

**MR LINDWALL:** So how - how does a customer know whether it's the NBN line that's at fault or the retailer's not providing the - - -

**MR PATTON:** That's the fundamental problem. As you know, that could be because there at the end of a very long line of very, very ageing and decrepit copper. It could be because the CVC - that the RSP hasn't signed up for sufficient CVC. And there could be a range of other issues.

And the problem that we're hearing, and as I say, we represent everyone who uses the internet, we're not an industry lobby group, although we do have lots of ISPs and other technical groups as our members, our problem is that we don't have an answer to that question when consumers ask us, "How do they know?"

And that's why I think the only solution - and it's not a complete solution, but the best solution is to dump copper, or at least dump fibre to the node, so that we're not getting people who want reasonably fast speeds getting 12.

**MR LINDWALL:** Anyway, that's all an issue, and this is a city issue, but - - -

**MR PATTON:** Well, it's an issue - sorry, it's actually more than that, and I'll just refer to the earlier conversation about satellites. It's just worth making the point that under the original NBN, we were to have a selection of fibre to the premises, fixed wireless, and satellite. Under the current plan, they've expanded the number of premises that will be signed up to satellite and correspondingly more people on fixed wireless.

Our view is that not only should we adopt fibre to the distribution point instead of fibre to the node, but we should go back and - we should be constantly expanding the percentage of homes that are on a fixed wire of some description, and - - -

**MR LINDWALL:** Or fixed wireless, even?

**MR PATTON:** And/or fixed wireless. But we've already suggested to NBN that they'll need a third satellite before long.

**MR LINDWALL:** This is all - it's true, but how do you - it costs more money, so - - -

**MR PATTON:** Well - and that's why we're suggesting they should get off the satellite as much as possible, because we're - and organisations like - who I'm sure are talking to you - Broadband For The Bush and the Isolated Children's Parents' Association, are constantly highlighting the problems of families in remote areas where they are not getting the speeds on the satellite and they're not getting the data caps that they need. So it's not just a city problem. It's very much an Australia-wide problem.

**MR LINDWALL:** But what I'm saying, I mean, I was in Dubbo yesterday, but - and if you look at all the submissions you'll see that people in the satellite reach talk about the reliability of voice and so forth.

**MR PATTON:** Yes.

**MR LINDWALL:** And so there are concerns there. Whether - what do you think, are those - if you're on a satellite service, NBN satellite service, the Sky Muster, would you personally be satisfied with the voice service, or would you want to buy something else? If you weren't - didn't have mobile.

**MR PATTON:** I don't think - we haven't considered that issue. The only position I could take on it would be to simply say that we have heard from a range of people on Sky Muster that they're concerned about the latency issues, and those issues will only continue and be exacerbated as more and more people sign up on the satellite.

**MR LINDWALL:** In terms of fixed line or fixed wireless, the voice services over that are very good, I would - - -

**MR PATTON:** Absolutely. And the earlier comment - I'd not heard the idea of giving farmers a roll of optical fibre and suggesting that they roll it out themselves, but I have spoken to people in rural areas who would be happy to do that. In fact, one of our board members actually suggested that if they let him he'd roll out the fibre. I think he was even happy to buy the fibre himself.

**MR LINDWALL:** That's good, yes. What do you think - well, you've spoken about - we've spoken in our report of a baseline. Did you want to give any guidance of what would be a reasonable baseline?

**MR PATTON:** I think our position has always been that that's a variable that should be determined - - -

**MR LINDWALL:** Over time.

**MR PATTON:** - - - by what is considered necessary for the applications that are available at the time, and that's why we favour an upgradeable form on NBN. That's why we point to the fact that while the previous speaker mentioned that there are increases in the speeds over fibre to the node, they will never be able to compete with the increases in the speeds that will be available over fibre to the distribution point or fibre to the premises.

And when we look at where we sit in the global rankings, we're going backwards. We were 30th. We're now somewhere around 50 to 60. And I think - so I think we need a mechanism that determines what that is from time to time according to what the uses are.

**MR LINDWALL:** And if you had a mechanism, would ACMA be the right organisation to manage - - -

**MR PATTON:** We haven't formally considered that, but as a general rule we've been part - we are part of the ACMA consultative mechanism, and I think, you know, that would certainly be one option, but we haven't specifically considered that.

**MR LINDWALL:** Now, what else do I - the - if payphones, as in the proposal, get phased out - - -

**MR PATTON:** Yes.

**MR LINDWALL:** - - - can you see any gaps? And if there are, how should they be addressed?

**MR PATTON:** Again, we haven't specifically considered that, but I think we would probably point to the need for consideration as to where the mobile coverage is, so that - because already under the USO you can - Telstra can provide you with a mobile phone instead of a fixed line.

I don't know that there - it would be interesting to see what Telstra's usage figures are on payphones. I know in some remote Indigenous communities, for example, they're setting up the equivalent of a community hotspot.

So again, that brings us, I think, back - without it having been considered by the board, I think we'd come back to that's one of the reasons why we think that someone - and that someone is NBN - has to have an overriding responsibility to ensure that the USO actually works. So if there was a USO requirement to ensure that there was data availability, then there are ways that that can be done.

**MR LINDWALL:** Has Internet Australia examined or commented on the draft of the statutory infrastructure provision legislation that's been released recently?

**MR PATTON:** We haven't really - we're thinking about. We haven't - yes. It's - we tend to be - we tend to try to be as technology neutral as we can, and we try to analyse

legislation through the prism of the interests of internet users. There are plenty of technical bodies representing the industry that take care of that.

**MR LINDWALL:** Yes.

**MR PATTON:** We are thinking about it.

**MR LINDWALL:** Okay.

**MR PATTON:** We tend to wait and see, and at this point it's on our sort of watch list.

**MR LINDWALL:** Okay. Now, one of the trends that we have seen, of course, are more and more people using wireless - mobile technologies, and as you know, that we're moving in a few years' time to 5G, which will have higher frequencies, shorter cells, more cells, and hence larger throughput, one could argue I guess from that. And do you see this as an inexorable trend, that people in, say, the cities will move away from fixed line altogether?

**MR PATTON:** No. No, is the short answer.

**MR LINDWALL:** No.

**MR PATTON:** But the longer answer is, I tend to quote Iñaki Berroeta from Vodafone, who at a TELSOC function last year was asked that question, and his comment, which I think sums it up pretty well, is that 5G will be complementary with fixed line in an always-on world.

There are two specific issues that I would raise in relation to 5G. One is the availability of spectrum, and the other one is the relative costs of the technology. It will be for some time - according to the advice I have from our experts, it will be a long time, rather, before we will find a way to see 5G replace fixed line. And then when you look at all of the competing uses for 5G in relation to the Internet Of Things and so on, I think we would be naïve to think that 5G will replace fixed lines.

**MR LINDWALL:** Okay. And in relation to the comment of our previous presenter from OptiComm about NBN being a wholesaler of wholesalers, would you agree with that, or do you have any comment on that?

**MR PATTON:** Again, it's not something that I recall us having talked about in great detail, but I think we are very much of the view that we - I think everybody was hoping that the NBN as a wholesaler would improve competition, and again, just harking back to two other areas that we're concerned about, the Data Retention Act and site blocking, we're very concerned about any issue that prejudices the ability of smaller RSPs, in this case, and so I think where we're really - we're still struggling with the fact that we have 121 points of presence, and there were doubtless arguments as to why that was a good thing, but the question is, did we do enough to make sure that that did not unfairly disadvantage the smaller RSPs?

Again, the reason I use the car dealership analogy is because ultimately it's the manufacturer of the cars, the wholesaler of the cars, that is responsible for making sure that the car is what it is, and ultimately while you - to come back to your point, yes, you go in and you specify a particular car you want, but you go down to a fair degree of detail as to what you want, but there are basics that you know you're going to get, like brakes.

**MR LINDWALL:** Yes.

**MR PATTON:** And you know, the steering wheel's going to be on the right-hand side, and so on. And that's why we think that NBN really needs to take more account of the end result that we're creating, and if I were to express a personal point of view, I think that NBN has become a little bit concerned with being a wholesaler and trying to step back from the responsibility for actually getting it into people's homes. The original idea of an NBN was pretty much like when you went back to the PMG or Telecom where the responsibility was to make sure that the thing actually was in the home and working.

**MR LINDWALL:** And as car companies advertise - I mean, you could be sympathetic to the NBN, given that it has a large job to - - -

**MR PATTON:** I'm very sympathetic to the NBN. I think that they're doing a fantastic job, and as recently as today I've communicated with our members to reassure them that we are supportive of NBN, but we do think that NBN should be allowed to dump copper in the fibre to the node and move to the 21st Century.

**MR LINDWALL:** Do you have any final comments then, Laurie?

**MR PATTON:** No. No, we're very grateful for this opportunity, and we're always grateful for the opportunity to consult with you, and as I said earlier on, we're watching all of the submissions, we're reading the submissions, we're looking at what people are having to say, and we will doubtless then have further discussions as to how we think, from the point of view of the consumer, how this will best work.

Because obviously there will be people from the industry who will be looking at it from how it will best work for them.

**MR LINDWALL:** Yes.

**MR PATTON:** While we are concerned for the industry as well, we also want to bring that overriding consideration of what's best for the consumers.

**MR LINDWALL:** Indeed, yes, all right. Well, thanks very much.

**MR PATTON:** Thank you very much.

**MR LINDWALL:** All right, I think Ramah is next, is that correct?

**MS VAN BEELEN:** And Jane.

**MR LINDWALL:** And Jane yes.

**MS VAN BEELEN:** Excuse me, I just walked. It's 35 degrees outside.

**MR LINDWALL:** No, no, good to see you.

**MS VAN BEELEN:** Good to see you. Hi, Paul.

**MR LINDWALL:** So if you can both introduce yourself, and - like the rest of them?

**MS VAN BEELEN:** Sure. Jane Van Beelen, head of regulatory affairs at Telstra.

**MR SAKUL:** And Ramah Sakul, group manager, regulatory and social policy.

**MS VAN BEELEN:** So thanks very much for the opportunity to appear, and I think just wanted to commend the Commission on actually having hearings, and having hearings in different locations so that stakeholders can have a voice. They're certainly very challenging issues that the Commission has to grapple with.

Certainly in coming to this, Telstra has, you know, sought to understand the - you know, the trends that are, you know, not unreasonably driving calls for reform of the USO, but at the same time brings our tremendous experience in actually understanding the needs particularly of regional Australians, and you know, providing a fixed voice service, in particular, to all premises in Australia is no small task, it's no easy task. And there, you know, continue to be, you know, technology and economic changes in fulfilling that.

We thought we would just in our opening statement cover five key points, and then very happy for you to ask us further questions. In terms of the calls for change, I mean, we understand that. There has been huge technology change since the USO was instituted. Customer expectations are consequently changing. What services they want, what they want to do with them, how they use them, where they use them, how they interface with them, and the types of services that they're using their communication services to access, you know, has changed vastly.

And of course the market structure is changing, you know, principally with the advent of the NBN. In that context, Telstra has, you know, a contract with the government, but we're certainly open to change to USO policy, and in particular the changes recommended by the Productivity Commission in relation both to payphones and sort of a baseline broadband service that would provide voice.

But you know, those changes need to have that ongoing focus on particularly the needs of regional Australia, and so, you know, we need to ensure that that baseline obligation is able to be delivered effectively for consumers, and in our view that's not going to be the case until the NBN is rolled out, and until particular technology issues or challenges have been really thoroughly investigated.

So certainly in relation to the standard telephone service, we understand - or the basic service, we understand that broadband is now, you know, as important as voice, and that obviously it's possible to provide voice over broadband.

The changes, as contemplated, to move to, you know, the NBN effectively being the provider of that basic broadband service or baseline broadband service, you know, will, you know, require some migration of customers to different technologies, and you know, customers will understandably in some circumstances have some reservations, or certainly need to be managed through that process.

There's not currently any migration arrangements in relation to the fixed wireless footprint of NBN, and as you know, it's not currently able to be used to supply voice for contractual reasons, but certainly could be from a technology perspective.

We also think the refresh of consumer regulation is going to need to go hand in hand with this. You know, as the universal service provider today we are subject to substantial, you know, service quality regulation through the CSG and other regulation, and that reflects the fact that historically we were vertically integrated and able to control the quality of the service that we deliver.

As network provision and therefore, you know, substantive control of the provision of infrastructure is moving to NBN, then that's going to need to be revisited. And you know, importantly, we don't see NBN today as in a position to take on that, you know, provision of a baseline service upon request to all Australians, and even areas where they have rolled out, I don't understand them to be geared up to be able to respond to those requests as and when they happen with service level commitments that are appropriate for a baseline service.

On payphones, we support the Commission's recommendation to remove the obligation. You know, it is clear that mobile technology has substantially substituted for payphone use, and we're open to negotiating changes to the contract to affect that. The contract provides, you know, for a reduction in payment if the scope of the services we are required to provide is reduced, and drives cost savings, and that will, you know, from our perspective, create an opportunity to use the levy we don't have to pay toward payphones, you know, to invest in regional infrastructure.

We do see there's a bit of a question over areas where there is no mobile coverage currently. So that is something that would have to be looked at. And you know, that's really the key issue, I think, to understand what is the scope there to reduce the payphone obligation.

I thought we'd make just a couple of comments on NBN satellite, because that is something on which you, you know, clearly want to consider. So as I said, we've really taken a customer focus to providing the USO service, and our view was, not only contractually, but also technologically, the NBN satellite is not currently suitable to

provide voice, and that's why we use a separate satellite service that's optimised for voice to deliver our USO to customers who are reliant on satellite.

We do think that, you know, more analysis is needed on whether these issues can be solved. You know, if you really made an effort to optimise NBN satellite for voice, what could be achieved, and you know, would that sort of on balance solve the issues? So the two challenges, as you know, are quality and serviceability. On the quality issue, it's the double hop issue on satellite to satellite calls, and there may be technological solutions to that.

The serviceability issue we think is a bit more complex. The - you know, the reality is the satellite's subject to rain fade and today the broadband customers on Sky Muster experience that, and you know, so there's a real question as to how can that be addressed to ensure that, you know, customers who rely on this technology for their voice connectivity actually, you know, can do so.

Briefly on the funding arrangements, I mean, we of course support the idea that this should be a government funded policy. However, you know, the reality is we see that as unlikely. But in any event, funding is really something that needs to follow the sort of consideration of how the obligation might change.

And then finally on consumer safeguards reform, just to say that we do support your recommendation, that reform of consumer safeguards will be needed to reflect the restructuring of the industry, and in particular the recommendation to impose a baseline broadband infrastructure obligation on NBN.

As I said, this separation of the network from the RSP function means that the RSPs are not in a position to control much of the service quality, but they can control some, certainly in relation to broadband.

You know, our - we do envisage that if we can - there can be safeguarded consumer standards that NBN signs up to, then in a competitive retail market it may be that further regulation is not actually necessary of service standards, provided that competitive market is working well. So provided that perhaps there might be some requirement to be transparent and to publish service level commitments to enable customers to compare. But provided they have that opportunity then it may not be necessary to have retail regulation on that.

So I think that covers the key points that we thought would be worth covering, you know, as a start, but obviously happy to take questions.

**MR LINDWALL:** Well, thanks very much then, Jane. The - could I start with the - you know, the statutory infrastructure provision legislation that's been up for comment?

**MS VAN BEELEN:** Yes.

**MR LINDWALL:** Has Telstra provided any comments on that yet, or - - -

**MR SAKUL:** Yes, we'll be making a submission. That's due on this Friday.

**MR LINDWALL:** Okay.

**MR SAKUL:** So I think broadly we're supportive of the idea of NBN becoming the SIP, which would support our underlying argument that there should be a wholesale obligation at some point in time. In relation to those service level commitments, the SIP legislation allows the minister to impose service levels on NBN.

**MR LINDWALL:** Yes.

**MR SAKUL:** What we've said it's - we don't think you may necessarily go straight to regulation to solve this. I think there's not - or NBN should be given an opportunity to demonstrate what it can do in the absence of regulation.

**MR LINDWALL:** Yes.

**MR SAKUL:** And also with the ability for - with any SLAs that are set, that that is done in consultation with obviously NBN and the rest of industry to find - and consumers, obviously, to find that balance of serviceability timeframes and cost.

**MR LINDWALL:** That's good. Now, on - let's start with the satellite, if that's all right. You mentioned technological solutions to the double hop issue. Is that feasible, given that the satellites are already up in the - - -

**MR SAKUL:** Yes. So what our engineers have told us is that while you can't eliminate the latency from double hop, the way the traffic is prioritised or handled or the way it comes into the modem and how that's handled may be able to reduce the latency we've seen from it. So we show some initial testing that we've done.

**MR LINDWALL:** Yes, I saw that.

**MR SAKUL:** So the guys have said to me, look, there might be ways to better optimise that, and so what we've said is, well, maybe there's - before we sort of say this is solved, let's talk to NBN, let's sort of see - and the government, and see what's the best possible voice latency delay you can put on that, and then there's really a government call as to whether that's suitable or not.

And also worth noting that of the traffic, that's just one component of the traffic. Any call from a fixed service to a mobile or a fixed piece of infrastructure, there is no latency.

**MR LINDWALL:** Yes, I noticed your - in your submission on page 11 you outlined, you know, call from NBN satellite to NBN satellite, NBN satellite to USO satellite, and a little bit of latency, but I just wanted to check that, actually, that for NBN satellite or USO satellite for that matter, directly to a fixed line service, you - - -

**MR SAKUL:** The latency is not an issue with those services. So that's the quality issue, and as Jane pointed out, there's another question as to serviceability.

**MR LINDWALL:** On that, yes.

**MR SAKUL:** And we don't provide services over Sky Muster, so it would really be up to government and NBN to have a look at their own data, and maybe we need a bit more time, because Sky Muster is still sort of finding its feet in terms of serviceability and workforce planning and all those sorts of things.

**MR LINDWALL:** The USO Sat is on a different band, isn't it?

**MR SAKUL:** I believe so, yes.

**MR LINDWALL:** And it's less subject to rain fade.

**MR SAKUL:** Correct.

**MR LINDWALL:** What - that's the way it is, because obviously the NBN satellite is optimised for data. You would imagine why they've chosen that. But you've got how many customers on the USO satellite?

**MR SAKUL:** I don't have that data to hand, Paul?

**MR LINDWALL:** Don't have it? You know, it's in the early 1,000s, I thought, yes.

**MR SAKUL:** Yes, I think that's a fair - - -

**MR LINDWALL:** Is there capacity for it to increase significantly? I guess not.

**MR SAKUL:** Yes, I mean, we have the ability to make demand as it grows for those particular services, and that's how we've set it up.

**MR LINDWALL:** What else on the satellite? Are there anything else that you could - well, we've - we made an estimate that there are, of the 400,000 people in the satellite zone, about 90,000 wouldn't be in mobile phone coverage, and that's assuming 99.3% coverage of premises by Telstra's mobile network.

**MR SAKUL:** Yes.

**MR LINDWALL:** Of that 99.3 - does that take account of, you know, people having patchy coverage? Or how do you define the 99.3%?

**MR SAKUL:** Well, that's based on the estimates we've put based on population coverage and maps, and one of the things we've called out in our submission which you've probably noted is it's one thing to say there's an area of coverage, but it's another thing to say you can get a service within the particular premise.

**MR LINDWALL:** Yes.

**MR SAKUL:** And there are challenges to doing that. Now, there are solutions around that.

**MR LINDWALL:** Like antennae and - - -

**MR SAKUL:** Correct. Correct. And so what we've noted is, look, while that's - you know, while that's true in terms of the coverage, if you wanted to make - ensure quality service for customers at a premise, you'd need to account for the antenna - - -

**MR LINDWALL:** Okay.

**MR SAKUL:** - - - and also the - you know, the ongoing - the costs of setting it up, because I don't think customers would be very happy to move straight onto another service and have these upfront fees just for the privilege.

**MR LINDWALL:** So just to be clear for the record, 99.3% is not a guarantee that if you're in a premises and you don't have an antenna that theoretically you're in the coverage zone but you may not have a great service?

**MR SAKUL:** That's correct.

**MS VAN BEELEN:** That's correct. I mean, you're really looking at having some kind of service qualification process if you're going to rely on mobile or in-premise coverage.

**MR LINDWALL:** Yes, yes. And by definition, as far as I understand it, about 30% of the geographic area of - or maybe slightly less - are covered by the Telstra mobile network. It would become progressively or exponentially more expensive to expand it beyond - much beyond - I mean, it's growing as it is, but there must come a point where it becomes uneconomic, I suppose.

**MS VAN BEELEN:** That's right. I mean, our network covers I think about 2.5 million square kilometres - - -

**MR LINDWALL:** Yes.

**MS VAN BEELEN:** - - - but the Australian land mass is over 6 million square kilometres.

**MR LINDWALL:** Yes.

**MS VAN BEELEN:** But yes, in that 2.5 million square kilometres we've covered 99.3% of the population. But you know, at the end of the day we are incentivised to use the most efficient technology to provide the USO today, subject to the copper continuity obligation. You know, we are looking at whether in some circumstances wireless

infrastructure may help with that, but it's - building out wireless to 100% of the land mass is never going to be the most efficient way - - -

**MR LINDWALL:** No, no.

**MS VAN BEELEN:** - - - to supply voice services to Australians.

**MR LINDWALL:** The - sometimes you can buy sleeves now for your mobile phone to get a satellite phone service. Traditionally telecommunications have come down in price over many years quite dramatically. Is that likely for satellite services, do you think?

**MR SAKUL:** Well, I think some of the challenges with satellite services is not necessarily - it's the infrastructure that you have to maintain for the premises, and the remoteness of particular premises. So that's always -that's the ongoing challenge, not necessarily the infrastructure that's in the sky, it's maintaining the existing infrastructure that's in the ground to date.

**MR LINDWALL:** Yes. Now, we know that Telstra has quite a few USO customers who use their digital radio concentrator, which is extended into fairly remote areas or quite lengthy runs. The - that's pretty old technology, and I've heard that you've had to cannibalise parts to repair things. How long can that feasibly be continued, I guess?

**MR SAKUL:** Yes. Look, we're always looking at other more efficient ways to deliver the technology, and as you've pointed out, there are some limits to some of this equipment and how long it can be there.

**MR LINDWALL:** Yes.

**MR SAKUL:** So at this point in time we - you know, the advice that our engineers have told me is that there's still life in the infrastructure yet, but yes, we'll have to be looking at it. That's why we're always looking for other efficient - other technologies, such as you noted, we have a fixed wireless 4G solution for some of those customers. Some of those customers, you know, will have to look at other options.

**MS VAN BEELEN:** Including potentially satellite.

**MR SAKUL:** Correct.

**MR LINDWALL:** So yes, it's a - you know, all services are not 100% reliable. No service is 100% reliable. You're using technology as you best can with - as economically as you can as well, obviously, to achieve and end to sell to customers, but you can't guarantee entirely that - - -

**MR SAKUL:** And to ensure - and to ensure a level of customer experience too, so that's - - -

**MR LINDWALL:** Yes, yes.

**MR SAKUL:** And so, as we noted, our USO Sat isn't obliged to solve the double hop issue, but based on the feedback we got from our customers, they made it clear to us at the time that this was an issue for us, and we looked to solutions to solve that, and we're looking to other solutions and looking to work with NBN and see how can we best optimise that delay.

**MR LINDWALL:** Now, as you know, and because of the way the USO contract works, there's limited use - and limited information about the number of users for STS services and digital radio concentrators and that. Is there anything beyond what you've provided to the Commission already that you're able to provide on that, or how the \$300 million a year is being used?

**MR SAKUL:** No, not at this stage, and what we've put the offer to government is to - if you want to start - if you'd like to talk to us about changing that and how we can do this more efficiently and change the scope, we're open to talk to them about that.

**MR LINDWALL:** It's something that obviously the government has to - if they took up our recommendations in the draft report - and you've made it quite clear, and I think that's quite reasonable, you should wait till the NBN is completely rolled out.

**MR SAKUL:** Yes.

**MR LINDWALL:** And then - because between then, that's a while off, 2020 say, there's a period that you can talk to the government about negotiating change to the agreement.

**MS VAN BEELEN:** Absolutely, although we do think that payphones could be looked at earlier.

**MR LINDWALL:** Earlier, yes, yes.

**MS VAN BEELEN:** It's not really NBN dependent. So it will be a question for government whether they want to start that discussion earlier.

**MR LINDWALL:** Yes. In your submission you've raised the point about community payphones and options instead of payphones. Have you got anything that you'd like to elucidate on?

**MR SAKUL:** Yes. So I think what we said on that in relation to the community, there is already a community phone program.

**MR LINDWALL:** Yes, yes.

**MR SAKUL:** What - we think that's quite a separate objective to what we are currently delivering within our current payphone scope, which is why there is already another program to deliver that. So what we were saying there is, obviously there is an

opportunity for the government to consider that on a stand-alone basis, and we noted, look, that should be subject to government funding and an open - you know, an open tendering process would make sense to us. We see that as quite separate to change to the payphone obligation.

**MR LINDWALL:** Yes, yes.

**MR SAKUL:** So what we're signalling is we don't see that as the current payphone arrangements morphing into a community phone arrangement. That would be run separately too. So you'd remove the payphone obligation - - -

**MR LINDWALL:** Yes.

**MR SAKUL:** - - - but concurrently look at what you want to do separately for community - regional remote communities with a community - - -

**MR LINDWALL:** And there are some novel technologies that can be used, and ones that can be targeted. So you broadly agree with our approach, I guess, from what I'm understanding, that rather than having a universal, in the alternate once it's been discussed and negotiated - rather than having a universal obligation, it should be targeted to those in need, whether it be for accessibility reasons or availability reasons.

**MR SAKUL:** For that particular - - -

**MR LINDWALL:** Yes.

**MR SAKUL:** - - - issue you raised relating to remote communities, yes.

**MR LINDWALL:** Remote communities, and remote Indigenous communities too.

**MR SAKUL:** Correct, yes. Although we didn't see there was a specific remote Indigenous issue. We saw it as a remote community issue - - -

**MR LINDWALL:** Yes.

**MR SAKUL:** - - - of which there are a lot - a significant proportion of that would be remote Indigenous communities.

**MR LINDWALL:** I think we asked in one of our information requests, are there any reasons why you would have specific in remote Indigenous programs rather than just for remote users. Can you see any benefit one way or the other?

**MR SAKUL:** I think our view was, look, you know, if it's a remote community issue it's an issue for all those types of communities.

**MR LINDWALL:** Yes, yes.

**MR SAKUL:** And which we are totally supportive of the Indigenous communities as part of capturing that.

**MR LINDWALL:** Yes. And obviously different communities have different challenges. Some of them are not wedded to a particular premises - - -

**MR SAKUL:** Yes.

**MR LINDWALL:** - - - and they're more mobile, obviously, so - are the - going back to the satellite point, and of course the 400,000 people that are supposedly in the satellite footprint, and we made an estimate of 90,000 not having mobile coverage. Of course, I'm now clear that that means that of course the other 310,000 would have to have - some of them would have to have pretty good antennae and so on.

But are you able to - do you think that 90,000 is a reasonable estimate, or are you able to improve on it?

**MR SAKUL:** I don't have that data to hand, but it's certainly obvious if that's something if the government was to come to look at what we want to do in terms of solution - - -

**MR LINDWALL:** Yes.

**MR SAKUL:** - - - that's obviously one of the things that they would want to talk to us and understand the scope.

**MR LINDWALL:** So it's not - I mean, do you accept our logic that if you have multiple redundancy in services, you probably can forego one option, in this case the USO service? So there's - if you have a reliable mobile phone service and an NBN service, however we define the satellite service in terms of a baseline, which of course is another issue, then that would be a sufficiently good public funding for that?

**MR SAKUL:** So are you saying that if there was infrastructure that was available to a premise, more than just one type - - -

**MR LINDWALL:** Yes.

**MR SAKUL:** - - - would - could it be considered that the USO is met in those circumstances? I think it would depend on the extent to which there was an obligation to supply in those circumstances, and how.

**MR LINDWALL:** Yes.

**MR SAKUL:** So for example, would the wireless operator be obliged to offer a voice service to that particular premise, as a stand-alone basis, but again, that's all really dependent on how the overall structure and the regulatory arrangements are set up from the government at the - and a reform option.

**MR LINDWALL:** No, it's - - -

**MS VAN BEELEN:** So it's the obligation and then the standard.

**MR LINDWALL:** Yes.

**MS VAN BEELEN:** And then the, you know, confidence that the provider is, you know, obligated and able to meet that standard.

**MR LINDWALL:** Now, we've spoken earlier today about communication between the wholesaler and the retailer and the customer in respect of NBN services, and the - sometimes people are not getting the type of service they expect. Why isn't competition helping their - there are quite a lot of competitors in the retail market about - I haven't seen personally any examples of retailers saying that, "We will guarantee you a minimum of X speed download and X speed upload if you take this package."

**MS VAN BEELEN:** Yes, I mean it is something that's been called out by a number of stakeholders, just that there are probably some in the community. Certainly at a forum I was at yesterday we were hearing from regional communities that there is some confusion about what, you know, is on offer from the various RSPs over the NBN.

The reality is that, you know, the wholesale service is provided on a non-discriminatory basis - - -

**MR LINDWALL:** Yes.

**MS VAN BEELEN:** - - - but the RSPs are able to, you know, differentiate the service they provide, including by the amount of CVC capacity that they acquire from NBN.

Telstra has recently announced that we want to do more to provide information to our customers about the speeds that they can expect, and to check that they are getting the speeds that we have represented that they will be able to get.

So later this year we're planning to roll out the capability to do that, and you know, we do hope that that will, you know, enable consumers more broadly to be more - to be better informed and to be able to compare, you know, the different service offerings to understand value. Because, you know, otherwise they can face different prices but not understand the different - - -

**MR LINDWALL:** Exactly.

**MS VAN BEELEN:** - - - speed or quality that they might be able to choose from.

**MR LINDWALL:** Because in the end, the customer wants a particular type of speed that he or she wants to contact, but obviously also you're able to distinguish as a retailer by how many - how easy it is to contact you at certain hours of the day, whether it be by

phone or whether it be by a chat or something like that, to get a service response if there's a reliability problem or something like that.

**MS VAN BEELEN:** Yes. I mean, I was talking particularly about the broadband speeds that customers can expect, but of course there are aspects of service quality around - which is what is currently regulated under the USO, around responsiveness to - for activation and for fault repair.

And you know, and of course, you know, contactability is perhaps another element of the way RSPs compete.

**MR LINDWALL:** Yes, it's quite important for many people, I would imagine, so - now, people have generally said that mobile phones are a complement to broadband rather than a substitute, although we do see increasingly some people choosing just mobile, and I've asked before about 5G. How do you see that changing that dynamic?

**MS VAN BEELEN:** I think we would agree with the comments we heard earlier, actually, from Internet Australia. They're very much complementary, and it is part of people, you know, wanting to access content and applications and services wherever they are, using, you know, the most efficient or best value technology available to them where they happen to be.

And so it's really that they'll be moving between the mobile and fixed world in a complementary way. So we would never have said that the technologies are complete substitutes.

**MR LINDWALL:** No, that's true. And what's your current timeline for 5G service, do you think? Or when do you expect it to start be trialled?

**MS VAN BEELEN:** Telstra's announced that we would like to pilot some 5G services at the Commonwealth Games in Brisbane in 2018, so we are working towards that. After that, you know, it would be a gradual process of commercialisation and to scale.

Of course, that's dependent on the spectrum being available, and the ACMA is currently consulting on the 3.6 gigahertz band and the 1.5 gigahertz band, and also, you know, more broadly their spectrum outlook for the future as to what spectrum, you know, needs to be prioritised for 5G.

**MR LINDWALL:** Am I not mistaken that because 5G operates with a higher frequency and smaller cells that you actually have less problems with bandwidth - with spectrum than you would with the wider ones where it's more contested?

**MS VAN BEELEN:** Well, you need a range of spectrum. 5G is really a range of services, so - and I'm not the engineer, can I just point out.

**MR LINDWALL:** No.

**MS VAN BEELEN:** But you will still need low band spectrum for 5G to provide the high speed - you know. And also the distance, you know, and penetration, that low band spectrum, like the 700 megahertz spectrum, delivers. Particularly in regional areas, that low band spectrum is still going to be important to get the distances. Then - you know, but you still need then large chunks of spectrum, you know, and currently that sort of 3.4 to 3.7 gigahertz band is looking like being the first globally harmonised 5G band for that, and so certainly we've advocated to the ACMA that they need to progress the making available of that spectrum.

And then you have the very high band spectrum which is for that sort of, you know, millimetre wave technology, which is, as I understand it, quite short distances, but then can be repeat signalled, and you know, that's also a priority, and we've asked that the 25 gigahertz band be prioritised for that.

**MR LINDWALL:** Okay. Now, one of the messages, and we've alluded to it already, talking about the satellite areas, and - there's a dilemma here. There's - NBN is rolling out a very large infrastructure project, and it's very easy to go to regional towns and saying, "It's all coming, it's just a teething problem," and all the rest of it, and they're frustrated because they don't have a service that they like, and they see other people in the cities that have much better services, and they - well, they're concerned about that.

Are there any practical things that can be done beyond what was already being done that could address some of these gap issues in time, really? Because I think we can be reasonably confident that NBN can achieve its objective by 2020, but there's that period between now and then when there will be increasingly frustration in regional areas, yes.

**MS VAN BEELEN:** Yes, no, we certainly, you know, absolutely understand the frustration. It's real. It's not just, you know, residential customers but it's actually, you know, the agribusinesses and big sort of, you know, opportunities for regional development that rely on internet connectivity.

So they are, you know, crying out for more coverage, more coverage investment.

**MR LINDWALL:** Yes.

**MS VAN BEELEN:** You know, in terms of what can be done in the meantime, we do think that the government's Mobile Black Spot Programme is really important in bringing mobile connectivity to areas that don't currently have coverage. We think that investment in mobile infrastructure is going to continue to be really important, and it's very important that the regulatory environment continues to encourage that investment.

Telstra also has actually announced its investment plans. You know, we've disproportionately invested in mobile infrastructure over the last decade. 15% of our mobile capex has gone to the last 2% of the population, and we've committed to continue that, and we've actually announced co-investment plans as well, so making some funds available to co-invest with, you know, local customers, stakeholders, councils, state governments, et cetera, and as part of the Mobile Black Spot Programme.

But all of that, you know, requires a regulatory environment that continues to encourage that investment. You know, the other thing that Telstra is trying to do is to improve the DSL experience for customers. I mean, the reality is that usage has gone through the roof. You know, it's called the Netflix Effect, but it's basically - you know, it's video, and as I said before, it was what people are using their broadband services for, you know, is just - you know, is much greater than previously.

And that, you know, has caused some capacity challenges, you know, in fixed and mobile networks, frankly, in order to try and improve the experience of our DSL customers. I mean, we are trying to optimise investment, because obviously the NBN is coming, and any investment we make in our DSL network now is effectively redundant - rendered redundant by the NBN.

But we do have some plans in place to try and optimise and get the very best experience out of DSL, including putting some more investment in wherever we possibly can if there's, you know, more than, you know, 12 months to wait until the NBN comes.

So they're a couple of things that we're doing. I don't know if there's any other options we have in mind.

**MR SAKUL:** I think you've covered them. I think - just to reinforce the benefits of the regulatory environment that is encouraging that ongoing investment.

**MR LINDWALL:** Yes, and not discouraging investment, yes.

**MR SAKUL:** Correct, yes.

**MS VAN BEELEN:** Yes.

**MR LINDWALL:** Now, if you could indulge me, I was going to ask you a question that's on another topic that's related. I'm doing another study on regional economies, and it's about producing a metric about ranking regions for their resilience, and trying to come up with policy lessons.

And I'd encourage that Telstra looked at and made a submission into that at some stage, but I think it's a reasonable assessment that one of the important features for a region as being strongly resilient and growing is its communications ability. In today's society, that would be - I don't think you'd disagree with that.

**MS VAN BEELEN:** We'd absolutely agree, and it's what we're hearing from our regional customers and stakeholders.

**MR SAKUL:** Yes.

**MR LINDWALL:** It allows them to market their product internationally and so forth.

**MS VAN BEELEN:** Yes. Well, particularly in the agribusiness sector. I mean, you know, farming equipment, much of it these days is actually able, you know, to communicate via networks.

**MR LINDWALL:** Yes.

**MS VAN BEELEN:** But we need technology. And you know, it's not all about mobile networks.

**MR LINDWALL:** Yes, yes.

**MS VAN BEELEN:** There are other technologies which can actually work to, you know, extend the coverage or enable that equipment to communicate and ultimately get back to the network.

**MR LINDWALL:** Within a farm, yes, yes, yes.

**MS VAN BEELEN:** But yes, there's absolutely - so our agribusinesses and our other regional businesses are all going to rely on communications capability.

**MR SAKUL:** And there's a lot of clever things they're able to do now with narrowband type solutions where - you know, which are - where you have devices out in the paddock  
- - -

**MR LINDWALL:** Yes.

**MR SAKUL:** - - - which use very small bits of data that's not time-dependent which you can just send and the signal can be picked up when it can. And so there's all these sorts of smart solutions that will be available - which will become available to agribusinesses, but it's - yes, it's how do you get not just the service to the farmhouse but to the top paddock as well, is really the enabler in all this.

**MR LINDWALL:** Exactly, and some of those technologies are phenomenal. The soil monitoring, you know, the amount of moisture, and so you can optimise irrigation for example and fertiliser usage and - - -

**MR SAKUL:** And that's the application narrow-band type services have. The Internet Of Things.

**MR LINDWALL:** Everyone thinks of broadband, but that makes a good point. Now, I might just check that I haven't missed anything that I should ask. I think I've covered pretty much everything. Oh, yes, you did raise in the submission about the CVC pricing, and how that might affect Telstra's customer base, given that you have a proportionately high, you know, voice only type customers. Would you like to elaborate on that?

**MR SAKUL:** Yes. I mean, I think we've sort of been speaking to a lot of our consumer groups, and obviously we have a strong connection to the low income area. I think we

have raised concerns with NBN and others in terms of the impact of the change of the dimension based pricing approach to CVC, whereby - - -

**MR LINDWALL:** There's discounts for large customers.

**MR SAKUL:** - - - the discount with your larger customers. So you know, I think our central premise is if we're competing with other major players who are competing at sort of high consumers, essentially the price - the per-unit price we pay for those services will be higher because of our large proportion of small use and voice only customers.

And I think our central premise is there needs to be some solutions around how that's being done, otherwise that will have flow-on implications for that group which may be impacted by increasing prices to make up for the losses we'll make on those - - -

**MS VAN BEELEN:** There will certainly be less providers competing to provide services to that sector of the market, and that is obviously not in their interests.

**MR LINDWALL:** So you're in continuing discussions with NBN over that, I presume? Yes.

**MS VAN BEELEN:** Yes.

**MR LINDWALL:** Nothing more you can say, I guess, about whether you might have a positive outcome from Telstra's perspective?

**MS VAN BEELEN:** No. I mean, NBN is consulting on it - - -

**MR LINDWALL:** Yes.

**MS VAN BEELEN:** - - - you know, with their customers, and we're party to those consultations.

**MR LINDWALL:** Okay. That's good. The - oh, about reliability of the networks, which of course Telstra does report upon the overall reliability in that, are you able to distinguish between reliability of the different parts of the network? Like, the digital radio concentrator we spoke of earlier, and - - -

**MR SAKUL:** Well, I mean, we report as per the performance measures that are set out in the CSU regulation, which is not by technology but by area, so the reliability of the different areas, so we don't have reporting by particular technology type.

**MR LINDWALL:** No, I didn't think so. And I think that's - missed nothing? All right, well, thank you very much Jane and Ramah.

**MR SAKUL:** Thanks, Paul.

**MS VAN BEELEN:** Thank you.

**MR LINDWALL:** Now, ladies and gentlemen, that's the end for our official presentations, but now I can invite anyone else who wants to come up and say something, or who wants to comment upon previous presentations, it's now your opportunity. Does anyone want to do so? Please. Please come up to here, state your name and organisation if you do represent one, and make a statement, please.

**MS RAICHE:** Well, I'm not sure I'm representing my - Holly Raiche, and I'm not sure I'm representing my organisation, but I do have a question. My understanding about NBN Co., certainly back in 2010, was it was essentially a government-funded instrumentality to provide infrastructure, whether you call it the new SIP or whatever you call it, the universal communications infrastructure provider.

The legislation that is in draft form that we're all commenting on suggests a levy, and I have a very real question why you need a levy for a government-funded organisation. I would have thought that, to the extent that the government has said, "Thou shalt provide universal infrastructure, and we fund it, and by the way, we're taking 7% of your revenue anyway," I'm not sure of the levy.

And particularly since it's just carrier to carrier. It seems to me that the - if you'd taken that section and said government funds it, the costs, if there are costs - and I think there are additional costs for retail service providers, CVC, backhaul and so forth - that may be where you would look to subsidise high cost areas where there is not the possibility of a business case for a retail service provider, even though there's infrastructure.

Now, we've heard from OptiComm already saying this new structure, which is a new structure - suddenly you've got carrier-only, where you used to have carrier and carriage service provider, and it now relates to infrastructure, we think. It's a very different structure, and I'm just - I'd welcome comments on what people think about that.

**MR LINDWALL:** Yes, well, we're welcoming comments on what people think too.

**MS RAICHE:** Mine's a question.

**MR LINDWALL:** You know, all I can say is that something costs X dollars and governments can fund it in a variety of ways. They can appropriate money from the budget directly - - -

**MS RAICHE:** Yes.

**MR LINDWALL:** - - - they can have levies. And as you know, in all parts of government areas it is funded in different ways, so sometimes there's good logic to things, and other times there's not, and on this particular occasion I can't really comment at this stage, but - - -

**MS RAICHE:** I'm not expecting you to say there's not logic.

**MR LINDWALL:** But in the end, governments have to fund - if something's loss-making it has to be funded some way, yes.

**MS RAICHE:** Jane will understand that Telstra used to fund lots of loss-making.

**MS VAN BEELEN:** Yes, we still do, probably.

**MS RAICHE:** Exactly.

**MS VAN BEELEN:** The - - -

**MR LINDWALL:** Did you want to come up, Jane?

**MS VAN BEELEN:** I can have a go, if you like.

**MR LINDWALL:** Well, you might stand near the microphone then.

**MS VAN BEELEN:** I mean, I'm not going to defend it, but I just - - -

**MR LINDWALL:** That's okay, yes - - -

**MS RAICHE:** I didn't expect you to.

**MS VAN BEELEN:** The - I mean, the NBN as originally conceived was wholesale only and a monopoly, effectively.

**MS RAICHE:** Yes, yes.

**MS VAN BEELEN:** And so - and it was to have uniform national wholesale prices, and whatever returns it was going to generate, it was going to generate them, you know, on that basis.

**MS RAICHE:** Yes.

**MS VAN BEELEN:** The incoming coalition government basically facilitated infrastructure competition with NBN in certain - well, wherever, really, but under certain conditions, under the supervised network obligations.

What that meant is that there's the scope for what is known as cherry-picking.

**MS RAICHE:** Yes.

**MS VAN BEELEN:** So it means that NBN doesn't have a monopoly anymore. And so the idea was not to impose a levy on all and sundry to contribute to the loss-making regional services, because that was already inherent in the averaging that occurred inside NBN, but the idea was meant to be to simply, where the cherry-picking occurred, make

sure that those network operators weren't draining the source of the funds for the regional higher-cost infrastructure.

So the idea was that the cherry-picking operators were the ones that ought to contribute to the levy, and that NBN implicitly had the levy in there because their price was averaged nationally. Does that make any sense?

**MS RAICHE:** No, it makes perfect sense, except - I completely understand what you're saying. But I'm not sure that the legislation actually is going to do that.

**MS VAN BEELEN:** No, I agree with you, because the application of the levy is now much broader than the leakage issue that it was meant to be designed to address.

**MS RAICHE:** That was my question, thank you.

**MR LINDWALL:** All right, thank you both, then.

**MR PATTON:** Sorry, can I just for the record - Laurie Patton. Can I just point out that Holly Raiche is on our board, and is speaking entirely in her own right.

**MS RAICHE:** Yes. I'll wear another hat.

**MS VAN BEELEN:** I'm just trying to be helpful.

**MS RAICHE:** That was my understanding, thank you.

**MR LINDWALL:** I hope we haven't confused our - - -

**MS RAICHE:** No, no, no.

**MR LINDWALL:** Anyway, please. Final comments? Yes. Please state your name again, Malcolm.

**MR MOORE:** Yes, thank you. Malcolm Moore. Two points come up. When I was rolling out - I was the supervising engineer for Telstra's - or contracted to Telstra's cable internet rebuild in 19 - sorry, in 2005, that was in Sydney I was doing that partially, \$2.5 billion contract with Silco at the time. It was about \$670 million in Sydney, it had 124 sites, I think, in about eight months.

The way of connecting the cable modems in the premises uses the MAC address, and the MAC address could then work back to a database I think was in Adelaide, if I remember correctly, at that time. So basically it didn't matter where you had your modem, you could pick your modem up from Sydney, you could take it down to Melbourne and plug it into Melbourne, it would work. You could put the same modem, take it up to Brisbane, plug it in there into that network, it would work too.

If you put in another modem that didn't have a MAC address attached to that database, just say, "I know you," you couldn't connect. If you take that one step further, you don't need any POIs, any points of interconnect. You can absolutely get rid of points of interconnect entirely. You do not need them one bit at all. So that would save Telstra a couple of billion, maybe. It would save Optus, it would save NBN, a massive amount of money to do that, with a bit of cooperative competition, put it that way.

The other part I was going to say was the optical fibre - oh, if Telstra is running at a loss in the country areas, then wouldn't it be logical to just have the entire country areas handed over to the NBN, thank you very much, no cost? It makes sense to me. Because if Telstra wants to run to profit and it's a cost centre, they don't want it, put it in the wholesale manager area, and let the NBN wholesale look after it.

The third thing - makes lots of sense - - -

**MS VAN BEELEN:** I'm sure they don't want it, but anyway.

**MR MOORE:** I'm sure they don't either. The other thing is, I'm not sure about the actual usage of the optical fibre that is in the country areas in Telstra. I know there's about 60,000 kilometres of it. My gut feeling is that most of it is either six fibres or 12 fibres. It's a long time since I've been involved with it.

My other gut feeling is it's probably being used in most cases for two megabits per second voice, that's all. And when they say, "Sorry, it's occupied," I say to myself, "and what about the other gigabits or 10 gigabits you could put over the same bit of optical fibre to provide broadband in country areas, that you could do for almost nothing?"

So I look at that and say to myself, we don't need to have satellites in a whole lot of these areas out there. We can have broadband rolled out very inexpensively in country areas. It just needs a bit of common engineering to put this over the top and have the existing voice two megabits slotted in on the bottom of the optical fibre as it is.

That's just my little - hope that helps.

**MR LINDWALL:** Thanks very much. It does, it does, yes. Now, anyone else want to come and make a comment? Forever hold your peace otherwise? All right, well, I'll adjourn the proceedings and we'll resume tomorrow here - here tomorrow at - what time do we start? 10 o'clock tomorrow, is it?

**ASSISTANT:** 8.30.

**MR LINDWALL:** Sorry, 8.30? 8.30 tomorrow. 8.30. So thank you everyone, and - - -

**MATTER ADJOURNED AT 12.36 PM UNTIL  
WEDNESDAY, 1 FEBRUARY 2017 AT 8.30 AM**



**Australian Government**  
**Productivity Commission**

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**PRODUCTIVITY COMMISSION**

**INQUIRY INTO THE TELECOMMUNICATIONS  
UNIVERSAL SERVICE OBLIGATION**

**MR P LINDWALL, Presiding Commissioner**

**TRANSCRIPT OF PROCEEDINGS**

**AT SYDNEY  
ON WEDNESDAY, 1 FEBRUARY 2017 AT 8.26 AM**

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**MR LINDWALL:** I've got a bit of an introductory thing I say each time, and then we'll get - we may as well get started.

So good morning. Welcome to the public hearings for the Productivity Commission inquiry into the Telecommunications Universal Service Obligation. My name is Paul Lindwall and I am the commissioner on the inquiry.

I'd like to start off with a few housekeeping matters. In the event of an emergency, SMC Conference and Function Centre staff will direct and assist everyone in evacuating and moving to the assembly point.

We will be breaking for morning tea around 10.30 am, and we look like we will be concluding the hearings at around 12.30 pm. If you have any particular questions, or wish to present at this hearing, please see Luke at the back if you aren't already registered.

The inquiry started with a reference from the Australian Government in April last year that has asked us to examine "to what extent are government policies required to support universal access to a minimum level of retail telecommunications services?" This includes recommendations on the objectives for a Universal Service Obligation or equivalent, the scope of services to achieve objectives, specific user needs, and funding and transitional arrangements.

We released an issues paper in June and have received about 60 submissions since its release. We have talked to a range of organisations and individuals with an interest in the issues. We then released a draft report in December, and further submissions have been received, including - and they are still flowing in.

We are grateful to all of the organisations and individuals who have taken the time to meet with us, prepare submissions and appear at these hearings.

The purpose of this round of hearings is to facilitate public scrutiny of the Commission's work and to get comment and feedback on the draft report. Following these hearings in Sydney, hearings will also be held in Cairns, Launceston, Melbourne and Port Augusta. We will then be working towards completing a final report to be provided to the Australian Government in April. Participants, and those who have registered their interest in the inquiry, will automatically be advised of the final report's release by government, which may be up to 25 parliamentary sitting days after completion.

We like to conduct all hearings in a reasonably informal manner, but I remind participants that a full transcript is being taken. For this reason comments from the floor cannot be taken, but at the end of the proceedings of the day I will provide an opportunity for any persons wishing to do so to make a brief presentation.

Participants are not required to take an oath, but should be truthful in their remarks. They are welcome to comment on the issues raised in other submissions or by other participants.

The transcript will be made available to participants and on our website following the hearings. Submissions are also available on the website.

And participants are invited to make some opening remarks, preferably around five minutes or so. Keeping the remarks brief will allow the opportunity to discuss matters in greater detail.

So now I'd like to welcome David Epstein and Andrew Sheridan from Optus. Good morning, and if you could just state your names for the record and give a presentation as you see fit?

**MR EPSTEIN:** Does this red light mean we're on or off?

**MONITOR:** On.

**MR EPSTEIN:** On. Okay, excellent.

**MR LINDWALL:** It doesn't amplify, it just records.

**MR EPSTEIN:** Okay, as long as we're recording. David Epstein, Vice President, Corporate and Regulatory Affairs for Optus. And I'm accompanied by Andrew Sheridan.

**MR SHERIDAN:** Who's the General Manager for Interconnect and Economic Regulation for Optus.

**MR EPSTEIN:** Right. Well, look, thank you very much for the opportunity to appear today, and also for considering our initial submission. Optus would like to commend the Commission on its draft report. And given the analysis and evidence put forward, we would agree that there is - it's difficult to reach any other conclusion other than that the current USO policy is not fit for purpose, and that reform is required urgently.

We strongly support the proposed model for reform outlined in the draft report, and as we see it, it has four significant components that need to be addressed in prosecuting such a reform.

Firstly, there is a need to phase out the existing USO which is, to our mind, an expensive anachronism, and to establish a new baseline Universal Service Obligation for basic voice and data services. As far as possible, we believe that any new baseline service should be designed to ensure that it is both technologically and vendor neutral.

The existing standard was established in a different era, when there was only one supplier, and communications pretty much meant the plain old telephone service, or POTS, as it's commonly known in the industry, delivered over twisted copper pairs.

The plain old telephone service, POTS, is no longer the primary means of communication, and to the extent it remains a significant form of communications its utility is declining rapidly. So therefore, it should no longer set the standard for communications services across the nation. A new minimum safety net is required, and this should reflect today's technology, the capacity to upgrade technology, and the widespread consumer adoption of modern voice services delivered over platforms such as VOIP, VOLTE, and increasingly through over the top services. The standard should also recognise that in an NBN environment, consumers will have a greater choice of provider.

The second major point we think needs to be drawn out is that policy reform should aim as much as possible to leverage existing NBN and mobile infrastructure to the maximum extent possible to deliver broadband and voice services consistent with the proposed new baseline standard.

There is now little justification for maintaining the legacy Telstra copper network for a great period of time as the NBN is rolled out in a mature state, since a mature state NBN will enable customers to guarantee access to both voice and data services over the NBN, and in addition they'll have access to increasingly high quality voice and data services from mobile operators.

The third point to be made is that we must continue to recognise that it's possible for a small cohort of consumers in the most remote locations to be in a position where existing and indeed immediately planned infrastructure may not deliver services that are sufficient to meet the proposed new baseline standard. However, we do believe that once the size and scope of this cohort can be established, and the extent to which a gap exists, it can be met through specifically targeted services.

Potential options include considering further extensions to the Mobile Black Spot Programme, and we would also draw the Commission's attention to the capabilities and benefits of small-scale mobile satellite technology, which Optus is now deploying both commercially and under the Mobile Black Spot Programme to certain remote locations. We've provided further details of this in our submission to the draft report.

Fourth and finally, a critical precursor to reform of the USO is for existing USO agreements with Telstra to be cancelled or renegotiated, and on this point I note with some optimism that there's reports from senior Telstra regulatory managers this morning that Telstra is open to this renegotiation of the agreement.

As they stand, these arrangements would cost the industry in excess of \$3 billion over the next 15 years or so if reform cannot proceed while they remain afoot. Since Telstra has long claimed that the costs of the USO to it exceed the levies it receives, then we would believe that it also should benefit from a removal of the current arrangements.

A further point I'd make is that it's, as I said at the outset, important that we have technologically and vendor-neutral arrangements, and that we ensure that any future arrangements are future-proofed. Another element that needs to be future-proofed is to

put in place checks and balances that constrain the potential for scope creep and capital intensity of revised obligations to increase over time.

There is always a temptation when such interventions are put in place for the scope of services to be expanded or the costs of delivery to be inflated. For example, there will be a temptation for NBN Co to seek to increase its access charges as a consequence of taking on USO obligations.

This is something that should be guarded against, because it shouldn't happen, as a standard service should fall within the existing service delivery model and public policy obligations of NBN Co.

That's the conclusion of our opening statement, and we're happy to take questions.

**MR LINDWALL:** Thank you very much, and I much appreciate that. On your last point, do you see any cost implications for NBN in the - if TUSO didn't exist, the Telecommunications Universal Service Obligation agreement with Telstra?

**MR EPSTEIN:** Well, I mean, I think those sorts of things need to be worked out in terms of where residual contractual and service obligations fall obviously in the first instance, but also in determining what would be the baseline of the gap that I referred to earlier.

In saying that, you know, we think, you know, a large proportion of these obligations could sensibly fall to NBN Co, you know, as the public sector baseline network provider, we're not ruling out the possibility of others contributing to it or other arrangements, and indeed when you're dealing with some of - you know, what we would see as some of the niche issues, I think there's a high potential to put things out to contract and to contest, if only to enable a broader array of services and service providers to come forward.

So those sorts of things should be able to impose some form of cost tension on NBN Co. But I think at this stage, until you define the elements of what you would describe as the gap and the most, you know, rapid means in the first instance of dealing with it, it's very difficult to, you know, put precise figures or pinpoint precisely what it would do to the NBN Co's cost structures.

**MR LINDWALL:** Although I suppose you could say that in the case of customers who of course have voice only landline, who - under the POTS, as you mentioned, who then moved over under an alternative universe without the TUSO to using NBN for just that purpose, the amount of bandwidth they'd use would be still fairly limited.

**MR EPSTEIN:** Well, it should be fairly limited. I just would say, as a bit of a corollary of that, and it was borne out to me on Monday night where, along with representatives of some other companies, I attended a regional forum out at Dalby, there is some concern, some of it misplaced, I believe, among, you know, potential customers of such residual services in regional areas, that by losing access to copper they'll be highly dependent on satellite, and some of them, you know, have memories very fresh in their mind of, you

know, some current issues with Sky Muster where weather conditions over Geraldton have ended up affecting the whole nation, and there is very much an expectation - you know, the degree to which it's realistic may be debatable by some people - that services should be on all the time and restored, you know, within minutes.

Now, that clearly doesn't occur with the copper lines. But you know - you know, there are instances where satellite services of all types, just because of logistics, can be out for weeks, et cetera et cetera, where weather conditions can affect availability. So I think there needs to be a bit of a working through of, you know, what all the alternatives are, and a bit of an education program, and then once that's occurred and, you know, the potential baseline services have been defined, what they do need to be accompanied by, I think, is some form of, you know, service or maintenance level guarantees, because that's clearly a concern these days, and, you know, anecdotal evidence suggests, you know, quite interestingly in certain rural and regional areas the technological intensity of evolving business may, in fact, on the average be greater than it is in urban areas just because of the nature of businesses and things like telemetry et cetera et cetera in addition to baseline voice services and, you know, increasingly people are saying, you know, we can't divorce the basic voice from the basic digital.

**MR LINDWALL:** So getting - staying on the satellite area - well, actually, looking at legislation that has been out for draft comment of the statutory infrastructure provider legislation, does that address some of those concerns, do you think? Does Optus have any comments on the SIP legislation?

**MR EPSTEIN:** Do you want to comment in detail on that?

**MR SHERIDAN:** Well, I think - firstly I think the SIP legislation is quite relevant, because it really provides that sort of baseline guarantee that NBN infrastructure will provide the basic connectivity, which is one of the key elements of the current policy.

So with that legislated, that obviously gives a further impetus to the policy reforms that you've outlined. So I think that's probably the first - probably the most important point in terms of that legislation. The opportunity for other parties to become a statutory infrastructure provider, that's opened up, but there are clear obligations there again in terms of how that - what they would have to do in terms of gaining that status, so again, that's I think an important element.

In terms of service delivery over the infrastructure, I don't think the legislation particularly goes to that, so I think the issue's really irrelevant, and I think you've identified in terms of satellite is to - if there are issues with the satellite service, what are those issues, and how do they compare with what the experience is on today's services? Recognising that there is also some quite considerable additional utility from the satellite services being provided out into the remote areas today.

**MR LINDWALL:** Yes, well, exactly, but - so could I, just for the record, that if you were to consider fixed line and fixed wireless services through the NBN, you're getting a very good voice service without doubt, is that - that's true?

**MR SHERIDAN:** Yes, that's correct. And that is our position, yes. And we're offering services across those two platforms.

**MR LINDWALL:** Yes. And so for the part that is covered by the NBN satellite, the Sky Muster, there has been debate about the satisfactoriness of the voice service, due to latency and, as you mentioned, weather conditions. Yes?

**MR SHERIDAN:** Yes. I think another important point there as well, which we've made in our submission, is that within that satellite footprint I think it's important to recognise that the vast majority of customers who are on the NBN satellite have access to mobile services, both on street and within their home.

So we are probably talking about a fairly small cohort of customers who are reliant solely on satellite and don't have mobile coverage today, and I think in your report you've identified that might be around 100 or 90,000.

**MR LINDWALL:** Up to 90,000.

**MR SHERIDAN:** Yes, I understand. Which is consistent with our view. And over time, that number may come down with programs such as the Mobile Black Spot Programme and again the ability that we've noted in our submission to roll out small-cell satellite technology.

**MR LINDWALL:** Yes, and - - -

**MR EPSTEIN:** Which is not necessarily dependent on NBN Co, and you know, obviously we would talk to our own brief a bit there, because you know, we are a supplier. But you know, what it does illustrate is there are an array of solutions that can be used to address that, you know, that small rump that you are faced with.

The other thing that I'd point out is, I mean, you know, there is a question of latency. You will always have latency with satellites, but there are ways and means of, you know, reducing that to the bare minimum. You know, for example it is possible, you know, depending on how you configure your satellite transmission and its connection with broader networks, to create hamlet-to-hamlet communications directly off the satellite, so that adjacent communities at least have the benefit of, you know, slightly less delay, not having to transmit back to major network hubs and then go back up again. So you can do those sorts of things too.

**MR LINDWALL:** And hamlet-to-hamlet would be a major form of communication, and of course a lot would also be fixed line, where there's latency, where with single-hop satellite services latency is fairly low anyway.

**MR EPSTEIN:** Yes, yes, correct, correct.

**MR LINDWALL:** So the philosophy that we argued in our draft report, which was to phase out the TUSO - and we've got some options, we can talk about that in a second - and target inventions based upon availability, accessibility and affordability, you agree generally with that?

**MR EPSTEIN:** Absolutely. And you know, it has the other benefit in that, you know, presumably if it's held to, you know, well-defined contractual periods that you can refresh technology and the mix of technology as things develop.

**MR LINDWALL:** Now, one of the things that came out yesterday when we were talking about broadband was that broadband retailers, retail service providers, often do not communicate well with their customers about problems or who's responsible for the problem or resolution of it or, for example, if they take up a 50 megabits a second download service and they might be only getting 20 or something, are there - should we have regulatory solutions to that, or are there market solutions that would be better?

**MR EPSTEIN:** Well, I think there's - you know, there's the opportunity for solutions coming from three directions. Regulatory. To some degree, the ACCC is already looking at this, you know, whether it's through explicit regulation or through encouraging, you know, cultural change in practice.

There's an educational task, and there's also a market task. And, you know, while it's difficult to pinpoint express examples, there's a multitude of anecdotal examples, I don't think any of us can ignore the fact that we are currently in, you know, a transition period with NBN Co. Its initial rollout has been delayed, and it's now increasing rapidly across a multi-technology model, which means, (1), you know, it's potentially - you know, it's clearly got the potential to service more customers, interacting with more customers, as indeed are retail service providers.

More and more retail service providers are having experience with, you know, retailing the NBN. And to some degree we are feeling our way, and that is reflected in TIO trends at the moment, particularly in the satellite area. That's a very fraught area of customer relationships.

You know, and we would acknowledge that there is scope for improvement on behalf of the industry as a whole and, you know, systems have got to get better, they've got to be simplified, they've got to be more effective, they've got to be more consistent. But equally we've got to come to more common understanding of what expectations, and we also have to come to a more common understanding - and this goes into the whole debate about NBN pricing, et cetera, and the NBN business model, a better understanding as to actually how the internet and data works, number one, and how usage patterns are now evolving.

You know, we're no longer in a world where, you know, load sharing can be managed, as it were, in a manner analogous to pricing of airline seats. There are, you know, too many consistent patterns of full loads and customer demands now as people are using over-the-top services.

**MR LINDWALL:** But do you have any comment, which Telstra raised at yesterday's hearings, about the CVC pricing model used by the NBN - - -

**MR EPSTEIN:** Sure.

**MR LINDWALL:** - - - which, of course, to paraphrase Telstra, just for your information in case you didn't see what they said, was that they would be disproportionately affected, because many of their customers are voice only customers who would have low bandwidth.

**MR EPSTEIN:** Yes. Look, I'm familiar with the Telstra arguments, and I was asked to make some comment, you know, after they spoke yesterday. Look, at the outset we think, you know, obviously people will always talk to their own brief, otherwise we wouldn't be here, but I think the concerns raised yesterday were significantly overstated, and it's a little difficult to unpick, you know, some of the grounds for them and find the empirical evidence to suggest that they would actually be borne out as Telstra suggests.

They also appear to ignore some of the significant subsidies that Telstra receives from other directions to service that customer base. What we would say is, you know, as indeed I said in my opening remarks, you know, there is always a danger where you have a monopoly service provider emerging, such as NBN Co, that costs can get out of control, and without the, you know, large market disciplines on such a service provider you have to rely on regulatory intervention, and that carries its costs, and it's by no means a perfect or precise instrument.

You know, so that would be the first point to make. That said, we think the reforms proposed by NBN Co are heading in the right direction. They recognise some of the issues that are arising. We are heartened by the fact that they will be backed by an enforceable undertaking with the ACCC.

However, if we had our druthers we do think that they should ultimately be supplanted by a more fundamental rebalancing between the NBN's AVC charges and CVC charges. The CVC is an artificial rationing device. There's not a lot to really rationalise. This sort of mechanism is not used widely internationally, and to our mind it very much reflects NBN Co's need under, you know, companies regulation, and also to meet its regulated rates of return, to bring forward cash flow early in the life of its business model while it's still acquiring customers.

So you know, we recognise the dilemma that NBN management and the NBN board faces to meet their fiduciary duties, particularly in the face of, as I've referred to earlier, changing usage patterns, and indeed, usage patterns that have changed very significantly since the NBN's original business models and business strategy was first developed, and which pose a threat to the sustainability of that business model.

So our view is that NBN Co and its shareholders should pay greater attention to moving faster towards a more sustainable charging and business model that reflects

reality. The other challenge for NBN Co is, you know, under, you know, its current charging regime, notwithstanding the reforms proposed, if customers were to be given a guarantee of the sorts of throughputs that the advertised NBN speeds might encourage them to believe, it would require a massive increase in provisioning.

Now, some would say, well, why don't retail service providers go out and provisions? Well, the thing is, under the current regime, it would in some instances potentially result in a doubling, tripling or even quadrupling of monthly charges for certain plan levels to provide guaranteed levels of speed 24 hours a day, seven days a week, right through a charging month.

Now, you may well be able to do it, but we don't think the market will bear it, and more to the point, the market's hardly likely to bear it when it's coming from a background of alternate commercial services and legacy services which have set prevailing expectations of price at the retail level, and those sorts of services are not going to disappear entirely.

So were we to shift to another world under the current regime and the cost of providing NBN services was to rise commensurately, you might find that there would be a significant drop in the demand for NBN, to the point where both the economics of the NBN are undermined, and more to the point, the potential of its benefits to the wider Australian economy are dramatically undermined because we have an inhibitor to Australia following international trends in technological development and technological utilisation.

**MR LINDWALL:** I don't know of any retail providers at this stage who have packages which offer the standard types of services plus a guaranteed rate of download and upload, so I guess that shows that retailers in general don't believe that there's a market at this stage for that.

**MR EPSTEIN:** Well, you know, I think a better way of putting it is retailers would be highly sceptical that selling NBN services at double or triple the current monthly cost is sustainable. I just don't think the market would bear it. We also need to bear in mind, and I know it's not the primary subject of this inquiry, but I think it is relevant, that there have been expectations created, particularly by the promoters of the NBN, you know, not just the NBN itself, that the headline maximum speeds are in fact, you know, the average or the baseline speeds.

Now, I think that the market is rapidly recognising that that is not the case, that these are maximum speeds, but what we've all got to come to terms with a bit more often is a common understanding of how you actually benchmark not just NBN services but any commercially available services.

Now, the ACCC has done some work on that. Carriers are doing some work in terms of education. And indeed, people are learning through experience. But the more fundamental point is, you know, how can we achieve a charging regime which satisfied the NBN's cash flow needs, enables NBN to meet its obligations in terms of its rates of

return and return on invested capital just in the commercial sense, but is also in tune with the elasticities of the retail market? And at the moment there's a major tension emerging.

**MR LINDWALL:** Yes, yes. Now, if we return, if you don't mind, to the satellite service, one of the issues that's come up in both hearings and submissions and meetings are concerns by people in regional and remote Australia of their bandwidth limits in terms of volume per month, if you like - - -

**MR EPSTEIN:** Yes.

**MR LINDWALL:** - - - and off-peak and on-peak. Obviously there are limits to what a satellite can provide, and it has to be rationed that way. Have you got any comments that might address some of those concerns?

**MR EPSTEIN:** Well, look, you know, there's obviously limits. You know, there's the law of physics and there's, you know, the amount of infrastructure that you're going to put up in the skies. So we understand that. What we would say, you know, very strongly is we need to - notwithstanding some of the challenges for the NBN in attracting early revenue, we need to be very careful that NBN Co and more to the point NBN management are not diverted from their primary public policy obligations, which is to roll out a high quality relatively ubiquitous national broadband network that provides relatively ubiquitous levels of service, within the bounds of practicality in favour - we don't want them diverted from that task in favour of ambitions to receive a supplementary commercial income.

Because the problem with, you know, NBN Co pursuing supplementary commercial income or trying to widen its public policy obligations into other areas, you know, like for example trying to provide backhaul to mobile network providers who may not be prepared to provide their own backhaul or buy it on commercial terms, as indeed there is one major mobile operator in Australia who seems to argue that, is that in doing so you potentially use up resources that could be devoted to increasing the data limits for customers.

So for example, you know, potentially reserving services for commercial airline internet and, you know, has the potential to impinge on provision of NBN to the ordinary householder or to hospitals or schools, et cetera.

**MR LINDWALL:** Yes.

**MR EPSTEIN:** So you do need to be mindful of that sort of thing. I'm not going to step into the shoes of, you know, NBN's satellite management and second-guess how they're currently load management. All I just make a comment on is the broader commercial and public policy strategies that the NBN has to pursue.

**MR LINDWALL:** In our draft report, of course, we talked about a transition from a phase out of the telecommunications agreement with Telstra, and we laid out some options, one of which was to wait till NBN has been fully deployed and they've moved

now into a different phase of their existence, and another one was to accelerate it a bit and target areas which it has been already rolled out to, and to a satisfactory degree.

Obviously people need to be satisfied that the NBN is bedded down in that region. Do you have a preference one or the other?

**MR EPSTEIN:** Our preference would be to the latter. I think it's better to be prepared sooner rather than later. Also doing the two things in parallel might assist two other tasks: one, ensuring that the regime is more nimble and flexible going forward, and two, keeping NBN Co focused on what I'd call public service / public policy objectives as opposed to commercial ambitions.

**MR LINDWALL:** That's a good point, yes. Now, on the Mobile Black Spot Programme, what's been the additionality that you would have expected in the latest round of it, and what do you see the prospects going forward for future rounds in terms of additionality?

**MR EPSTEIN:** Sure. Look, in terms of the current round, I mean, I think the - well, the crude additionality is literally, you know, more base stations and more coverage.

**MR LINDWALL:** Yes.

**MR EPSTEIN:** I think it's also - certainly we learned a lot of lessons about community and collaboration from our - you know, our bid for round 1 as opposed to our bid for round 2, and that's I think reflected in the results.

It, you know, enabled everyone to take better account of three factors: one, opportunities for collaboration and cooperation; two, opportunities for using different types of technologies, horses for courses as it were, you know, hence our emphasis on using smaller cell satellite technology; and also there were some other lessons I think learned in terms of the alignment of state government participation and to some degree, you know, state government policies there, although I think there's still a little bit of a way to go, because there is the potential for state governments, if they're not mindful of the broader impacts of the program on competition, and indeed other aspects of the wider telecommunications sector, to undermine some of the objectives of the federal program.

You know, the federal program for example included arrangements for co-locations et cetera et cetera, but some, you know, state governments certainly in round 1 tried to aggregate their participation in such a way that it was a winner take all arrangements, so, you know, therefore removed some of the incentives for, you know, carriers to - particularly if they were competing against Telstra, to pursue bids.

So there's a - you know, there's a few sort of lessons that were learned on the way through. I think they had a positive effect in terms of additionality. There's always a bit of a tension between, you know, dealing with what you would call pure black spot areas and areas that are dark grey, you know, where, you know, depending on which side of the

fence you're on there's differing views as to the effectiveness of the program and whether it's actually solving coverage issues.

And then of course there's the dimension of are people in regional areas entitled to the benefits of competition and the benefits of varied delivery mechanisms? You know, we think there should be a bit of a balance of both. That may be a challenge in round 3, and indeed one carrier believes it's a fundamental challenge. We're not so convinced of that. I don't know, Andrew, whether you have any other remarks to make?

**MR SHERIDAN:** No, I'm good.

**MR LINDWALL:** So with slightly less than 30 per cent of the geographic area of Australia covered by mobile phone coverage - - -

**MR EPSTEIN:** Yes.

**MR LINDWALL:** - - - and a large percent of the population's premises being covered, you would expect that additional rounds become ultimately more marginal?

**MR EPSTEIN:** Well, I think that's - you know, that's a natural consequence of things. You know, I think the Australian population can take some reassurance that while the additional rounds become more marginal, you know, for potential applicants, the products of previous rounds tend to drag out.

You know, the commercial prospects of coverage tend to follow the program, as it were. They grow behind it. Carriers wanting to connect outlying black spots to, you know, the denser parts of their network, wanting to connect highway pathways, et cetera et cetera. Technology is undoubtedly improving, and incentives, you know, to have competing infrastructure are undoubtedly improving. You only have to look at the pace of 4G rollout in regional areas now.

As you pointed out, there's certainly large geographic areas that are no longer covered - that are not covered, and some of those will always be under challenge. Now, I want to just make it very clear, in advocating what we do and enjoining you in the thrust of what we think is, you know, the preferred way forward, we are not in way saying that commercial mobile networks are somehow a substitute for 100 per cent geographic coverage. They are clearly not.

And I don't think that's the task we are talking about.

**MR LINDWALL:** No, no.

**MR EPSTEIN:** We are talking about a task where mobile networks can play part of a role, where the NBN can play part of a role, where satellite - all sorts of technologies which will, you know - using, as it were, a multi-technology mix, a tapestry can solve part of the issue that people are still concerned about, which is that tension between population coverage and geographic coverage.

**MR LINDWALL:** But overall, your assessment would be at least another round, maybe one after that, would still be viable.

**MR EPSTEIN:** Correct, and you may - you know, as the outcomes of each preceding round are bedded down and, you know, you see the practical effects on the ground in addition to having regard to what's happening in the broader commercial marketplace, you may want to fine tune aspects of the program.

**MR LINDWALL:** Yes.

**MR EPSTEIN:** You know, I think we're very much at that stage where the initial - you know, the bulk of the initial task is being addressed, and I would say "being addressed". You know, it's very much, you know, a task in progress. So we are now, you know, looking at, you know, what we have to do at the edges.

**MR LINDWALL:** Yes. Now, mobile in one respect is a substitute for fixed line, as in many people in the cities just have mobile and nothing else.

**MR EPSTEIN:** Correct, yes.

**MR LINDWALL:** And in rural and other areas maybe it's a complement. So how do you say - I mean, is that the way it is, or do you - - -

**MR EPSTEIN:** Look, it is a complement, if you're talking about baseline voice services. I don't think these days it should be regarded as a complement or it indeed that it is being regarded as a complement for data services in regional areas, particularly as you are getting more B2B and more machine to machine communications.

And indeed, as I said at the outset, I think there are now grounds for arguing that particularly small and medium enterprise in regional areas is actually more dependent on mobile networks and has the potential to be more dependent in aggregate, in the broad - in percentage terms, than what occurs in metropolitan areas, just because of the nature of businesses and their use of things like telemetry, et cetera, their dependence on electronic trading, digitisation, et cetera et cetera.

And when I - you know, I was speaking to a farmer on Monday night who was very, you know, proudly describing the fact that while he still has to sit in a tractor that's going round his field, albeit an extremely large tractor, this thing is basically driving itself using laser and digital guidance and GPS, and taking advantage of that, he is now trading his crops on international exchanges via his iPad in the field, quite remote from a regional town.

That sort of thing is occurring all the time. It will occur even more with 5G. To some degree, some of the challenges will be addressed by two factors. I mean, one, you know, the mobile technology is becoming more efficient, and two, there are some advantages in, you know, some of this machine to machine communication actually just,

you know, the way that it's working and, you know, the loads it places on networks can actually operate a bit further from towers than your handset, for example.

Now, that's not always going to be the case, particularly as networks load up and more and more of this is used, but both of those are illustrations that, you know, some of the - you know, with technological development some of these problems are not necessarily insoluble.

**MR LINDWALL:** Now, you mentioned 5G.

**MR EPSTEIN:** Yes.

**MR LINDWALL:** That's likely to be beneficial also in rural areas given that I thought they had higher frequencies and smaller cell sizes?

**MR EPSTEIN:** Look, that will be - that will be an issue. Undoubtedly so. But you know, I suppose in that sense I was using it more as an illustration of, you know, the dependence of some regional businesses on some of these new technologies.

**MR LINDWALL:** But what are the implications of 5G, or - - -

**MR EPSTEIN:** Well, look, I think they're to be worked through. But you know, undoubtedly the bandwidth, you know, where it currently sits, and the preferences on bandwidth, you know, are going to pose challenges. You know, that probably isn't necessarily the case in other countries.

You know, fortunately Australian representatives in international regulatory fora on spectrum have been able to get some recognition of our particular challenges. But you know, the fact is that there will be prevailing international standards, you know, which will always pose some of challenge.

**MR LINDWALL:** Yes. Now, I think in the submission Optus estimated - we estimated 90,000, or up to 90,000 premises outside mobile coverage in the satellite zone, and I think Optus came up with 150,000, is that right?

**MR EPSTEIN:** Yes.

**MR LINDWALL:** So do you - how was that calculated? Are you able to share that with us?

**MR SHERIDAN:** That was a fairly simple calculation based on the fact that mobile networks cover 99.5 per cent today, so it's the - it's around the remaining half a percent of households and businesses, yes.

**MR LINDWALL:** Okay, all right. Would you mind being able to show the team the calculations?

**MR SHERIDAN:** I have no - yes, absolutely.

**MR LINDWALL:** That would be great, yes.

**MR SHERIDAN:** Yes, no problems with that.

**MR LINDWALL:** And what - also - this is about it, really, but in our report we've basically said that the baseline is effectively the NBN service, which is the ideal, 25 megabits a second, although as we've discussed, that's the upper limit.

**MR EPSTEIN:** Yes.

**MR LINDWALL:** Is that a reasonable baseline? And how should it change over time, if at all?

**MR EPSTEIN:** Well, these things, I think, should always be, you know, subject to review, if only, you know, to avoid them becoming irrelevant and obsolescent, but also, you know, potentially where you've got a GBE involved, or indeed you might have commercial service providers, to prevent the emergence of, you know, sectional or entrenched economic interests that might inhibit the uptake of alternate means of provision.

But I mean, I suppose to answer your question more fundamentally, you know, we think this is, in essence, a philosophical question, and what you're proposing is a baseline standard, as opposed to a gold plated standard, and we - - -

**MR LINDWALL:** Yes, yes, both practical and cost effective, yes.

**MR EPSTEIN:** And we think that, you know, that that's the philosophical premise from which you should start. That would be our answer to the question.

**MR LINDWALL:** Yes.

**MR EPSTEIN:** Adopt a baseline standard, ensure that it's subject to review, and ensure that it's not likely to be, one, you know, become a constraint through obsolescence, in that it forms a cap rather than a baseline - - -

**MR LINDWALL:** Yes.

**MR EPSTEIN:** And two, that it doesn't form a basis for entrenched economic interests to develop as a further inhibitor on the economy.

**MR LINDWALL:** Yes. Do you have any final comments you'd like to make?

**MR EPSTEIN:** No, look, I think that's about it from us, thanks very much. Thank you for the opportunity.

**MR LINDWALL:** You don't? All right, thank you, gentlemen.

**MR SHERIDAN:** Thanks, thanks.

**MR LINDWALL:** Well, now we'll ask Ben Livson from BAL Consulting to come forward, if that's all right. If you could state your name and organisation and tell us what you want to say today, that'd be great.

**MR LIVSON:** Yes, please. My name is Ben Livson. I'm the Chief Executive of BAL Consulting, presenting the AAA response for the Productivity Commission's inquiry. So thank you very much for the opportunity to comment on the transition options for the standard telephone service USO module of the Telstra USO performance user agreement.

We've been very much heartened by the support that the Productivity Commission has received from - my understanding, from just about all parties. In particular I've been most encouraged by Dr Tony Warren, the group executive, Telstra Corporate Affairs, for his support, and I quote the idea that once the rollout of the NBN is completed there is a real opportunity to examine what technology is used to deliver a universal service that may replace the current USO. And overall, and I quote, Telstra remaining open to reforming the USO if changes mean the experience it provides for customers can be improved. I definitely would raise my hat to Dr Warren, if I had a hat.

We, as in (indistinct) Australia, AAA, support option 1 from the transition options, which is to amend telecommunications Consumer Protection and Service Standards Act 1999 to change the scope of the current standard telephone service USO. And I believe that all the parties would be willing to negotiate, in particular government and Telstra, to reach a revised USO.

The fundamental thinking that we have is that any revised USO needs to reflect mobile service as the primary telecommunications service for all Australians. If the government and NBN had their time again, and hindsight is a great thing, but after some good 10 years, if they would know what they know now, I would think that everybody would realise that mobile service is the primary service, and the fixed location services will more and more become secondary. That's our view at AAA.

I have quoted the Productivity Commission's report. Today it is nearly impossible for most people to imagine life without smartphones, tablets, messaging. Then there is the famous 99.3 per cent quote, which I have to say is greatly misleading, in the sense that there is massive, huge inequality within the 99.3 per cent of the population.

If there is ever in any area more inequality, more for the USO to advance, it must be the mobile service, in the sense that I, as a metropolitan person, probably spend well over 90 per cent of my time under mobile coverage wherever I go, whereas the rural regional remote person is lucky to spend a few percent of his or her time under mobile coverage. Maybe it's one tiny speck of the homestead, perhaps a community centre, perhaps a main road.

In fact, we do, AAA, very long rural regional drives. We stick obviously to sealed roads, what's called in Australia B roads. Not the Hume Highways, but the sealed roads. And even on the Telstra network - and we don't go to remote Australia on these long road trips. We don't get more than 50 per cent coverage.

So there is absolutely massive inequality between Australians that have some sort of mobile coverage. And in fact, when - these quotes about the 90,000 premises, AAA believes that, depending on how you measure it, it is either several hundred thousand, or it's potentially several million, in the sense that if the purpose of the USO is to provide Australians some sort of equality, and if it's accepted that mobile service is the primary service, then we are very far from that. The 90,000 is possibly - or in the AAA paper we are talking about more like the gentleman from Optus said, a few hundred thousand or anywhere from 150,000 to several hundred thousand.

I just refer to the AAA paper that we have in the submission, how we did the calculations, and we have density maps of Australia, what's defined as regional, what's defined as remote. I should say that a very large percentage of people actually use only their mobile service, and this is rapidly increasing. So that's something that needs to be factored in.

Also, I should say that by the 2020-2025 timeframe for completing NBN, we believe that the vast majority of voice calls, and in fact the most valuable data services, will be via mobile services. So AAA's recommendation is for the revised universal service obligation to ensure reasonable access to a standard all-in-one telecommunications service encompassing the all-important mobility for both data and voice to all Australians on an equitable basis, regardless of where they reside, study or work.

And we strongly believe that the USO funding should be used to extend the coverage of mobile services across the entire Australian landmass and surrounding sea to open up the entire country to opportunity, and I hear many people - many well-intentioned and knowledgeable people saying that no, it's not possible. But it is.

And we have the AAA technology. It's an ultra-low cost technology optimised to increase mobile coverage from the current one third or even less than that to the remaining two thirds of Australia currently only covered by satellite.

And one can only imagine the enormous social/economic benefit from implementing AAA, especially to regional and remote Australia. One thing to be said about - and I won't talk about the technology itself, except to say that it's focused on increasing mobile coverage in areas that are very sparsely populated, so areas where the aggregated capacity is small, as opposed to the massive capacity that the mobile carriers who have the mobile towers provide.

Where I think the Black Spot Programme went badly wrong is that they continued - obviously because the carriers wanted it to be that way, continued rolling out the same mobile towers in remote areas, and they just got very minimal coverage.

The Mobile Black Spot Programme covers - added coverage of only 150,000 square kilometres, which is roughly 2 per cent of Australia. So very large spending that you could have used to implement the entire AAA for all of Australia, the whole landmass and the surrounding sea.

It was, in our view - and I'm not knocking down the people that are running the Mobile Black Spot Programme, not at all, it was just that carriers (indistinct) just to use what they're comfortable with.

And I should only say that AAA is the result of some many years of research backed by the European Union, all the four major European powers, England, German, France and Italy, as well as Hungary, have spent some \$12 million of R&D to develop the technology to create this today.

**MR LINDWALL:** Thank you, and did you want to - I thought, sorry - I didn't want to interrupt if that was your final comment?

**MR LIVSON:** A bit more to go, if I may?

**MR LINDWALL:** Please.

**MR LIVSON:** Yes. I should say, in terms of NBN, that the satellite service is absolutely vital. It will take several years even after all the approvals to deploy AAA, and we, as in AAA, could save NBN a massive amount in terms of enabling NBN to delay the cost of sending additional satellites before they planned, 15 year lifecycle replacement, around 2031, and these savings for NBN would greatly exceed the cost of setting up AAA.

The other thing that would be beneficial for Australian NBN is that we would use - this would enable the proper use of NBN satellite capacity so that the areas that are exclusively relying on NBN or actually having to go to other solutions like low earth orbit satellites - we could allow NBN to target the limited capacity to those areas that can't have it right now, here and now. It would take over several years to deploy AAA.

Also in terms of NBN satellites, I should say that NBN was never designed to provide TUSO, and if the government wants to maximise the return to taxpayers privatising NBN, obviously it would be - should be carefully thought. This would have a major reduction in value if NBN is encumbered taking on TUSO for things that it was never designed to do.

Also, a couple of comments about the satellite itself. We've pointed out the satellite-only areas where the NBN satellites are subject to two-hop, around 1,000 millisecond delays, which would prevent the use of lots of modern applications.

The other thing that people need to realise is that a large number of the people that rely exclusively on satellite live in remote Australian areas where there's massive rainfall, and the KA satellites don't work when it rains. And obviously, in a modern society, having a telecommunications service that doesn't work when it rains is pretty sad.

I would just want to refer to the wonderful submission that Professor Reg Coutts made to the Commission, and Reg has been a great inspiration and I view him as my mentor in AAA, so I thank him for supporting us. So in summary, we recommend mobile service forming the new Universal Service Obligation to ensure a reasonable access and an all-in-one telecommunications service encompassing the all-important mobility for data and voice to all Australians on an equitable basis regardless of where people are.

Also the comment that I would like to make is that one can have any type of submission to the Productivity Commission, but if there is no clear thinking how to compensate Telstra for Telstra obtaining the \$2 billion in 2011, dollars out of TUSO, then one would have to question the value of such a proposal, and to my mind it comes down to, let's have this \$2 billion in 2011 value, net present value, used for AAA, for Telstra to obtain the full financial benefit which they are contractually entitled.

**MR LINDWALL:** Could I - would you mind wrapping it up, I think?

**MR LIVSON:** Yes, thank you.

**MR LINDWALL:** Thank you. Now - thanks for this submission and the comments. You say that technology AAA is ultra-low cost. How low is low?

**MR LIVSON:** So the low is - if you think of a rural base station in a very hard to access place, to be - assuming that it's access and we - our solution is completely independent of the terrestrial electricity. We have our own solar battery powered solutions. The big problem in these areas is obviously continuous supply of electricity.

But the rural remote base stations, the very few that we have, run anywhere from half a million to \$2 million. And - - -

**MR LINDWALL:** So how many would you need to cover Australia?

**MR LIVSON:** We think 250. So obviously you would need tens of thousands of mobile towers to do the same.

**MR LINDWALL:** So 250 at \$.25 million each, or something, did you say?

**MR LIVSON:** Yes, so the whole program would be around \$400 million. They vary from half a million to \$2.5 million, depending on the location.

**MR LINDWALL:** All right, that's - do you mind if I say this? I think people would say that I'm the most technophile Commissioner by far. I love technology, and I'm always taking the most up to date technology. But I'm also a sceptic sometimes, so you have to persuade me. Something that sounds too good to be true is often too good to be true, and if it's so cheap and so effective, why isn't it already being used? What's stopping it being used right now?

**MR LIVSON:** Well, it is being used.

**MR LINDWALL:** Which countries are using it?

**MR LIVSON:** Well, I mentioned the four major European powers, the United States, the Australian Defence Force. It's used in - this technology has been used massively by military around the world, including ours, and it's definitely now with the European Union funding at the stage where it can be funded.

Initial funding was to use it for emergency services, major fires, floods, that destroy infrastructure. So the initial application was that. I'm not even going to go through all the numerous - the technology itself is (indistinct) just one supplier, we're talking about, has over 20 years produced several thousand.

Everybody knows about Google Loon. It's a different approach, but certainly raised a lot of expectation. So it boils down to this. Australia is the flattest country on Earth, and 90 per cent of our country is less than 300 metres elevation. (indistinct) coverage.

And AAA is by far the most cost effective means of getting coverage.

**MR LINDWALL:** And it's ready to be deployed at the moment? It's not, like, in development or research?

**MR LIVSON:** No.

**MR LINDWALL:** So have you been in discussion with Telstra and Optus and Vodafone and the other mobile providers to purchase this technology?

**MR LIVSON:** We were in discussions, fairly advanced discussions, basically, to the level of purchase order, when this mobile roaming inquiry commenced, which stopped us there.

**MR LINDWALL:** Yes.

**MR LIVSON:** The carrier involved, one of the three major carriers, and I can't mention them, basically said, "We think we can roam on Telstra." So that sort of put a stop to that.

**MR LINDWALL:** So are there any policy inhibitions that would stop the deployment of AAA technology? So I mean, in the end you have a cost effective technology which, if you're a provider of those services, would be quite attractive, so what's blocking it? If there's no market reason for not purchasing it, is there a government policy blocking to it that needs to be sorted out?

**MR LIVSON:** Not to my best knowledge. Obviously it requires certain regulatory approvals, so like everything else, ACMA approvals for spectrum. So obviously the

carrier that deploys it needs to have the spectrum assets. Also there needs to be, obviously, Civil Aviation Authority approvals, because it's an aerial object.

**MR LINDWALL:** Yes, yes.

**MR LIVSON:** So we selected several sites, got the initial CASA thumbs up. We don't believe there is - as long as we are separated by several miles from the nearest aerodrome, that we would have a problem. And these problems would be, I think, very rare when you're talking about rural and especially remote Australia.

**MR LINDWALL:** What altitude to they apply at?

**MR LIVSON:** So we think that the optimal altitude is between 900 metres and 1,200 metres.

**MR LINDWALL:** I see. That's not very high, no.

**MR LIVSON:** No.

**MR LINDWALL:** No. And as you say, as long as you're far enough away from aerodromes, it should be fine, and it would be marked on aviation maps if it was - - -

**MR LIVSON:** Yes, there would be an exclusion zone.

**MR LINDWALL:** All right, well, I think it's an exciting technology, and if it does what you say it does, all power to you. And good luck.

**MR LIVSON:** Thank you.

**MR LINDWALL:** I appreciate you arriving. It does sound very good. Well, we might now move on to Mark Harvey-Sutton from the National Farmers' Federation. Hello.

**MR HARVEY-SUTTON:** Good morning, Commissioner. How are you going?

**MR LINDWALL:** Paul will do, I'm informal.

**MR HARVEY-SUTTON:** Paul.

**MR LINDWALL:** So if you'd like to say your name for the record and the organisation and make a statement, that would be perfect.

**MR HARVEY-SUTTON:** Sure. Mark Harvey-Sutton, from the National Farmers' Federation. Our vision is for Australian agriculture to become a \$100 billion industry by 2030. The sector is a source of strength in the Australian economy, positioned to capitalise on growing global demand for safe high-quality food and fibre over coming decades.

To achieve our vision, the sector needs regulatory and public policy settings that foster growth in productivity, innovation and ambition. This includes a Universal Service Obligation agreement that enables Australians, wherever they work and live, to have guaranteed minimum access to data and voice services, which includes upload speeds and other features specified for existing and future residential agriculture, health and education applications.

The National Farmers' Federation believes that connectivity represents the next frontier for agricultural productivity in Australia. Telecommunications services have evolved to the extent that it is now reasonable for baseline broadband to be considered a right for all users.

Regional, rural and remote consumers and businesses need rights to access broadband and voice services, and we urge the PC to be conscientious and practical in considering a path forward. We are pleased the PC has identified that the current arrangement for USO is in need of reform, and should be amended to include a baseline broadband service.

However, the declining relevance of the current agreement does not negate the need for a new USO to act as a safeguard for telecommunications users, particularly in regional, rural and remote Australia. There should be no degradation of the services that are currently received. The challenge now will be ensuring the correct transitional arrangements are identified and form part of the solution.

In addition, the NFF is one of the founding organisations of the Rural, Regional, Remote Communications Coalition. NFF has joined the Coalition as they are a critical mass of organisations ranging from relatively established lobby groups through to fledgling volunteer or interest groups which are advocating for similar access and service quality issues for rural and regional telecommunications users.

The breadth and number of organisations involved highlights the telecommunications in the rural, regional and remote areas as critical. For many NFF members and members of the Coalition, access to communications is made possible by the USO. If the USO was not in place then telecommunications would unlikely be commercial viable, nor affordable.

And just for your information, Commissioner, in addition to National Farmers' Federation members, the Coalition also includes ACCAN, the Broadband For The Bush Alliance, Better Internet For Rural And Regional Australia, the national body of the Country Women's Association, the New South Wales branch of Country Women's Association, and also the Isolated Children's Parents' Association.

**MR LINDWALL:** Now, the USO of course is fixed line to the home plus payphone, so  
- - -

**MR HARVEY-SUTTON:** Yes.

**MR LINDWALL:** - - -we're talking about something quite different with our broadband, and the service provided through NBN is quite different to what was available previously, and much better in many ways, so I think it's probably useful to talk about the different aspects of it.

Obviously people in rural and remote areas, some of them will be in a fixed wireless region, and others will be in a satellite region, and that dividing line has been specified by the NBN economics as much as anything else.

**MR HARVEY-SUTTON:** Yes.

**MR LINDWALL:** It's the nature of satellites, of course, that they have a fixed capacity and you can't upgrade them except by launching a new satellite.

**MR HARVEY-SUTTON:** Yes.

**MR LINDWALL:** So logically speaking you'd like to have more people on the fixed line or fixed wireless, which obviously is the case.

**MR HARVEY-SUTTON:** Yes.

**MR LINDWALL:** But when - so when you reflect on comments that have been made this morning - I don't know how long you - - -

**MR HARVEY-SUTTON:** I've only heard a couple of them.

**MR LINDWALL:** Yes, okay. I mean, there is mobile coverage at the moment of about 99 - if you take Telstra's network, about 99.3 per cent of the premises in Australia, and about just under 30 per cent of the geographic area. So in our report, of course, we said that the USO, which as I say is fixed line to the home premises, is becoming increasingly redundant because of those types of reasons. But we said that we didn't think that we needed a universal service obligation, because cities are usually well-served. Why should it be universal? What's wrong with just a more targeted approach to those in need?

And we divided it between the availability of the service, which we thought in the main was handled through NBN, complemented by mobile coverage; the accessibility, people with disabilities and so on; and the affordability, as in people - and we - I mean, equity for me is not, you know, city versus regional, it's more about there are low income families in, you know, western suburbs of Sydney as much as in some regions of Australia and remote Australia, and as well as there are wealthy families in remote areas and in the city. So isn't it more - equity is more about income levels rather than - that's traditionally the way of equity, rather than where one lives.

**MR HARVEY-SUTTON:** I think that probably comes down interpretation a little bit. I mean, if you look at - if you boil down USO to its very essence, it's that ability to have a connection wherever you live.

And I note the figures around the population coverage for mobile, but I think a really important aspect of that is the geographic coverage, and I mean, I'd be cautious in wrapping mobile up in this discussion for that reason, where if you boil the USO down to the essence of having a connection, I mean, that - there's geography that mobile will not extend to. And it's essentially the USO that facilitates the connection for those people that are beyond that geographic reach.

**MR LINDWALL:** Yes, yes.

**MR HARVEY-SUTTON:** So I think in - very much take your point around equity, and very aware that there are social issues attached to the USO as well, but if you reflect on the fact that a number of residences that are geographically remote wouldn't have a connection without the USO, I think that really comes down to the nub of the issue of where we're coming from.

**MR LINDWALL:** But under the NBN, they will have a connection if they ask for it, so why do you need a USO per se if that's been serviced by the NBN?

**MR HARVEY-SUTTON:** Well, it's a - that's a very good question, but I think - I mean, to be frank, if you have a look at the current reliability around the NBN rollout - and that's been well publicised.

**MR LINDWALL:** And I've heard that in hearings too.

**MR HARVEY-SUTTON:** And no doubt you have, and it would probably be a common theme, I imagine. But you know, I think at the moment you have the capability where these residences are connected by landline, and that's their lifeline. There's safety concerns, that's how they run their businesses, and just to take a step aside from that, I think that's a really important point that they run their businesses, because to my mind when we talk about connectivity it's actually about unlocking potential in the economy, and there's a sector of the economy that just can't unlock itself at the moment.

So reflecting on that, I think, you know, if the proposal, for instance, for voice to be rolled out using NBN infrastructure - and I did make the comment in our submission that we understand the logic of trying to leverage an infrastructure base that's being rolled out, but the feedback that's been received by our members, and certainly to us directly, there's great concern about the fact that given the current unreliable nature of the NBN, essentially they don't want the rug pulled out of them either from - with landlines.

**MR LINDWALL:** We did, of course, say in our report that it had to be bedded down. We didn't - and it's a very large infrastructure project, the NBN, and it does have some teething problems - well, that's what we call it, teething problems. And yes, people have had problems with it all through the country, as you would imagine for any infrastructure project.

But we did say that until it's bedded down in a particular area, you shouldn't go ahead with getting rid of the telephone, so - - -

**MR HARVEY-SUTTON:** That's right.

**MR LINDWALL:** I mean, I think you should look through that and say it wouldn't be removed under our proposals until the NBN service is satisfactory.

**MR HARVEY-SUTTON:** Yes. And if that's the case, well, then we're happy with that. I mean - - -

**MR LINDWALL:** So if you then divide it between the fixed line, fixed wireless and satellite areas, the fixed wireless and fixed line areas by all accounts give a very, very good voice service. Is that sufficient?

**MR HARVEY-SUTTON:** Look, I'd answer that by saying, you know, we're very conscious that technology could develop that makes that more reliable, and going back to my first point, there are areas where a landline is it. So I don't think it would be sufficient to rely on the technologies as they are now until there is that guarantee that they are reliable and that connection's guaranteed, and that's very much our position. I mean, as I said, we understand the logic, but it does raise a lot of concern, given the capability.

**MR LINDWALL:** I think you should put it also in perspective, though. The current service is not 100 per cent reliable, is it? I mean, my own mother who relies on a voice service and has no mobile coverage has had her service out for more than a month at a time twice, so people in remote and regional areas already have unreliability, so we're not comparing, you know, some gold perfect system now that's being replaced with something inferior. In fact, you're comparing something that's superior with something that's reliable and it's been around for a long time but it's certainly not 100 per cent reliable.

**MR HARVEY-SUTTON:** No, and we're aware of that and, you know, it is a big issue for our members, so the outages are - - -

**MR LINDWALL:** Yes, yes.

**MR HARVEY-SUTTON:** And you would have no doubt heard this, so look, to answer your question, I think if that technology is there and you can end up with that superior service and reliability, well, that's the goal. But it's just not - the feeling is, and the rhetoric is, that doesn't exist at the moment.

**MR LINDWALL:** Yes.

**MR HARVEY-SUTTON:** And it comes down to my statement - the comment in my opening statement that transitional arrangements are going to be key here. And I think that's what really needs to be bedded down, and I mean, if that's - you make the point that

you've said that that has to be guaranteed before it rolls out, and if that's the case, well, that's great, that's our position as well.

**MR LINDWALL:** Has the NFF had a look at the statutory infrastructure provider legislation that's out for comment at the moment?

**MR HARVEY-SUTTON:** That's the telecommunications reform package?

**MR LINDWALL:** Yes, yes.

**MR HARVEY-SUTTON:** Yes, we have, and I think that comes down to - in our submission we made the point that there's a role for both industry and government to play in funding. We'd very much support - there's provision in that legislation for standards to be set and safeguards, but that's got to be a number one priority in that process, and I think, you know, look if that presents a viable funding source to guarantee that connectivity, well, it would be supported.

**MR LINDWALL:** But also the SIP legislation is about the problem of wholesale guarantee, because of the structural separation with the NBN and retailers. Have you got any comments on it in particular?

**MR HARVEY-SUTTON:** Only - look, the only comment I have is at the moment it's a very confusing regime in terms of addressing concerns for users. We see that in terms of the point of contact to address problem, is it the wholesaler? Is it the retail provider? That's an ongoing problem, and I do think that reform package will take steps to addressing that and by having that separation and that point of redress, I think that would be beneficial.

**MR LINDWALL:** Now, have you got anything else you'd like to say about the satellite service? Because some people have said that they're a bit concerned that their bandwidth limits on a satellite are more limited than people on fixed wireless and fixed line, and also that they're more costly.

Of course, that's the nature of a satellite, as I said, with the fixed limits, and it has to be - they are costly to launch, so it's a balancing act, but - - -

**MR HARVEY-SUTTON:** Absolutely.

**MR LINDWALL:** - - - what would you say about that?

**MR HARVEY-SUTTON:** Look, I think you do have to approach it pragmatically. You know, the talk around a baseline service - well, we're conscious of that. You know, it is a baseline service. It's what it is. And in many areas that baseline service, if baseline broadband is rolled out, that will be better than they've ever had before, and we're very aware of that.

But by the same token, I think you need to be conscientious of the fact that, you know, upload and download speeds and the bandwidth - you know, that's going to change over time. The use of data's going to change over time, and so that baseline does need the capacity to be reviewed from time to time to ensure that it is an adequate baseline.

**MR LINDWALL:** Yes, I think it may. But some people have said in submissions that it's unreasonable that people in the satellite area have to pay more and have lower limits and they should have exactly the same as in the cities, and my question would be, is that a reasonable claim itself, given that that would be very costly to achieve, and is it equitable in another sense between low income families in cities having to cross-subsidise more high-income rural areas that might be in the satellite zone?

**MR HARVEY-SUTTON:** Look, I don't want to be drawn on that rural-urban divide, but suffice to say I think, as I said, we've got to be pragmatic in that baseline.

**MR LINDWALL:** Yes.

**MR HARVEY-SUTTON:** I mean, certainly my experience, and this is very anecdotal, people don't mind paying for a service if it's reliable and good and it adds benefit to their businesses.

**MR LINDWALL:** Yes.

**MR HARVEY-SUTTON:** And if that's what can be achieved, well, that's the outcome. I mean - and to my mind, there's obvious benefit. I mean, this will enhance business capability and productivity in rural areas. I think - - -

**MR LINDWALL:** Yes. No doubt. I mean, the technology's amazing, and we showed some of that in our agricultural inquiry in terms of, as you say, unlocking some of the economic activities in regions and remote areas.

But, you know, is there something that NBN Co or the retailers should be doing more to help the people living in remote and rural Australia to better understand the limitations of the technology and how it's being deployed and why there might be some teething problems, for want of a better term, at this stage?

**MR HARVEY-SUTTON:** Absolutely, yes, yes. I think, you know, if - I think that understanding of the limits around satellite, for instance, it's - you know, there are ways you can structure your computers and IT system at home to take - you know, utilise that to your best advantage, but I don't think that's widely understood.

**MR LINDWALL:** I agree. I think that some people, for example, may have used it by downloading through Netflix, and yet Netflix allows you to schedule a download into an off-peak area - off-peak period, if you wanted to.

**MR HARVEY-SUTTON:** Exactly right. So but I guess the point I was leading to there is that lack of understanding. You know, that communication is not coming through.

And I think there's a couple of ways we could address that. One is you enhance that communication, you enhance that interaction between wholesale and retail so you actually get resolution to issues as they're raised, and you don't do the run-around trying to fix your areas.

And the other thing is consumer safeguards. They're vital. They absolutely have to happen, and we raised the point in our submission that there are a raft of processes happening, and that consumer safeguards review is due to kick off very soon. In addition, under that new reform package there's also the provision for standards and safeguards. So that has to be a priority, I think, and even if you look at it to the extent that, should transitional measures come into place, the consumer has to be protected during that process.

**MR LINDWALL:** So you don't think that you can rely on - well, I mean, the structure of the NBN, one of the merits of it is that it's a wholesaler/retailer split, and it's relatively low cost to be a market entrant as a retailer, and therefore you would expect relatively good competition. In fact, it's observed that on all the 121 points of interconnect, there are quite a lot of retailers.

And normally we would say of society and markets that competition tends to drive good behaviour and, you know, without having statutory guarantees in a lot of areas of our society, is there something that you still think there should be statutory guarantees for consumer protection here above and beyond what you already have through the Competition Consumer Act and the ACCC?

**MR HARVEY-SUTTON:** I do. I do. I think - I mean, competition - the merits of competition are well-founded. I mean, we exist in a competitive market where agriculture competes in a global industry, competition's the foundation.

But competition only exists when there's commercial activity. There are areas where connection is not a commercial going concern for providers, so I think to protect those consumers there must be that baseline access. It's a right.

**MR LINDWALL:** Now, have I got anything else I need to ask you? Have you got any comments on the way in which the NBN is funded and are there improvements that could be made to make it more equitable, perhaps, or to help the rollout?

**MR HARVEY-SUTTON:** I'm not sure I understand the context.

**MR LINDWALL:** Well, so the NBN model is based upon the various different charging structures, and they have some volume discounts, for example, and what they call CVC pricing, and as our Optus representatives here this morning were saying, it's not typically used in a number of other countries.

I take it the NFF haven't looked at the funding model for the NBN, and how people should pay for their accounts?

**MR HARVEY-SUTTON:** Look, I don't have a direct comment on how it's funded.

**MR LINDWALL:** No, that's all right.

**MR HARVEY-SUTTON:** But I'd answer your question along the lines of - I think where the crux comes down for a lot of our members, and again going to that point, that many operate in areas where it's not commercial. It's that uncommercial element that needs to be funded. I don't think we necessarily mind how, and as we mentioned in our submission, there is a role for both government and industry to fund those mechanisms.

So in terms of the mechanics of how the NBN is funded, I mean, there's a broader economic discussion around that, but I think the most important point to make today is around that uncommercial element, and that's where the focus needs to be happening, and there should be a mechanism for that to be funded.

**MR LINDWALL:** And the NFF view on the Mobile Black Spot Programme and its effectiveness? Or are you happy with how it's been rolled out, or are there improvements that you think could be made?

**MR HARVEY-SUTTON:** I mean, we're ardent supporters of the program. I think that goes without saying. I mean, mobile coverage - there's a raft of research that indicates regional users are more dependent on mobile, and that's just because of the mobile nature of their jobs, I suppose.

But look, I'm very conscious there's been an ANAO report into how the program's been administered and all those sort of things. And we're also very conscious that, you know, that shared investment, that co-investment model, you know, that really should be fundamental to it.

But that's not to say that it might reach a point where co-investment isn't feasible, and in which case there should still be efforts to expand mobile coverage, and look, I think one of the things that really does need to be focused on - and I'm not making a comment whether it has or it hasn't, but just as a basic principle, I think that ability to infrastructure share is just so pivotal to the program. It has to be there. I mean, we don't understand - I mean, smarter brains than I might, but we don't understand how the dynamics of the industry might evolve in the future, so why not build a program and infrastructure that's capable of having a shared infrastructure basis so the industry can evolve.

**MR LINDWALL:** I've got one more question, which is about the NBN satellite, the Sky Muster. Obviously we hear a lot about concerns by people who have it or in some cases have only recently got it, or maybe they're using the interim satellite and maybe they're conflating concerns about it, I don't know.

Have you got any positive things to say about it? Have you got experiences that you could share with us about people who have been very happy with their service on the NBN satellite? Or is it universally bad?

**MR HARVEY-SUTTON:** I wouldn't say it's universally bad. I think, you know, going back to my comments about technology being the future of agriculture, people are using it now, and I did hear a couple of examples that were put forward this morning, and I'd be happy to take on notice to provide some positive examples.

**MR LINDWALL:** That would be good, yes. It's good to have balance on this type of thing.

**MR HARVEY-SUTTON:** Yes, absolutely, and we're very conscious of that.

**MR LINDWALL:** You don't want to get a message out that everything's wrong with your satellite, we should stop it then.

**MR HARVEY-SUTTON:** No, no, and I think that there is the potential to be misconstrued in our arguments around our concerns about its rollout. I think if you got to the nub of the issue why people are so frustrated it's because they are looking at it going there's such a positive benefit that can come here.

**MR LINDWALL:** And we want it, yes.

**MR HARVEY-SUTTON:** And we want it. And so when, you know, they have to sit on the phone all day to try and address a problem because they're talking to the retailer, the wholesaler, or they - it's not communicated how best to make the most of their bandwidth, or they're waiting around all day for an installation, that's frustration.

**MR LINDWALL:** Yes.

**MR HARVEY-SUTTON:** And that's what we're seeing at the moment. There's this groundswell of frustration, and I think a part of that is the fact that communication needs to be improved, actually. Because my experience with rural people is that by and large they don't mind issues. They understand. They're pragmatic, you know. Problems happen, there's teething. But if they're not explained why or they're left in the dark about why it's happening, that's when you see this constant frustration.

**MR LINDWALL:** Yes. Well, given the time, Mark, do you have any final comments you'd like to make?

**MR HARVEY-SUTTON:** No, but I'm happy to take on notice those positive examples, because I think that really is the context we need to look through for connectivity. It's unlocking the economy.

**MR LINDWALL:** Indeed. All right, well, thank you very much for coming.

**MR HARVEY-SUTTON:** Thank you.

**MR LINDWALL:** I think we've got Dan, yes, from Vodafone, and then we'll have morning tea after it, unless you want to have morning tea before? Doesn't worry me.

**MR LLOYD:** Whatever puts the audience in a more receptive mood.

**MR LINDWALL:** Who wants to have morning tea right now?

**UNIDENTIFIED SPEAKER:** You've got (indistinct).

**MR LINDWALL:** Okay. Give us one second. Actually, I need morning - I'll be back in one second.

**MR LLOYD:** I think that's the answer to my question.

**ADJOURNED**

**[10.05 am]**

**RESUMED**

**[10.27 am]**

**MR LINDWALL:** Ladies and gentlemen, I think we might get started again, if that's all right. Actually, I'll eat my cake first. So welcome, Dan Lloyd from Vodafone, who will introduce himself now.

**MR LLOYD:** Thank you very much, Paul. So I'm Dan Lloyd. I'm the Chief Strategy Officer (indistinct) Director, Vodafone Australia. Thank you so much for the opportunity to speak to you and answer your questions today.

As you probably know from our submissions, we are very passionate about this issue. We have got a lot of experience in a whole range of Telco policy issues including universal service from the 26 countries that Vodafone operates in, and I hope we've been able to bring a bit of that experience into the submissions and the ideas that we have put forward.

I am indeed very passionate about this issue. I'm constrained by the fact I've got a 12 o'clock flight to Armidale, so hopefully that means I won't go on too long.

There are many interrelated elements, and listening to the NFF presentation and questions, that was coming out, and it's very tempting to put forward a whole series of suggestions about the interrelationships between USO, NBN, mobile black spots, the telco access regime and the mobile roaming debate, but I'll constrain myself in my comments to the USO.

Our starting point is there's undeniably really good policy reasons for which government wants to identify, needs to identify, critical communications services and to

define minimum standards, and to even put in place obligations and to put in place funding arrangements for those. That's something that we fundamentally accept.

But our key point is that if you're going to do that, you are running the risk, if these schemes are not cleverly designed, carefully focused, efficient, transparent, and so forth, you can run a whole range of very serious risks of not only not delivering the services that you're trying to deliver, but actually, as we think has happened in Australia over the years, put in place highly inefficient opaque arrangements that essentially produce a very significant anti-competitive impact, and I'll outline some of the indicators of that.

So the first thing that I think is very clear, and I think was very clear from the draft report, which is what we'd suspected, but I think is now made very clear, that the current system has what you could only describe as perverse incentives. It produces the opposite incentives from what it was supposed to deliver. It was supposed to deliver an obligation to deliver the defined infrastructure, particularly for regional Australia, that delivered the policy and social objectives that had been originally defined.

The problem is, this system seems to have done the opposite. The funding is fixed at \$300 million a year, roughly, but there's no transparency, there's no controls, there's no accountability, and there's significant evidence, even though none of us really have all of the numbers and all of the facts on the table, but there seems very significant evidence that a significant number of fixed copper services and payphones have nevertheless been shut down.

And since the funding is fixed, the incentive for Telstra is the exact opposite of the intention of the scheme. The incentive isn't to maintain the infrastructure, the incentive is to shut down as much infrastructure as quickly as possible in order to reap a bigger and bigger windfall gain and effectively then be able to use taxpayer and subsidies from the rest of the industry to deploy however the incumbent sees fit, and we believe that that's been a key factor in the deployment of the regional mobile network of Telstra, for example, of Telstra's ability to run proprietary commercial services like Telstra Air, the Wi-Fi service on the back of payphones.

And those sorts of things are very dangerous warning signs of a subsidy system that's producing inefficient and anti-competitive results, that doesn't provide an incentive for Telstra to maintain the services it's supposed to be maintaining, and in fact over time gives a growing and growing windfall gain or subsidy that in fact raises barriers to competitive investment, raises barriers to others investing in infrastructure which could provide the very services that the scheme was originally intended to deliver.

So I'll come to some of the indicators of that in a moment. The second point that we made in our submission, whenever we've seen these exercises done in other countries, there's been huge transparency, huge care, huge concern, to ensure that you target the services, clearly define them, have clear transparency on how you're costing the net cost of the service, and critically that you're looking for the net cost of the service.

So if you look, for example, in the UK, whenever the UK's looked at it, it's said, okay - their payphones, for example, there's undeniably a question as to whether some payphones are loss-making. Let's clearly identify which ones they are. And it doesn't appear in the current scheme that there is any mechanism for identifying which services are actually loss-making, so that we're not wasting money subsidising services that are in fact highly profitable.

So in the UK, let's narrow it to the payphones that are unprofitable, but let's look at the net costs, because there are undeniable benefits of having those payphones there for BT and Kingston in the UK. And there's very easy, transparent market mechanisms that you can use to value the benefit, so in the UK they said, "Well, BT can advertise on payphones. You can value the advertising space." And in fact, in the UK and in Australia you can buy the advertising space. There is a market rate.

So in the UK they said payphones have a loss of between 47 and 74 million pounds, but benefits - once you value the advertising on very standard arguable metrics, benefits are between 59 and 64 million, so there is no net loss that's actually incurred because of the payphones.

So we've had a look at this in Australia. So there's about 16,800 payphones as far as we can tell. You can go to JC Deco and you can ask them to take advertising space on a payphone. They told us that if there's one panel per payphone, it's \$350 a fortnight. That's \$164 million of benefit, or potential benefit, on the back of the 16,800 payphones.

So something that we think is a very significant net benefit, taxpayers and the rest of the industry are nevertheless contributing \$44 million a year supposedly to ensure that those payphones are kept running, when in fact there's no obligation for Telstra even to continue those payphones running.

So it's a truly perverse system, and that's without taking account of the benefit of the proprietary Wi-Fi service, Telstra Air, that's on the back of the payphones, only available to Telstra customers.

So we think all of that can and should be valued. It should be a very - if there are these sorts of mechanisms it should be a very transparent, rigorous net cost approach that ensures that we, and particularly regional Australia, are getting the value for money they deserve. If you are inefficiently subsidising then you're getting far less for those subsidies than you should be getting, and you're raising barriers for others.

So the competitive impacts of our current USO we think are deep and profound. Even if you believe there is no direct subsidy, so that the \$300 million a year is roughly the net loss - we don't believe that, we'll come to that. But even if you believe there's no direct subsidy, the USO for copper for example is funding regional transmission, is funding regional exchanges, and then happens to be funding the copper local loop.

When Telstra come to deploy a regional mobile network, their cost of deployment is exponentially lower than anyone else's because they've already got the sunk cost of the

transmission, the sunk cost of the regional exchange, and putting a tower on top of the regional exchange is available to them at a far lower incremental cost.

So even if you don't think there's a direct subsidy, the competitive impacts of this, the barriers that it raises to anyone else deploying competitive infrastructure, and its competition that drive infrastructure investment, quality of service, pricing, all of the benefits of competition, that means that the market is not able to drive the infrastructure to the level it should, and therefore creates artificially a bigger gap for universal service than would otherwise be there.

So if we put it in context since the new USO was put in place, so it magically doubled from about 160 million to 300 million, if we look at the roughly four years it's been in place that's about - and if we look just at the contributions of taxpayers and the rest of the industry, so we'll leave aside the money that Telstra's put in, that's 171 million a year, 700 million over four years. For that same money, at about \$500,000 a base station, which is the average of round 1 mobile black spots, we could have built 1,800 new mobile base stations.

If you included Telstra's contribution on the assumption that it should be a competitive fund that's available for the best impact, the most efficient investment, then that goes up to 1.2 billion over four years, 2,400 mobile sites. That would have allowed us to match and exceed Telstra's regional network by over 1,000 sites or about 300,000 square kilometres, the size of Victoria.

So those are rough numbers. We don't have enough transparency on any of this, but that just puts into context the competitive impact, the disincentives for investment, the competitive advantage that establishes and fuels a monopoly which then creates all of the need to regulate quality of service, to try to regulate pricing, to create NBN, creates all of the flow-on impacts that mean that the government burden, the regulatory burden, it expands further and further than it should have from the start if you'd had an efficient scheme in place.

So we think that - and if anyone's read our mobile roaming submission, where we bring together the USO, other subsidy schemes, and the state of competition in regional Australia, we outline this vicious cycle. So Telstra's had \$1.9 billion in subsidies since 2006. That's USO plus direct state subsidies. That has fed and created what can now only be described as a natural monopoly in regional fixed and mobile. Fixed is being solved through NBN, but mobile has not yet been addressed.

Telstra's mobile network through all of these subsidies is now 1.4 million square kilometres bigger than the next nearest network. That means anyone wanting to invest in incremental coverage beyond Telstra's network is facing a near-impossible task in needing to leap over 1.4 million square kilometres to build isolated sites to try to sell a service where you don't have contiguous coverage, and people know as soon as they head down the highway they're going to lose the whole point of a mobile service coverage.

And that monopoly advantage has now gone so far that it's even prohibiting effective competition for seemingly competitive subsidies. So Black Spots we've been a huge supporter of, we've enthusiastically bid for sites, but if you look across round 1 and round 2, 75 per cent of the sites have gone to Telstra. Telstra's monopoly advantage has now been extended just under round 1 by another 150,000 square kilometres, so the next time government tries to put money in, it's become even less possible for anyone else to compete for that, even less possible for anyone to drive competitive infrastructure, competitive investment.

So we've just spent this last week in a bit of a road trip of regional Australia. We had a fantastic telco policy forum that David Littleproud sponsored upon in Maranoa in Dalby. But the one thing that came out in direct response to the PC's draft report was a real anxiety over the NBN satellite service and particularly when, you know, communities are quite large and they all know what's going on in the next town and down the road.

The people who are being told they're getting satellite where their neighbours or the town down the road is getting fixed wireless or fibre to the node. That's creating a lot of anxiety. There is a perception, and I think to some extent still a reality, that the satellite service is not as reliable as the fixed wireless service, and therefore a lot of - and that's kind of led them to an assumption that the only answer is maintaining fixed copper.

But when we talked to them and tested, "Would you be comfortable if you had, for example, fixed wireless and mobile coverage, so two networks, so that if one went down you've still got a fall back, you've got good quality voice on mobile, you've got reasonable voice and data on fixed wireless," that that was actually quite palatable to them, and I think it goes to the fundamental proposition that we put forward in the submission, if you're going to have these sorts of schemes, if you're going to put taxpayer or industry subsidies into these sort of schemes, you need to make absolutely sure that they're targeted, focused, that they focus on the service that you're trying to deliver, and then have some flexibility and some competition in the ability to bid for those subsidies to provide the service, rather than be preoccupied and lock down the technology and the provider for 20 years.

It just seems that once you continue down the current path that we're on, you're simply establishing and feeding a monopoly, and then having to deal with all of the negative consequences of that, rather than defining a narrow, targeted scheme that actually has the obligation and actually delivers the services that people want, but can do it through a much more flexible process.

So we've suggested, in line with the regional telco review, if there was an ongoing scheme it should be transparent, it should be technology neutral, it should be competitive, and should define the service that you're trying to deliver so that Australia, particularly regional Australia, actually get the services that they need in the most efficient and competitive way.

**MR LINDWALL:** Well, thank you very much, Dan. Yes. Now, obviously in our draft report we've based it around the NBN being the monopoly wholesale provider of

broadband services, and we've clearly said that broadband should be the base, with voice as part of that, and complementing it by mobile phone coverage. And the transition from where we are to where we propose depends a bit on the rollout of the NBN.

**MR LLOYD:** Yes, yes.

**MR LINDWALL:** And you've noted some of the problems, and other people have noted some of the concerns with the satellite service and so on. Is there anything that you'd like to say about the NBN rollout that could be improved to make it more amenable for people to be confident that the service is there?

**MR LLOYD:** Yes. Yes, so a couple of thoughts on that. The first one is that NBN's trajectory is clearer and clearer, but still not 100 per cent clear, and I heard again on Monday the very clear concerns around that. That's why we suggested that it should be a gradual mechanism, that you roll back the existing USO, transfer the obligation to NBN as the infrastructure provider of last resort, and that therefore once the alternative infrastructure is in place and is clearly delivering and working, it's only then that you're rolling back the USO obligation, rather than leave people with an uncertainty.

But I think the other couple of comments I'd make, one of which is NBN seems - and you can understand why they are, but they seem quite almost religious about their technology choices, and this question around whether the fixed wireless footprint could be stretched in order to leave fewer people on the satellite footprint I think is really one of the biggest questions, and one that I don't think a huge amount of thought and effort has been put into it, or at least it hasn't been explained publicly, and I think if that could be looked at and explained that would be very useful.

And the last thought is, again on Monday we met a phenomenal outfit called Red Wi-Fi, who are operating out of Maranoa, who almost accidentally now find themselves a very significant fixed wireless provider because people who were told they were getting NBN satellite were looking for an alternative.

They are building, it seems, at one sixth of the cost of NBN, about \$120,000 per fixed wireless tower, building a fixed wireless service that is offering, depending on the distance and the spectrum that they can use, 15, 20, 25 megabits per second, and they have now built in a very short period of time a customer base of several thousand, and then they are leveraging that into also being an RSP on NBN.

And again, this goes to the point of competition - there must be a role for, and there should be incentives for, competition, so that we don't end up with a single inflexible model where NBN tells people what technology they get and they have no alternative.

So I think finding a space in this whole environment to identify and encourage the innovative smaller players who are out there already making up their own solutions and delivering things that seem to answer the question, and I just worry that the sort of almost monolithic NBN model might not leave enough space for those sort of people.

**MR LINDWALL:** So Red Wi-Fi, how is it funded?

**MR LLOYD:** Privately, as I understand it. David might have more detail. So I understand entirely privately. They started as a local technology and IT outfit and almost accidentally someone asked them - "You know, I'm not happy with the pricing I'm currently paying to Telstra, I'm being told that I'll get NBN satellite, could you guys build a fixed wireless service for me?" And they put up their first tower and connected, and only then thought, "We'd better check with the ACMA whether we need a carrier licence and so on," and have been able to build at quite a low cost, often leveraging existing infrastructure, water towers and other local infrastructure, to build at a very low cost and move very quickly, so in 12 months have built a customer base of several thousand.

**MR LINDWALL:** That's quite an exciting - - -

**MR LLOYD:** Needing no subsidy. Needing no government funding, no industry funding.

**MR LINDWALL:** Now, the government's put out some statutory infrastructure provider legislation - - -

**MR LLOYD:** Yes.

**MR LINDWALL:** - - - in draft for comment. Has Vodafone got any particular views on that, the merits and demerits of it?

**MR LLOYD:** Certainly. Yes, so there was a package of things that came out. You know, the general trajectory of recognising that taxpayers have already spent many tens of billions of dollars building NBN, and that in the long term for the vast majority of Australians that will be the infrastructure provider of last resort, that seems unambiguous.

The bit that we were concerned about was the cross-subsidy, the tax from metro to regional, and again, we don't have a per se objection to subsidy schemes, including industry subsidy schemes, but it just struck us as odd that almost the same time that the Productivity Commission draft report had come out pointing out that it's very difficult to get these schemes right and that you need to take great care, and that they can raise barriers to entry and have other negative impacts, that something that had been the subject of some consultation a couple of years suddenly came out as establishing yet another industry cross-subsidy scheme.

And we can be a little bit more dispassionate about that. We've announced that we're going to be providing services on NBN, but we don't currently do that, so we don't have any - you know, there's no margin loss or revenue loss because of that, but it just seemed odd to establish yet another industry cross-subsidy model when we were having a serious discussion about whether that was the right model to start with.

**MR LINDWALL:** Yes. And the way in which retailers of NBN services, including in the satellite area, communicate with customers, do you think the understanding of what reasonable expectations of what customers should get, and - in terms of, say, throughput and download speeds and volume? Or are there regulatory needs to be added in that - to improve that? I mean, is it sufficient as it is?

**MR LLOYD:** Yes, that's a very fair question. Again, we don't have yet - we're building our plans and learning as we go. We don't yet offer services on NBN, so it's probably one we'll reserve judgement for others who know better, but certainly talking to people in regional Australia, there's a lot of confusion and concern as to what they are actually getting.

There's quite a lot of talk, of course, about the ACCC publishing some real statistics on what speeds and service people are actually getting. Providing that sort of information seems a no brainer. That seems very sensible.

**MR LINDWALL:** Now, of course, it depends where you are. Mobile services for some people are a substitute. In other words, they forego their landline and the NBN service and just rely on mobile. For others, it's they want both, obviously for large downloads, for example.

Do you see it as more as a complement or a substitute? And how do you see that evolving over in the future?

**MR LLOYD:** As both a complement and a substitute. The ACMA published some new figures showing 30 per cent of Australians now on mobile only. So clearly there's a very significant and rapidly growing group who see it as a substitute, and as 4G networks are fully deployed in regional Australia and as we move from plain 4G to 4G plus and add additional features, and let alone 5G, which we think is going to come quite early in Australia, we think there's going to be a continuing trend to a larger and larger group of people who see mobile as a complement and it delivers - again, if you define what's the service they're trying to get, it gives them the voice, it gives them the data speed, and data inclusions on mobile are exponentially growing, so we think in a big part it's going to be a substitute, but undeniably there are people, and particularly in the business sector as opposed to consumer, it's going to be a substitute for the foreseeable future. Sorry, a complement for the foreseeable future.

**MR LINDWALL:** Yes,. And in the areas covered by - and you saw our estimate that up to 90,000 premises in the satellite footprint - - -

**MR LLOYD:** Yes.

**MR LINDWALL:** - - - would not have mobile phone reception, and that will change over time, obviously, for various reasons, including the Mobile Black Spot Programme. But we thought that if you need to - rather than the universal service, you should target services based upon need, in terms of availability, accessibility and affordability, which you agreed with before.

But for those that have a mobile coverage that's reasonable, and their USO - sorry, their NBN satellite service, would you consider that a reasonable baseline?

**MR LLOYD:** So I'd actually - I wouldn't so much put forward my view or our view.

**MR LINDWALL:** Yes.

**MR LLOYD:** But certainly talking on a number of occasions, including on the last couple of days to a large number of regional stakeholders, I wouldn't say all, but I think the vast majority accept that that is actually a very reasonable outcome, and particularly having the redundancy of networks rather than pure reliance on one network was pretty -  
- -

**MR LINDWALL:** All those important things.

**MR LLOYD:** Yes.

**MR LINDWALL:** Now, Dan, you've mentioned, of course, what's happened with the - where we are today - - -

**MR LLOYD:** Yes.

**MR LINDWALL:** - - - because of the contract with Telstra and the rollout of the mobile phone networks, and what you say is a cross-subsidy from one to the other. But the fact is that we are where we are - - -

**MR LLOYD:** Yes.

**MR LINDWALL:** - - - and policy will change in the future for a variety of reasons. Couldn't you argue - or some people might argue that Telstra's now got property rights over that extensive area, and you know, however it's been achieved that's the way it is, and of course we respect property rights in Australia, and that dominance will continue because they made those investments?

**MR LLOYD:** And is this in the context of USO or in the context of the mobile roaming?

**MR LINDWALL:** Well, I'm just saying, if the USO were to terminate today, just hypothetically - - -

**MR LLOYD:** Yes. Yes.

**MR LINDWALL:** - - - the investments that have been made in the past based upon however you might say have occurred, and it does have the extra range as a result - - -

**MR LLOYD:** Yes.

**MR LINDWALL:** - - - and they are property rights, so how do you address that?

**MR LLOYD:** Yes. So I think every monopolist in the world would say that. Every country in the world has a competition law, and most countries have a sector-specific access regime. We have part 11(c) of the Trade Practices Act, which says that you need to look for very serious competition reasons that are fully explained in all the explanatory memorandums to the act, that you need to identify a monopoly infrastructure.

The ACCC have three tests. Essentially one headline test, what is in the long-term interests of end users? Then have a look at, if you were to regulate access to a service would it promote competition? Would it promote any connectivity? And would it promote the efficient use of and investment in infrastructure?

The ACCC has looked at many services and declared 13 services, mostly on Telstra's network - access to local loop unbundling, which was the key driver for the last generation or the first generation of broadband connectivity. So I think it's pretty unarguable that there are circumstances where you need to intervene, where you need to declare access, regulate access to particular services. You need to be very cautious in doing that. You need to have a serious body like the ACCC that have detailed criteria for how they go about making that decision.

We think that the natural monopoly characteristics of the mobile footprint, regardless of how we got there, even if you ignore the subsidies, we think that they pass all tests. In 2004 the ACCC looked at it and said, "We think it passes all three tests but the industry has reached some commercial arrangement so we won't regulate it for now."

So we think there's a very strong case, and it would be very consistent with the way the ACCC and many other regulators have looked at regulating monopoly infrastructure.

**MR LINDWALL:** Now, again, if we assume away the telecommunications USO and look at regional Australia in particular, are there any other structural impediments to more investment, like of the kind you mentioned with Red Wi-Fi, that could improve services in regional Australia beyond what they've currently got in the NBN? Or should something change? Should there be some other policy changes?

**MR LLOYD:** Yes, so there's a couple of things, but I think all of them probably fall into the category of infrastructure sharing, and it always struck me after working for 10 years on 25 other Vodafone countries to see the extent of enthusiastic infrastructure sharing that had lowered the cost of deployment and therefore increased incentives for infrastructure investment while also preserving and promoting competition, and how enthusiastic that collaboration and infrastructure sharing has been in virtually every country.

So if you look in the UK, four mobile networks have rationalised down to two underlying network infrastructures, and it's been particularly prevalent in regional areas with large land area, low population density, because the need to lower everyone's costs while preserving competition is higher and higher and higher.

And it really strikes me that in Australia, the country - because we've got 7.6 million square kilometres and a population density outside the cities of well below one - most needs infrastructure sharing has some of the least infrastructure sharing.

And I think we've started and succeeded in some areas. So for example, why couldn't NBN, having deployed a ubiquitous transmission network, also sell transmission services so that mobile operators could build mobile towers at a lower incremental cost.

We've won that argument. NBN is now providing that service to us. But that's just one example of the many ways in which different types of players could collaborate in order to share resources and infrastructure.

Red Wi-Fi is a very good example. I came across them because they said in the press that they were concerned that mobile operators would get all the 5G spectrum, the 3.4 to 3.7 gigahertz bands, and that they would be priced out of that market and unable to continue to offer their fixed wireless service which depends on that spectrum.

And I reached out to them to say, "We've got a lot of spectrum, a lot of it's national licences, we're probably not using and don't have plans to use it in the areas that you're deploying your network, tell us where you want to deploy it and let's have a discussion about whether we can sublease our spectrum."

So I think that's another example of how the sharing of resources and infrastructure can actually enhance everyone's incentives and can stretch further and further the possibilities of infrastructure development.

**MR LINDWALL:** It does seem like it needs some community leadership to be able to push in a different direction, because it often won't happen unless there's someone, you know, talking to you about the option of spectrum leasing.

**MR LLOYD:** And I think there's probably a role at multiple levels if particularly federal government is putting very significant sums of money, \$100 million a year under the USO, \$100 million under Mobile Black Spots round 1, \$60 million under round 2 and so on. Whenever they're doing that, I think we've just started on the journey of ensuring that you provide some incentives for cooperation in infrastructure sharing as a result of that money.

You don't have that in the USO. I think that's a big problem. The regional telecommunications review made a very fair point, which was whenever state and local government are looking at major planning decisions, major infrastructure projects, why aren't they required to think about communications alongside that? So if you are putting up a new water tower, why wouldn't you think about whether it's designed to be useful for NBN fixed wireless, mobile communications and so on? Often it is as it is, or even with small tweaks in the design at very low cost it can be incredibly useful.

Whenever you're digging a road for gas infrastructure, why aren't you thinking about whether you could lay communications fibre and exponentially lower costs than if you

were just doing it alone? So I think there's a role for multiples levels of government and the industry to just constantly think, "I'm about to do this, what are the opportunities to maximise the public benefit, particularly to maximise the reach of infrastructure and regional Australia?"

**MR LINDWALL:** And local governments, obviously.

**MR LLOYD:** Absolutely, absolutely. And planning permission is another big one. We sometimes find the lengthy planning processes can be a little bit frustrating, particularly when we're building a Black Spots site, so it's the community saying, "We desperately want mobile infrastructure precisely in this area," and then we - and it's only after the site's awarded that local government starts a long process of planning procedures, and then we find it frustrating because the community come to us saying, "Why isn't the tower built?"

So if there was a way to - and you don't want to cut corners, because you need community consultation, you need to make sure the planning requirements are met. But if there's a way to accelerate that, the benefits can be magnified.

**MR LINDWALL:** I mean, when I visited Alice Springs I had a good example where there was a tower - optimal locations for a mobile tower, and some of the residents nearby objected to its location.

**MR LLOYD:** Yes, yes.

**MR LINDWALL:** And it became a bit of a cause which caused - delayed everything quite a lot.

**MR LLOYD:** Yes.

**MR LINDWALL:** So it is possible that a couple of residents who don't like mobile towers will object to something which benefits a large number of people.

**MR LLOYD:** Yes, and that gives government a genuine dilemma, because you want to recognise and work through the community concerns, but sometimes you can't resolve them, and the question is do you want the infrastructure or not? So that is a genuine dilemma.

**MR LINDWALL:** Now, if we get rid of the USO, TUSO, as we propose, and made it more targeted, what are the cost implications, do you expect, for the NBN?

**MR LLOYD:** The cost implications for the NBN? So of the - - -

**MR LINDWALL:** So the NBN has got a mandate to provide broadband services to all premises on request - - -

**MR LLOYD:** Yes.

**MR LINDWALL:** - - - and they have an expectation in different areas of a take-up of whatever it might be.

**MR LLOYD:** Yes.

**MR LINDWALL:** And if you get rid of the TUSO then some of those services will now move onto the NBN, though they might be only voice, hypothetically. So there could be some implications for cost on the NBN. It may not be much.

**MR LLOYD:** Yes.

**MR LINDWALL:** I just was wondering if you thought about that.

**MR LLOYD:** It's a great question, and we've tried to look at this a few times. And maybe the data's out there somewhere, but we really struggle to find enough data that actually identifies what those costs are likely to be. So we'll have another look and see if we can give you a view, but - - -

**MR LINDWALL:** Well, it would be handy, but the fact is that, you know, they might be concerned about the amount of spectrum available, but I would have thought from my understanding that if it's voice only, the bandwidth is very low, like 150 kilobits a second or thereabouts. That's about right, isn't it?

**MR LLOYD:** And spectrum is very highly constrained in metropolitan Australia, and then if you go to regional centres above 100,000 or so, some constraints. Beyond that, actually spectrum's not really a barrier, there's plenty of spectrum.

**MR LINDWALL:** That's right, yes, yes, all right. Anything else you'd like to say, Dan, while I've got you about payphones and - in our proposal to phase them out in terms of being subsidised. It doesn't mean they won't still exist, obviously.

**MR LLOYD:** Yes.

**MR LINDWALL:** In terms of alternatives for some communities to have satisfactory services?

**MR LLOYD:** Look, I think that's - I think that's going to be a - I think time will tell what happens. I think the first point is that payphones are already being shut down, so we are not convinced that the current arrangements have a significant impact on maintaining the payphones, so we think there's very unlikely to be a detrimental impact, and as I say, we think there are a wide range of significant benefits that actually come from maintaining the payphones, that we would expect a significant number of them are maintained.

**MR LINDWALL:** Yes.

**MR LLOYD:** But again, if they aren't, and there's specific communities particularly that don't have mobile coverage for example and are on NBN satellite, then let's look at innovative solutions, and I think Optus came up with some for round 2 of the Mobile Black Spots.

**MR LINDWALL:** Yes.

**MR LLOYD:** Satellite backhaul for various purposes. I think those look much more efficient and targeted solutions.

**MR LINDWALL:** Some of the programs that are used in remote Indigenous communities, for example?

**MR LLOYD:** Exactly. Exactly.

**MR LINDWALL:** PM&C have some programs. Anything else about the Mobile Black Spot Programme you'd like to add?

**MR LLOYD:** Yes. So on Mobile Black Spot, so we'd just like to remind people there were two objectives of the scheme, one of which was to drive incremental coverage, but to recognise that significant public subsidies were going into that coverage, and therefore obligations to give preferential colocation - so to allow other operators to come - sorry, other operators to come onto the tower with their radio access equipment, and to give preferential transmission pricing, so that there was a recognition that the subsidy had gone into the building of the tower, and to maximise the public benefit there should be discounted co-location and discounted transmission.

Our understanding is that the implementation of that has failed to deliver that second objective, and that of the, for example, 429 Telstra sites in round 1, as we understand it, there are virtually none that are going to have other operators co-locating and sharing transmission.

We think that's a huge opportunity lost. For 150,000 square kilometres of incremental coverage you could have had and should have had, and the guidelines promised, not only the coverage, but competition and all the benefits that that would bring. We're not sure that the scheme's delivered the second one.

**MR LINDWALL:** Yes. I think I - I mean, I know you have to get to the airport, so any final points you want to make, Dan?

**MR LLOYD:** I don't think so. Thank you so much again for the opportunity.

**MR LINDWALL:** Thank you, Dan. Now we've got Teresa Corbin, Rachel Thomas and Una Lawrence from ACCAN, if I'm not mistaken. Hello.

**MS LAWRENCE:** Hi.

**MR LINDWALL:** Hello again.

**MS CORBIN:** Good to see you again.

**MR LINDWALL:** Likewise, thank you. If you could state your name for the record and just give an introduction as you start in, that would be fine.

**MS CORBIN:** Sure.

**MS LAWRENCE:** So it's Una Lawrence. I'm the Director of Policy at ACCAN.

**MS THOMAS:** Rachel Thomas, policy officer at ACCAN.

**MS CORBIN:** And Teresa Corbin, CEO at ACCAN. So thank you very much for the opportunity to discuss the Telecommunications Universal Service Obligation at this hearing. The Commission's inquiry is an important examination into re-evaluation the delivery of the telecommunications services of this kind for all Australians, and we'd like to thank the Commission for undertaking this difficult but much needed piece of work.

In our statement today, we'd like to address key points, and which we have also raised in our submission, of course, in response to the draft report released in December. A number of our members are also presenting, not just today but also over the next couple of weeks.

So first some introductory comments about ACCAN. We are a peak consumer telecommunications organisation in Australia. We represent consumers from many different walks of life and many different geographical areas, and we represented them on communications issues relating to telecommunications, broadband and emerging new services.

So we act as a unified voice for consumer issues. So we work quite hard to do a lot of consultation with all the different groups, and we work for availability, accessibility and affordability of communications services.

Our members are very wide-ranging, and I am sure you would have appreciated that from our submission. They include a number of groups who are deeply affected by the issues under consideration, so obviously small businesses, Indigenous communities and consumer groups, low income people, people with disabilities, and of course our fellow members from the Regional, Rural and Remote Communications Coalition, such as the National Farmers' Federation who presented this morning, and of course New South Wales Farmers' Association you'll hear from this afternoon, and I understand the Isolated Children's Parents' Association are presenting in the various chapters across Australia, which is excellent.

So just to make some overarching comments about the direction that is proposed by the draft report in relation to the obligation versus the policy objective. Due to the essential nature of communications for the community and individual consumers,

ACCAN is concerned that ensuring access to communications service through a policy objective rather than an explicit obligation such as the Universal Service Obligation may result in a moveable goal, that varying levels of commitment and funding, depending on the political outlook of the day and the body responsible for delivering the specific elements, may well undermine or affect in some detrimental way.

Communications services are undoubtedly essential. This gets raised many, many times in the public debate and discussion and the community. They need to be supported by guaranteed consumer rights that are easy to uphold, subject to independent review, and transparent and accountable.

There is a current gap in the consumer safeguards, as they do not apply to broadband services. The government's review of consumer safeguards must be a high priority, and I know you've said that in your draft report, but it really can't wait, and it should commence as soon as possible.

Reforms to the Customer Service Guarantee and priority assistance arrangements are long overdue. The pain point is now, as consumers experience blame shifting between wholesaler and retailers for connection bungs and slow fault repairs, and I know that you've experienced that yourself personally - - -

**MR LINDWALL:** Yes.

**MS CORBIN:** - - - and you've expressed that to me when we met previously.

Secondly, in relation to the delivery of voice services, ACCAN believes that consumers should continue to have access to voice services without degradation in the level of service. We have concerns about the extensive changes required to ensure that NBN fixed wireless services will meet consumer voice needs, as it is currently a broadband service designed to be a broadband service.

NBN Co has identified these changes that may be needed as technological, operational and service quality, as well as cost implications. We believe that alternative, innovative, technology-neutral and cost-effective ways to deliver voice services in satellite areas should be considered.

To ensure that consumers are not put at risk, the delivery of the current Universal Service Obligation and the copper continuity obligation should remain until adequate alternate voice services can be assured - established and assured, or assured in the long term.

Thirdly, in relation to baseline services and community programs, we welcome the Commission's consideration of a baseline broadband service. This is the single most thing that people got excited about when they saw the draft report.

Clearly we back the fact that it should be reliable and intelligible. However, we have some concerns about the difficulty in translating this to a deliverable service that meets

consumer needs. There are many factors involved in a broadband service, and we ask that the Commission in its final report recommend a deeper analysis of these factors.

Community services are, and will remain, essential points for connection, particularly where there is no mobile coverage or consumers face affordability barriers. The costs and benefits of serving these communities may differ to the general community due to the remoteness, population density and potential revenue generated from the service.

This may affect the comparative benefits arising from targeted supports in these areas under a service-specific community-wide program, with programs in more densely populated areas comparatively delivering a higher benefit at a lower price and a lower cost.

Continued support for communications is vital and may need to be delivered on more flexible terms. The community telecommunications program should prioritise remote areas with no services, and a specific Indigenous telecommunications program may ensure that money is dedicated to meet particular needs of this community better.

We have two different approaches in relation to affordability. Firstly, in relation to general affordability, ACCAN has a number of concerns with the draft report's analysis and conclusions on affordability. I know we mentioned this to you at the ACMA Consumer Consultative Forum Meeting a few weeks back.

While the initial entry prices for NBN services may be comparable to ADSL, as they were designed to be, we are cautious that this could lead to the interpretation that the long-run affordability of the network will not be an issue.

Consumers are expected to need a greater level of service, and we believe the current arrangements do not currently give sufficient assurance that affordability will not become an issue for more consumers. But then, more specifically in relation to low income affordability, ACCAN welcomes the recognition by the Productivity Commission that services are not affordable for some consumers.

Since our initial submissions to the inquiry, we have completed further joint research with the South Australian Council of Social Services, SACOSS, and they're a member of ACCAN through ACOSS, and they, I understand, will be presenting, I think, in Port Augusta. Yes, anyway, at one of the later hearings.

Anyway, we've just released a report called *The Connectivity Costs*, and this outlines a number of issues, and these include the inadequacy of Centrelink telephone allowance in addressing affordability barriers through the tax welfare system due to the poor targeting and level of support, the varying level of difficulty to pay for telecommunications services among different groups of recipients of the Centrelink telephone allowance, the poverty premium paid by low income consumers of some five times the price paid per unit by the highest income quintile and the need to contact government bodies through telecommunications mediums with a shift to digital first and the financial difficulty that this can create.

And in our submission we've gone into that in a lot more detail, but clearly you can also access that research, and you'll be able to ask SACOSS some specific questions.

So in conclusion, further detail in relation to these and other points can be found in our submission, and also is available on our website through varying different research reports that we've done over time, and while these are the main issues we wanted to raise in the hearing, we're happy obviously to take more questions, and I'm sure that you'll have plenty.

**MR LINDWALL:** Good. Thank you very much, yes. Well, could I start on the baseline?

**MS CORBIN:** Yes.

**MR LINDWALL:** Now, the NBN does provide a baseline of sorts, you know. It does have an objective of a minimum - I mean, this is what is stated - minimum 25 megabits per second capacity, although as you know, retailers generally offer packages which are below that.

**MS CORBIN:** Yes.

**MR LINDWALL:** And from all the people who have spoken to us in the last period since this inquiry started, they've been pretty clear that voice over fixed wireless and fixed line is very, very good, and easily a substitute for the traditional fixed line. Is that - you'd agree with that, would you?

**MS CORBIN:** Yes. So I mean - look, anecdotally we're getting the same reports, but of course it's not widely tested. It's going to be different in different locations. It will depend on what kind of voice service the person is using. You know, whether it's an application or whether it's a carrier-grade type service. But also I think we can't forget that NBN have actually specifically said it's going to cost more to make sure that it is actually a voice grade service.

And of course the other concern that we have is the consumer safeguards that hang off current voice services, such as obviously the customer service guarantee. There would have to obviously be some adjustments, but adjustments that still provide an adequate level of protection, and more concerning, medical alarms and priority assistance services.

There just needs to be more testing and more investigation before, in fact, we could actually commit that that could be a good transition. And in the meantime, of course, people are very concerned that there not be a gap and that the ball not be dropped, yes.

**MR LINDWALL:** Yes, of course. But talking about the consumer services guarantee, a lot of people voluntarily are foregoing that - - -

**MS CORBIN:** Yes.

**MR LINDWALL:** - - - by using mobiles only.

**MS CORBIN:** Sure, and they're also foregoing it in metropolitan areas when they choose to take a bundle with NBN service - - -

**MR LINDWALL:** Yes.

**MS CORBIN:** - - - that's a VOIP-based bundle, and the only way that they can actually get that service delivered is if they agree to a waiver. Of course, most consumers from our research don't understand what the waiver is, and they treat it just like accepting the terms and conditions for an application or a software program or a website that they want to use, and they tick the box without even really reading or understanding what it means.

The waiver is highly legalistic, and most people don't understand what they are waiving. And so I guess the concern from our perspective is, you know, outside of obviously mobile being a completely different technology and people having different expectations, is that when we're talking about having adequate access to voice and we're talking about the people that are using those fixed services, they are choosing them because they are expecting a certain level of connectivity and all the things that are attached to that, and they don't necessarily know the name of the customer service guarantee or all the - you know, the timeframes and everything that are built into all of that, but they do have some basic understandings, and you can see this whenever there's an outage, the uproar that is created, and the expectation that there should be compensation.

So you know, I think that we need to look at it more broadly, and we need to look at not just, you know, delivering on something in the future, but actually something that can actually address the situation now.

**MR LINDWALL:** Is ACCAN confident that people who are eligible for compensation under the current CSG are receiving compensation?

**MS CORBIN:** Look, it's very difficult to know the answer to that. Clearly if they elevate their complaint to the TIO then obviously they would be receiving what they were entitled to.

**MR LINDWALL:** Yes.

**MS CORBIN:** But I think that we've seen the amount of the customer service guarantee being paid out, which is still quite large, actually diminishing, and that is because people are waiving their right to the customer service guarantee.

It doesn't actually mean that the expectation of the customer is not still there, and in fact a lot of people would waive it and then find out later that they can't actually get

compensation and they'd be surprised and they'd contact us and say, "We don't understand this, why don't we have a choice?"

And the other problem, of course, is that we've had the experience of people who don't have any other provider except a provider that requires that - so they're in a new development, an apartment block, and the only way they can get a service is to waive their customer service guarantee, and many consumers consider that to be really unfair, so really they don't think it's okay. I don't know if - Rachel, if you wanted to add anything to the points about - - -

**MS THOMAS:** You already made them.

**MS CORBIN:** Yes.

**MR LINDWALL:** Well, let me explore a bit more about a guarantee, because - and I know it's peripherally related, but - - -

**MS CORBIN:** Yes.

**MR LINDWALL:** - - - there's a lot of items that we deal with in our side of telecommunications where there are no guarantees, and of course nothing is 100 per cent reliable - - -

**MS CORBIN:** Yes.

**MR LINDWALL:** - - - and people go through life interacting with other businesses without guarantees quite happily.

**MS CORBIN:** Sure, yes.

**MR LINDWALL:** So what's special about telecommunications that requires a guarantee?

**MS CORBIN:** Okay. I have a number of things to say on that. First of all that, yes, okay, generally speaking many services may not have any guarantees attached to them.

**MR LINDWALL:** Legislative - they may have a trade - - -

**MS CORBIN:** But an awful lot do. Yes, an awful lot do, because the Australian consumer law has guarantees in it, and that's relatively untested in relation to utilities.

So it's much better to have an explicit guarantee in relation to telecommunications services, and we believe that's the case because of the nuances about it. First of all, that it's an essential service, that you absolutely cannot participate in society, you cannot get a job, you cannot stay employed, you cannot access government services, without a telecommunications service, you know, preferably that and a broadband connection.

**MR LINDWALL:** But there's no guarantees in other essential services? Like, there's no guarantee that you'll get an ambulance when you call it within a certain period of time or that the fire brigade will respond within a certain period of time. They have objectives, but there's no guarantee.

**MS CORBIN:** Yes, but there are guarantees in relation to electricity, which is deemed an essential service, and is probably more similar in its nature to telecommunications. So you know, I think, you know, you're right to raise these nuances, but it's pretty clear to us that the community expects that there should be guarantees in relation to telecommunications services, simply because of the outcry every time that, you know, things are not fixed quickly. And I'm not talking about just the odd outages, which obviously when they go for more than a day, or even more than half a day now, there's an outcry.

I'm talking about people that actually forego services for weeks on end because they can't get a resolution, or the people that are now falling between the crack, between the debate between is it the wholesaler's fault or is it the retail service provider's fault? And this is an increasing problem with NBN. It's not something that the Telecommunications Industry Ombudsman has jurisdiction over to resolve, because these are inter-operator disputes.

**MR LINDWALL:** Yes.

**MS CORBIN:** And the customer is powerless. So without having any rules around this, then basically we have an enormous gap that the consumer doesn't have any real rights, and - - -

**MR LINDWALL:** I'll have to explore that, because yesterday a person - I can't remember which one - mentioned that - gave the analogy of, you know, a Ford manufacturer or BMW or whatever, and the local dealer. The dealer's a retailer, the manufacturer is the wholesaler, if you like, and people go to the retailer. If there's a problem, they deal with their retailer and the warranty is expressed through the retailer.

What's different, in a sense, with the NBN and the other retailers that needs to be repaired to make that type of relationship more clear - - -

**MS CORBIN:** Yes, and I think the other thing too is that there's - in many instances there's a lack of competition still in relation to telecommunication services, so there isn't necessarily a choice, and the dependency is very high.

Like, you know, we are actually talking about people who are using these services to contact the emergency services, as an absolute extreme example. But even just to operate your business, if your business - we found in our research that if a small business doesn't have access to a telecommunications service for any number of hours, it's not just inconvenient, it's actually catastrophic, and something like, you know, an enormous amount of businesses who have had ongoing issues with their communication services actually go out of business, because if you think about it, you can't even do an EFTPOS

transaction, so your actual revenue, your income stream, is affected immediately that you don't have a communications service.

So I mean - so there's a massive productivity argument here that we actually do need those guarantees in place to ensure that services are seamless, and also the people that - - -

**MR LINDWALL:** But guarantees generally are for consumers, not for businesses, aren't they?

**MS CORBIN:** Yes. Although small businesses qualify in the same category. They're covered by the same consumer law. So up to a certain level.

**MR LINDWALL:** Yes, that's right, yes.

**MS CORBIN:** And so we represent small businesses of that size as well.

**MR LINDWALL:** Yes, yes.

**MS CORBIN:** And there's a very, very large number of businesses - small businesses in Australia, it's an extremely high proportion, and a lot of people are operating from home, and you know, so in actual fact there is a massive impact, and we've actually tried to, at different times, investigate service level agreements as an option for small businesses who may not be getting customer service guarantees that are adequate.

But we've actually found that there is not many services out there that are linked with offering a service level agreement.

**MR LINDWALL:** Yes, yes.

**MS CORBIN:** So even if a business was prepared to pay it, the choice is not there.

**MR LINDWALL:** But in terms of what the NBN or the retailers should be doing to make it clearer to the consumers about who is responsible for what - obviously they deal with the retailer first, but there can be a bit of buck passing.

**MS CORBIN:** Yes. Yes. Look, I absolutely think that you should only have to deal with the retail service provider. There shouldn't be any engagement between the consumer and the NBN, because there shouldn't have to be, but there is engagement between the consumer and NBN because of the fact the retailers aren't getting what they need out of the agreements that are supposed to be in place between the retailer and NBN, and we're seeing this on a wide scale with Sky Muster services at the moment, and we're also seeing this in metropolitan areas.

And the reasons are complex and very varied, and highly related to the fact that it is a mass rollout, and you know, it's very difficult to say there's one specific systemic issue with the rollout except to say that, you know, there is many different issues and many

different solutions, and that in actual fact that is too complex for the customer to actually navigate themselves.

And I actually think it's appalling that the customer might actually be in the situation where they might have to actually - might be told that if it turns out to be the retail service provider then you're going to have to pay the bill for NBN to come out and fix that, and you know, obviously if you're desperate to have your service fixed, you're going to say, "Yes, I'll do that," but just the fact that you'll be told - there's no transparency to you, as a customer, whether in fact it is your fault, the retail service provider's fault or the NBN's fault, and to me, in those sorts of situations, you absolutely need consumer protection in place.

**MR LINDWALL:** The statutory infrastructure provider legislation, is there any comment that ACCAN would like to make about it, and whether you think it goes far enough or not far enough?

**MS CORBIN:** Sure. Do you want to take - - -

**MS THOMAS:** Yes. We're very welcoming of the telco reform package in general. The fact that it's putting in legislation that there will be access to NBN guaranteed, or that a provider, depending on the area, is definitely a step forward.

We have some concerns in terms of what the qualifying standard service that will be delivered - it's not specified that it will be the 25 megabits for everyone, and it doesn't have any of the other features such as upload speeds, which is currently in the statement of expectations, so we fear that it's a little bit of a backwards step, and that it should at least have the same features as in the statement of expectation.

And you have also in your draft reports outlined the 25 megabits as the speed, but I suppose we're concerned that there are lower speeds on sale, and that if it's not in that legislation then that may not be guaranteed to everyone.

**MR LINDWALL:** Did you - I don't know if you were here at the time when the Optus representatives were speaking, but - - -

**MS THOMAS:** Yes.

**MR LINDWALL:** - - - they did say that if you had a guaranteed speed of 25 megabits a second, the price would be three or four times more than currently on offer.

**MS THOMAS:** Well, that's the - - -

**MR LINDWALL:** The retail.

**MS THOMAS:** At the retail level, yes.

**MR LINDWALL:** Did you find credible or not?

**MS THOMAS:** Yes, we accept that there is - there are balancing that the retail providers do do. When they sell plans of 2,500 they are balancing how many customers they have.

**MR LINDWALL:** Okay, and they have to spread it out a bit and so on.

**MS THOMAS:** Which is totally fair. We have no - we don't say that everyone should get 25 megabits at every stage, or whatever they are buying. The transparency over what you are being sold - - -

**MR LINDWALL:** So do you think that could be sorted by retailers saying that if - for this package your average speed will be this, and your minimum would be that, or something like that? Or is there some better way of communicating what type of service you're actually buying?

**MS THOMAS:** We have supported the ACCC and their broadband speed claims and also their guidance to the retail providers, having a revised guidance. It's a very difficult area to provide to consumers as well. It's quite technical. In the first instance, consumers don't understand speed. If you have a number of devices connected in your house, it's not translatable to, say, what that speed will deliver if you're using seven or eight different services at one time.

**MR LINDWALL:** Well, they understand speed when they don't have it.

**MS THOMAS:** Yes. Or if limiting them, they know that it's not enough, but they don't know what they need - - -

**MR LINDWALL:** Yes.

**MS THOMAS:** - - - how to work it out, what's limiting them. So we accept that there are a lot of challenges for industry and regulation to address. Greater transparency is definitely needed, and we think that that has to be the first step.

**MR LINDWALL:** Okay, excellent. Now, on ACCAN's view of the NBN satellite, the Sky Muster services, the two of them, you know, we've heard a lot of stories about how people are having problems with them.

**MS THOMAS:** Yes.

**MR LINDWALL:** Are they fundamentally flawed, or is there just teething problems? Are you confident they'll be sorted out?

**MS CORBIN:** Okay, so - well, okay, there are some good news stories, like Lord Howe Islanders, who had previously very bad internet, are extremely happy, because they had nothing and no mobile coverage, so you know, there are - you know, there is a very diverse experience at this point in time, but of course we're hearing a lot from the people that have got very grave problems right now, and they have very good reason to be

concerned, because of the fact that the interim services will be switched off at the end of February, and once again it comes back to the fact that there are no guarantees in relation to, you know, connection times and repairs and all that sort of thing.

People's businesses and their daily lives are being significantly affected because appointment times are being missed, and then even after they have the installation and they have navigated that challenge, then they are having ongoing issues with the actual operation of the service.

And of course, this highlights the worry and the concern that these consumers have in relation to perhaps using the satellite service for their voice service as well, which is why we've called for the copper continuity scheme to continue, at least for the foreseeable future, until there is actually an adequate alternative.

And so obviously a lot of these customers are using copper services for their voice currently, or they are using a radio capacitor type technology, which is aged and is not great either, and also the copper is often not in great condition. So there are already existing issues with that, but the big concern is that there is no plan for the future of that, and that satellite, given that, you know, there are times when satellite services are also not going to be available for a lengthy time due to weather and perhaps other issues, at this point in time hopefully they are just teething problems, and you know, we are led to believe by NBN that that is the case, and we're hopeful that they'll be resolved sooner rather than later.

But of course the sheer volume of issues that they have to deal with also is adding to the length that it takes to actually address them all. So it's quite unfortunate, because I think the expectation was built up by NBN that these services would solve many issues, and unfortunately, you know, as with most rollouts there are going to be questions and problems and challenges.

Unfortunately, there's probably been a lot more than anybody anticipated. Even NBN have been quite honest about that fact.

**MR LINDWALL:** So it's like life, it's better to over-promise - sorry, under-promise and over-deliver than the other way around.

**MS CORBIN:** Yes. Yes, but I guess the point is that there are real concerns as far as ongoing continuity of voice services and also what will happen post the end of February when the interim satellite service actually gets switched off, because there is no budget or plan to continue that, and of course you'll be hearing from quite a number of different organisations that have significant members that live in remote areas and that are using these services and in fact completely dependent on these services.

And I think the other thing to mention here would be in relation to the limitations on the services as far as the amount of data you can actually use, that there are some - you know, obviously for capacity reasons and to juggle the large number of people that they're expecting to be using these services in the long term, there are some limitations on

how much data customers can use, and also even in relation to education packages, one of the big benefits is recently that many of the children that are using those services for their studies now have separate bandwidth, which is a big positive.

**MR LINDWALL:** Yes, yes.

**MS CORBIN:** But they're - you know, we're yet to hear - we're yet to see the evolution of a business-grade product, which would also help somewhat for those people that are running businesses as well as, you know, living in remote areas, and I'm not sure if you wanted to add anything else there, Rachel or Una? No, okay, yes. So yes, I think that summarises the concerns for satellite users at the moment.

**MR LINDWALL:** Are you confident that once the NBN satellite is properly bedded down, and assume it's working as it's advertised, that you would have sufficient - and the people that have mobile coverage, is that sufficient, do you think?

**MS CORBIN:** So I guess the problem here of course is that the mobile footprint is not the same as the satellite footprint.

**MR LINDWALL:** No.

**MS CORBIN:** And there are massive gaps. There are a lot of people who are not going to have mobile as a backup. They'll have a mobile phone, but only to use when they go into town or when they go, you know, down a highway.

We do have some concerns, particularly in relation to voice services and also the limits of data. Because as technology improves and grows and changes and our usage changes, then people's expectations of use of data increases exponentially, and we see this all the time when people connect from a - you know, perhaps previously dial-up, then they went to a DSL service. When they change over from DSL to NBN, in every instance their data usage goes up significantly, and we also see this in the development of services that are run over the internet, that the reality is that those service providers don't take into consideration the limitations that remote users might actually have, so there's a high dependence on videos, forms and applications that don't work when there's a latency aspect involved - - -

**MR LINDWALL:** Which I understand that, you know, for government services, they're trying to repair it to make it low bandwidth requirement and get acceptable - - -

**MS CORBIN:** Yes. I mean, over time hopefully people will learn, but you know, just like we see with accessibility, constantly we are having to reinvent the wheel and re-educate a new group of designers for content services and, you know, we're just going through this now with touch screens with EFTPOS machines with blind users. All the work that was done to make sure that keyboards and keypads were accessible is down the drain because, you know, we've shifted to a new technology, great for everyone except for people who've got sight impairment.

And that's the same with what happens with rural/regional consumers all the time, is a new - you know, brand new great service that we're all very excited about, Netflix, comes on board, everyone wants to use it the same as the people in the cities want to use it, but they've got these severe limitations.

**MR LINDWALL:** Could I hold you for a second? I don't think we've authorised any videoing in here.

**UNIDENTIFIED SPEAKER:** Yes, we're taking it down.

**MR LINDWALL:** Please, thank you. Please continue.

**MS CORBIN:** Yes, I think that's enough, and I've finished the answer.

**MR LINDWALL:** Now, on the affordability issue, I think - I remember our discussion a couple of weeks ago, and I think there was a point - there was a reasonable point that obviously telecommunications prices have - compared to most other things in life, have come down dramatically.

People are using them in different ways, so I think you gave the example of people once would have had one contract for a landline, and now they might have five family members each with a mobile phone. That's quite a different usage pattern, obviously.

**MS CORBIN:** Yes.

**MR LINDWALL:** I guess the question goes to that, is where do you draw the line as a government to subsidise that for affordability? Because people want more and more, but in the end it costs a lot more money, ultimately.

**MS CORBIN:** Sure.

**MR LINDWALL:** And the taxpayer has to ration resources in one way or another - - -

**MS CORBIN:** Yes.

**MR LINDWALL:** - - - and target them to ones in genuine need.

**MS CORBIN:** Sure. So we've called for a review of the Centrelink telephone allowance, which at the moment is a fairly small amount that gets paid on a quarterly basis, and it's not distinguished separately from your Centrelink allowances otherwise, so you don't have to prove that you're necessarily paying for a telecommunications service.

**MR LINDWALL:** Yes.

**MS CORBIN:** But clearly there's a number of ways to solve that issue, and there's also a question about how much money would solve that issue, which is why we've called for a review, because we don't proclaim to have all the answers for what we think is quite a

complex thing, and we think that there's a lot of players and stakeholders that need to have input into this debate/discussion, particularly the welfare agencies that are actually supplying services for people that are on low incomes and are struggling.

Because they are very aware of the emergency assistance that they provide, and they are very aware of where they are filling the gaps by providing public access points and other sorts of supports for family. You know, for example the Smith Family offering their Tech Packs program, which is fantastic.

So they've got a lot of learning and understanding that we need to take into consideration with that, and you know, clearly we need to have something that is targeted, but we need to make sure that in targeting it it's still broad enough that it actually allows for all the different variations of users and, you know, somebody who's just left school who's supporting themselves will have very different needs to a remote user who, you know, is paying a higher price to connect and to - you know, for their data.

So you know, there's - but currently, the allowance is the same amount no matter where you live, so yes.

**MR LINDWALL:** And finally - and I'll let you, if you want any final points to make. I think you don't like the idea that we don't think there should be an obligation; it should be a - - -

**MS CORBIN:** Yes.

**MR LINDWALL:** I mean, I thought - we're pretty much targeting them. We do analyse it in terms of availability - - -

**MS CORBIN:** Yes.

**MR LINDWALL:** - - - which is just mainly by the NBN, but targeted proposals to address those which have gaps.

**MS CORBIN:** Yes.

**MR LINDWALL:** Affordability by directly subsidising those that don't, that have issues there.

**MS CORBIN:** Sure.

**MR LINDWALL:** However one defines that. And accessibility, obviously, for people with disabilities and so forth.

**MS CORBIN:** Yes, sure.

**MR LINDWALL:** So why should you also need an obligation to cover people who are outside all of that, who have good availability, plenty of money and have no accessibility problems?

**MS CORBIN:** Okay. Sure. So we absolutely appreciate the fact the Productivity Commission has looked at the full raft of issues and, you know, that it is a very challenging area to make some, you know, broad-ranging recommendations about, and believe me, this was very hotly debated in our organisation.

But the single thing that members kept coming back to was that they really felt that there needed to be an obligation, but you know, it was all well and good to have great policy programs, and you know, there's plenty of opportunity to influence those policy programs, but they're still very dependent on the government of the day, and also the budget of the day, and it's just - it was felt by our members that it would just be too easy to put a red line through something if you really had to because of, you know, some budget reality being weighed up against something.

But that people really felt that ultimately, you know, telecommunications services are so essential and so basic to just being able to do anything in their lives now that there absolutely needed to be an obligation there, and people felt that, you know, even though the current obligation hasn't kept up with current expectations, and also even though - it's often difficult for a customer to say, "I have a right, I have got a USO." You know, doesn't mean anything much to the customer.

Even though there are those challenges, that the reality is that they still felt it was really important to have this overarching statement of obligation, that then you could hang consumer safeguards off, you can hang redress off, and you could build other thing into that to actually, you know, make sure that it actually does get delivered in a future-looking way rather than, you know, in lots of respects it's become, you know, kind of stuck in time, which is frustrating and sad, but - - -

**MR LINDWALL:** But obligations can become stuck in time.

**MS CORBIN:** Yes. Yes. And we recognise that challenge, and I think you - you know, we've actually, you know, used language to that effect in our submission, that we recognise that. But I think the thing is, about universal service overall, is that it's the single greatest thing that can make a big difference to everybody's lives when it comes to communications policy.

And that doesn't matter whether you're a small business or whether you're an Indigenous community or whether you're a low income person, or even if you're just an older person who, you know, only wants a voice service anymore.

It's the single biggest policy area that actually has an impact on every single Australian, and I think that's one of the reasons why we get so - this is the one policy area where we get so much engagement across all our member organisations, and people do feel very passionate about it, so - - -

**MR LINDWALL:** And then my final question to that - sorry, please.

**MS THOMAS:** If I could just answer that, it's - one of the issues that we're looking at with the SIP legislation is that NBN only deals with retail providers, so for a consumer to get a service they have to have a retail provider to act on their behalf to guarantee that access, to invoke that legislation.

And we've had a number of consumers who have come to us who, for different reasons - and I know NBN rollout is happening, so these might be quite unique, but they've - the location or the address has not appeared on the network that NBN have, and the retail provider have said, "Oh, there's an issue here, we can't serve you, we're cancelling the contract," and then the consumer has no access. NBN can't come out and ensure that access and put that in, and for them to get the service.

So there's been a number of consumers who have - we've been contacted with, and we've had to keep asking them to order a new service so that we can go to NBN and say, "Listen, this service is actually ordered, there's a problem here, someone needs to look at what's happening, why isn't the connection happening?"

Quite often the retailers say, "We can't service you, there's a problem, we're just going to cancel and find someone else."

**MR LINDWALL:** I concur with that, but my problem is that an obligation may be more costly than a targeted approach, and it may also reduce incentives for innovation and improvement. So the obligation, if it is more costly, which I conceive it could be, that comes at a cost to improving telecommunications services. So the obligation runs counter to what you want.

**MS THOMAS:** I'm not sure if it would be - I'm not sure there necessarily would be a cost. Having a - like, having a provider that will step in and do that, it's not - because NBN is providing a platform where there is universal cost, and they're going to be guaranteed that service, so they're going to be gaining a customer, having that reassurance that someone is there that you can say, "Listen, this customer is having a problem, you need to be their provider for whatever reason, if their current provider can't service them, goes out of business or whatever happens," just that guarantee doesn't necessarily mean that the government have to pay that provider to do that job.

**MR LINDWALL:** I just - I highlight the potential risk of obligations, that the current obligation may, hypothetically, have reduced the progress of telecommunications in broadband than we might have otherwise in an alternative universe if we didn't have the obligation. So I don't think anything comes for free.

**MS THOMAS:** Sure.

**MR LINDWALL:** Obligations actually do have costs, and you have to weight them against their benefit.

**MS CORBIN:** Yes, I think there's many reasons why broadband has and hasn't progressed in Australia as fast as many of us would have liked. You know, notwithstanding that, we're a very, very big country, and no matter which way you do it it's going to be costly, and ultimately, whether it's customers or citizens that pay for it through their - you know, through their plans or their taxes - - -

**MR LINDWALL:** Taxes or plans.

**MS CORBIN:** - - - the truth is somebody has to pay. But when you talk to consumers about what they want, they want everybody to be connected, because the value as being a city consumer is only as valuable as being able to contact your country cousins as well, if we refer to - - -

**MR LINDWALL:** I agree, it's a network problem. Did you have any final comments? Because I think we're - - -

**MS CORBIN:** I think that's everything, although I do just want to make a quick comment in relation to payphones.

**MR LINDWALL:** Yes.

**MS CORBIN:** So we think that there just needs to be more investigation into this obligation before it gets - or this program, before it is wound back in any way, shape and form.

At the moment there are options in place for Telstra to remove payphones for various different reasons. Notwithstanding that it's challenging and costly for them to do the consultation and go through the processes, there is a process in place.

We think that, you know, there's potential for future services to, you know, assist with making the payphones that currently exist perhaps more usable, but we just think it needs more information about what type of calls are being made from these payphones, and also consideration taken into in regards to mobile coverage and other things.

So we would recommend that there be more research and another separate inquiry that looks very specifically into payphones before there's any further action in relation to that, because even we find it very difficult to gauge what the usage is with payphones.

Even though we accept generally usage has gone down, but identifying what is that essential service at the basic level that needs to be provided by payphones. There needs to be more research done on it.

**MR LINDWALL:** Okay. Well, thank you very much then.

**MS CORBIN:** Yes. Also I did bring some of our publications which may help. That's one on broadband speed. But anyway, there you go. Thank you.

**MR LINDWALL:** All right, we'll - I think our final one today, and then I'm off to Cairns, is Derek Schoen, Jaimie Lovell and Charlie Cull from the New South Wales Farmers' Association. Hello, welcome.

**MR SCHOEN:** I'm Derek.

**MR LINDWALL:** Derek.

**MR CULL:** Charlie.

**MR LINDWALL:** Only two of you, is that right?

**MR SCHOEN:** Yes, Jaimie's an apology.

**MR LINDWALL:** That's all right. If you'd like to just introduce yourself for the record, and give a little presentation, that would be perfect.

**MR SCHOEN:** No, that's not a problem. So Derek Schoen, President of the New South Wales Farmers' Association, and with me is Charlie Cull, senior policy advisor handling telecommunications in the New South Wales Farmers.

Firstly I would like to thank the Commissioner for the opportunity to appear before you today as part of the inquiry. New South Wales Farmers is the largest SFO, state farming organisation, in Australia, and we are also part of - a member of the National Farmers' Federation.

Wherever they live or work, all Australians need guaranteed access to voice and data services. We can't understate how important access to reliable, modern telecommunications is for our members. There is nothing that generates as much frustration and concern as when you cannot communicate with the outside world and run your farming enterprise in the manner that it should be.

This inquiry goes to the very heart of what underpins access to effective telecommunications for regional and rural and remote Australians. The current universal service obligation and its associated consumer safeguards has been important in delivering everyone in Australia access to voice services.

However, this is the 21st Century. Voice service is no longer enough if you want to run a business, educate your children, interact with government agencies, access healthcare, or even just communicate with your friends and family.

Furthermore, simply having a connection isn't enough. The physical existence of a connection or a piece of infrastructure doesn't guarantee its performance. This is why any new USO must include minimum standards for voice and data and must be accompanied by updated consumer safeguards.

Updated consumer safeguards go hand in glove with the modernised USO. Without them, we risk losing many of the benefits that should come from improved access to voice and internet services.

The Association supports the Commission's recommendation to end the current USO. We have been calling for it to be replaced for some time. We support the NBN taking over the role as a universal wholesale provider of baseline broadband, and we support the Commission's recommendation that a new USO should be formed that covers baseline broadband and voice services.

However, we are here today to sound a note of caution regarding the transition process that is to be followed between the current USO and whatever replaces it. We are concerned that even with NBN delivering access to broadband internet services, if the current USO is ended prematurely, many farmers in the most isolated parts of Australia may end up without access to a voice service of acceptable quality and reliability.

We note in its submission to the Commission's issues paper, NBN stated that the Sky Muster satellite was not designed to deliver universal voice service. The Commission's draft report also identified that the voice services delivered over Sky Muster would be of inferior quality to the current USO for voice services in many terms of latency and fault repair timeframes.

The reformed USO must not result in a downgrading of the existing services, and must not leave farmers without an acceptable voice service. There must be no gap between the dismantling of the current agreement and the implementation of its replacement.

As it stands, Sky Muster is an unacceptable platform for the delivery of universal voice service. Our members are vehemently opposed to the idea that their current landlines or microwave service can be replaced with voice services delivered over Sky Muster.

They are very uncomfortable with the idea that Sky Muster satellite could be their only link to the outside world in the case of an emergency. They have told us this in the plainest of terms. They regard it as unreliable, even before considerations are made for the adverse weather or blackouts.

I know that members of the Country Women's Association, the Pastoralists' Association of West Darling, and the members of the Rural and Regional Remote Communications Coalition are united on this as well.

Farmers need to know that they will have reliable access to the outside world when they need it most, when there is a flood, fire, blackout or medical emergency. It can be a matter of life or death.

The current systems for delivering voice services across regional and remote Australia are not perfect, and as an association, we see many occasions where the flaws in

the current system come through. However, it is apparent that there is not an acceptable long-term replacement for the existing landline infrastructure. There is no solution ready to be deployed that would supply a service of sufficient quality.

We believe that as a part of work to end the current USO there needs to be careful consideration of what can provide the best long-term solution for voice services in areas that are serviced by NBN satellites. In addition, the current landline infrastructure should be maintained and augmented until a long-term solution is found for the delivery of high quality voice services in the NBN satellite area. It would be highly regrettable if customers were forced to transition off their current landlines onto an inferior satellite service.

**MR LINDWALL:** Okay, thank you. I just want to clarify, where are the areas of most concern? Are your members who happen to be in a fixed wireless are - are they happy with their fixed wireless service as a voice service as well as a broadband service?

**MR SCHOEN:** Yes, on the general I think there's general agreement that fixed wireless is providing adequate - but you know, technology changes so quickly, and it was like the other day, I had to send a fax, and I asked my wife where the fax machine was, and she said she'd thrown it out, so - - -

**MR LINDWALL:** Yes.

**MR SCHOEN:** So now it is all done via the internet, scanning documents, and that's going to be the future until they come up with a new technology. So technology does change very quickly.

**MR LINDWALL:** Indeed, yes, yes. Well, that's exactly right. Of your members who have now moved into the Sky Muster service, how have - and of course there have been concerns. Are people still finding it good? I mean, they're happy with it compared to the interim satellite service?

**MR SCHOEN:** Charlie?

**MR CULL:** So I sit at the phone and get the phone calls when they come through. I think it's fair to say there's an enormous range of experiences, and a lot of them are very unhappy. I had a call yesterday from someone that hasn't had internet for five days since it was installed. They've been back and forth for hours between the NBN and their provider, and they still didn't have a resolution for how they were going to get their service fixed.

We ran a survey of over 250 - with over 250 responses. I think there were two or three positive comments on the performance of Sky Muster in that.

**MR LINDWALL:** Is that partly because they deal with the retailer? And I think there's about 12 retailers that offer satellite services?

**MR CULL:** Yes, something like that, yes.

**MR LINDWALL:** There's nothing you can say about - without naming them - whether it's systematically a particular retailer causing problems, or genuinely an NBN problem, or - - -

**MR CULL:** Well, I haven't broken the figures down, but there didn't appear to be any particular pattern in terms of retailers.

**MR LINDWALL:** Okay.

**MR CULL:** The general comment we've seen is that all retailers have been taken by surprise by the number of complaints, and that perhaps they weren't staffed adequately to deal with that. But there's - it's across the board issues.

**MR LINDWALL:** Yes, yes, okay. And the New South Wales Farmers have spoken to NBN, I guess, to - in general? Is that - have you spoken to NBN itself? I mean, have you received feedback that this is temporary, it's a teething problem, don't worry about it, you know, it will be sorted out, that type of comment? Or is it more fundamental?

**MR CULL:** We have. So we were part of a group with ACCAN and CWA and a number of others that the NBN's pulled together as a consultative group. The comments we actually received were a long way beyond teething problems. They were the words of the NBN. They apologised for that. The NBN CEO used those words. That they were - the issues were systemic, and they were trying to solve them within the system.

They gave us a list of the nine or ten technical problems. I'm not amazingly technically savvy, but some of them sounded quite serious. So - and they've committed to working very hard to resolve them.

**MR LINDWALL:** Would New South Wales Farmers think that a person or a family that lives in a region with a very - with reasonable mobile phone coverage and has the USO - sorry, the NBN satellite, that it would be sufficient? Or is that insufficient too?

**MR SCHOEN:** I think it depends on the circumstances and the reliability of the mobile service, but we are seriously considering at home - getting rid of the landline, the copper wire service. Whenever it rains, we do have problems with water in the lines, and it's very costly for Telstra to maintain that line, and I think that will be a gradual progression throughout the areas that do have satisfactory mobile service.

Another area of concern with New South Wales Farmers and our members is that the Sky Muster was not designed for voice transmission and, you know, maybe technology will take up that slack and we can get rid of that lag time in communications, but we also have concern that the more people that log on to Sky Muster, of course that loads up the system and we have heard that they are looking at offloading a proportion of bandwidth for Qantas to use for in-flight entertainment.

So you know, when you have a couple of thousand people flying along using in-flight entertainment through the Sky Muster, which it wasn't designed for, that bandwidth was actually designated for providing data capability for rural and remote people - residents - so we do have concerns that, you know, there are the issues with sort of hiving off bandwidth to other customers that it was not originally designed for.

**MR LINDWALL:** Okay, yes, yes, but you would agree with our general logic, which was that no system is ever perfect. Certainly the copper lines are not perfect, they do have reliability problems.

**MR SCHOEN:** No.

**MR LINDWALL:** But if you have a level of redundancy by having an alternative, that minimises the risk of you having no service.

**MR SCHOEN:** Yes, yes. And the other thing with the Universal Service Obligation is, like, if you have a medical condition or something like that, then Telstra would give priority to maintaining a service. If it did go down, and if NBN was to become the provider of voice, then that would have to be part of the agreement, because you just can't leave people that need a service urgently partly down.

**MR CULL:** Sorry, Commissioner, if I might make a comment about mobile coverage. In the experience of our members, the coverage claims on a map don't match up to the coverage experience on the ground. So we're very cautious when we start hearing discussions about, "Oh, well, there's mobile coverage in that area, that's fine, they may not need landlines." And I've now forgotten what I was going to say next, so that's all right.

**MR LINDWALL:** No, I accept that. I mean, some households add those antennae to improve their reception, but you're saying that even when they do that, they may not get a good service.

**MR CULL:** Yes, and the - - -

**MR LINDWALL:** Like - they're right on the fringe of the coverage, I guess.

**MR CULL:** Yes, or there's maps that say that there should be adequate mobile coverage across the entirety of the farm but they just don't experience that. And the other interesting phenomenon that we've seen at a number of different sites across regional New South Wales, probably in the last six months, has been a degradation in the quality of services from a number of particular mobile sites.

It seems to be that as people are seeking to do more with their phones and use data more, towers that weren't necessarily designed for the capacity that's now being put through them are shrinking in their footprint, so people that previously had excellent 3G service now don't have service on their property. People that were using that for internet have suddenly found that they can't get the reception. So mobile coverage and the

internet coverage that comes from that is not necessarily static and not necessarily guaranteed.

**MR LINDWALL:** Yes. And of course, it may improve and it may get worse.

**MR CULL:** Yes.

**MR LINDWALL:** But obviously at the moment - you're supporters of the Mobile Black Spot Programme I assume?

**MR SCHOEN:** Most definitely, yes.

**MR LINDWALL:** And that's aimed to expand the coverage, of course.

**MR SCHOEN:** The other thing that's worth noting is that not all mobile phones are created equally - - -

**MR LINDWALL:** Yes.

**MR SCHOEN:** - - - and you know, if you live in a rural/remote area, if you don't have a blue tick phone, well, then you're probably not going to get reception. And so like with the latest, name a brand, Apple phone, the Apple 7, it's not a blue tick, so you actually have to request an Apple 6S, which is a blue tick. So yes, not all phones are created equally, so if people sort of buy the latest and greatest - - -

**MR LINDWALL:** Yes, yes.

**MR SCHOEN:** - - - you have a very good chance that you're not going to get reception.

**MR LINDWALL:** Do you think consumers are adequately informed about these types of things?

**MR SCHOEN:** Definitely not, no. No, especially urban consumers that may be going on a trip into a rural area, they may think, "Oh, we've got a mobile phone," and it may be connected to one of the networks that doesn't have as good a coverage. We often have people that come in and they say, "Oh, you've got no mobile phone here," and we say, "Yes, we do, but we're with a different carrier."

**MR LINDWALL:** Yes, so Jane and I found that when we visited Marree in South Australia and they were telling us of tourists who arrived there who assumed that their mobile phones will work quite happily going up, you know, outback tracks or something like that.

**MR SCHOEN:** That's right, yes, yes, definitely.

**MR LINDWALL:** So yes. But I'm not sure how you can solve some of these information problems. It's not so easy. It's easy to talk about them, but - what about the

high capacity radio concentrator, which some of your members would obviously be using? Have you had much feedback about its reliability?

**MR CULL:** It's not perfect, but it - our members are pretty reticent to let it go, especially if it was going to be replaced by a Sky Muster voice service.

**MR LINDWALL:** Yes, yes.

**MR CULL:** So I think there are plenty of faults with it. Plenty of people have been - are telling stories about, "Here's the time I was out and lost service for a week, two weeks." Others say, "Look, it's pretty good, it gets looked after." But I guess, to echo comments that were made earlier, it's a redundancy system, and our members want to see it replaced with another form of redundancy system which isn't a satellite service.

**MR LINDWALL:** The broadband through the USO - sorry, I keep saying the USO, sorry, but NBN satellite - Sky Muster, I should say Sky Muster, the Sky Muster, is reported - well, it's aimed at 25 megabits a second, and then you - the customers choose a package that they like with the amount of - up to about 50 gigabytes, I think it is.

**MR SCHOEN:** Yes.

**MR LINDWALL:** And then they have an education allowance and so forth. Are there - obviously people want more, but satellites are limited in their capacity, so what advice do you give to your members about optimising their usage of the satellite services to get a reasonable usage and not find that they're up at their limits all the time.

**MR SCHOEN:** Yes, well, look, some of the problems also eventuate from web designers. They design a great website which when you actually go onto the home page it has so much information on the home page that you're using up a lot of your download just accessing the initial portal.

**MR LINDWALL:** Yes, exactly.

**MR SCHOEN:** And you know, government agencies should be very aware of that as well, that, you know, that if people want information, that that information shouldn't be sort of clouded in a whole lot of flowery dressing that actually uses up a lot of bandwidth to actually access it.

**MR LINDWALL:** The Australian Government does have a policy to try and reduce its - the bandwidth requirements of its websites - - -

**MR SCHOEN:** Yes.

**MR LINDWALL:** - - - and that's gradually being rolled out, as far as I understand, so that they use a minimum amount of data.

**MR SCHOEN:** Yes.

**MR LINDWALL:** But what about, you know, banks and other private companies?

**MR SCHOEN:** Well, most of the banks have a fairly plain home page, and you access the internet banking quite quickly through the home page. But you know, we have a lot of members at the moment on traditional internet access that, you know, you can be waiting up to 20 minutes for a home page from a bank to download, which you just can't - and then, you know, when the kids come home from school then that even slows down further.

So with the NBN that has improved, but you know, we're currently connected to the mobile service for our internet, and we'll be staying with that, because we find that adequate to handle our situation, and as more people move off that to go onto the satellite, our service is actually getting better.

**MR LINDWALL:** So some of the people who use banks, banking services, will have a separate device which gives a six digit number, for example, as a second-factor authentication tool.

**MR SCHOEN:** Yes.

**MR LINDWALL:** And I think they last for about a minute, or mine does anyway, and then it regenerates with another number. That must be frustrating if you have to go through multiple iterations, so I don't know if you've heard any problems with accessing banking services like that?

**MR CULL:** We do. There's a member who featured on the front page of The Land newspaper not long ago who has to - she runs a millinery business out of her homestead in New Narradin. Every time she has to put a banking payment through she has to jump in the ute, run up the hill, get the mobile code and come back down, but of course that's even more frustrating if you don't have mobile service, so to be honest I'm not sure how our members get around and the bank protocols for that. No, carry on.

**MR LINDWALL:** I thought you were about to say something - - -

**MR CULL:** No, I was, and I forgot again.

**MR LINDWALL:** That's all right, that's all right. I just want to see if there's anything else that I should ask you about.

**MR CULL:** Oh, it's - sorry, Commissioner, memory's coming back. The change to the peak and off-peak times for - - -

**MR LINDWALL:** Yes. They change from what and to what?

**MR CULL:** They - they changed to - peak time is now - there's only a six hour window that isn't a peak time. And I'll have to take on notice what it was before, I can't remember.

**MR LINDWALL:** Yes, that's all right.

**MR CULL:** But - so our members - there's been a couple of things our members have found. They've been frustrated that their usage in the peak times has gone up, because the off-peak window has shrunk. So even if their actual usage of the internet hasn't changed, they're consuming more of their peak data allowance, and they're also not entirely sure how to use that off-peak data. They're very frustrated that it's sitting there and they're paying for it, but they can't see any real use for it.

We've chatted with NBN about them doing some education on how to get people to use it, but it's kind of a bit of a red flag at the moment that it's there and there's potential.

We also haven't seen a lot of transparency on how the current peak and off-peak settings have been set. We'd love to see some transparency, and even just a subtle shifting of when is peak and off peak. Yes.

**MR LINDWALL:** Anyway, I can understand that, but are there any final points you'd like to make?

**MR SCHOEN:** No, not really. We do have serious concerns about the capacity of the Sky Muster. I think that's one thing that we - - -

**MR LINDWALL:** I think that's quite clear. If I could summarise what you've basically told me, is obviously the concern is principally about the Sky Muster - - -

**MR SCHOEN:** Yes.

**MR LINDWALL:** - - - and some of that may be short term. Some of them may be long term, that will be determined. Obviously people who are - as I found out in the other inquiry we completed recently on agricultural regulation, the use of technology in farming businesses is very important and quite - it makes a massive difference to productivity on the farm.

**MR SCHOEN:** No, it is, and it frees up a lot of time that, you know, if you can actually be doing a lot of your work while you're sitting in the header - - -

**MR LINDWALL:** Exactly.

**MR SCHOEN:** - - - rather than when you're coming home at night, it makes a big difference so - to quality of life.

**MR LINDWALL:** I mean, we had - you know, self-drive tractors, one of them I heard in Western Australia - unfortunately the person lost - who was in a home somewhere

controlling it remotely lost interest or lost attention of it, and it drove through several fences before it was relocated back or something, but - these types of things happen, but they are an amazing technology if available, and of course it's advancing all the time.

**MR SCHOEN:** Yes, and agriculture is really lucky to be at this point of time.

**MR LINDWALL:** Yes, yes.

**MR SCHOEN:** We really are able to utilise the advances in technology and is increasing our productivity on the - - -

**MR LINDWALL:** So I just wanted to make sure that we're clear that - - -

**MR SCHOEN:** Yes.

**MR LINDWALL:** - - - whilst there are frustrations with the rollout of the NBN, overall the benefits of these technologies are immense for the farming sector - - -

**MR SCHOEN:** Definitely.

**MR LINDWALL:** - - - and your members, basically, yes.

**MR SCHOEN:** Yes. So we just - we don't want an existing service replaced by something that's inferior.

**MR LINDWALL:** Of course, yes.

**MR SCHOEN:** And you know - and in the country it can be a matter of life and death, so - - -

**MR LINDWALL:** Yes, all right. Well, thank you very much.

**MR SCHOEN:** No worries, thank you.

**MR LINDWALL:** Thank you. Now, this is a time we always allow anyone else who wants to come and say something or who wants to object to something that's been said, or what I said, and have another say. Malcolm, do you want to come and have another say?

**MR MOORE:** Please.

**MR LINDWALL:** It will have to be fairly brief.

**MR MOORE:** I'll be very quick.

**MR LINDWALL:** Yes. And again, you'll have to state your name for the record, and - - -

**MR MOORE:** I'll do that. Thanks, Paul. Thanks very much. Malcolm Moore, acting on behalf of myself. Very quick analogy. There's a Superman movie that I saw several years ago where Lois is falling out of a helicopter down the side of a building and as she's falling she's calling out, "Help, help," and Superman comes down and grabs her and says, "It's all right, I've got you," and she turns around and says, "But who's got you?"

Now, the analogy is that David Epstein from Optus and Dan Lloyd from Vodafone and I - might have mentioned, I'm not sure - from Telstra might have mentioned - but all this talk is about the access network and getting access to connectivity. The big missing point is that we've got optical fibre up around the coastal areas of Australia and nothing much in the inland except for a quick run that goes down from Sydney and Melbourne via Canberra and another one that goes from Brisbane down to Parkes.

What we really need to have - - -

**MR LINDWALL:** What, the Hume Highway area?

**MR MOORE:** Yes.

**MR LINDWALL:** Yes.

**MR MOORE:** Yes. What we really need is to have an inland broad network of 144 fibre - optical fibre put in the ground, manufactured in Australia for Australia, basically running about 27,000 kilometres, it costs about \$810 million to put in the ground including all the equipment to go with it.

If you go from about Shepparton up Mount Isa is one run, another one from Canberra up to Cairns is another one, and then have crosses going east/west to join all that. Another one going from Alice Springs out to Exmouth, and having another one coming from about the middle of that down to Albany, that sort of thing.

That's what's needed so that then you can get - you can bypass the problem of having satellite. It also provides all of the infrastructure, so you can have the radio black spots covered at virtually nil cost and you can do rural farm connected homesteads. That's what you need.

**MR LINDWALL:** Okay, all right.

**MR MOORE:** Thanks very much.

**MR LINDWALL:** Thanks very much, Malcolm. Now, anyone else wants to come and have a - yes, please. Rachel, you have to give your name again.

**MS THOMAS:** Sorry, yes, Rachel Thomas from ACCAN. Just wanted to make a further point, just about the mobile coverage. One of the issues I suppose we've made in our submission is assuming that the - how you define what the coverage is and where you assume it is.

We've seen a lot of consumers contact us who are in the CBDs of cities who are having extreme difficulty getting coverage in their apartments or in their houses.

**MR LINDWALL:** Yes, yes.

**MS THOMAS:** A number of the companies are now offering Wi-Fi calling, so that you can use your mobile in your house using the fixed broadband connection that you have.

**MR LINDWALL:** Yes.

**MS THOMAS:** And we've also seen those NBN - because priority assistance needs to have a certain standard, and the NBN network doesn't have the power support that the copper would have initially - - -

**MR LINDWALL:** And without battery backup.

**MS THOMAS:** Yes, so they're looking at alternative kind of mobile solutions, and for some of those customers who don't have full coverage internally there's antennae being set up in their house to distribute that coverage.

**MR LINDWALL:** Yes.

**MS THOMAS:** So those are pretty - most of those examples that we have are in very central CBD areas, and so assuming that the coverage is in an area does not necessarily mean that it's in your house. So if you need - - -

**MR LINDWALL:** At every point in your house, yes.

**MS THOMAS:** Yes. So just defining what is "mobile coverage" and where it needs to be within your premises or your land can have a big impact on what's the service level that you're getting.

**MR LINDWALL:** Okay. Well, thank you very much, Rachel. Anyone else would like to say something? It's your last opportunity. All right, well, I'll adjourn the proceedings, and we'll resume again tomorrow in Cairns. Thank you everyone for coming.

**MATTER ADJOURNED AT 12.13 PM UNTIL  
THURSDAY, 2 FEBRUARY 2017 AT 9.22 AM**



**Australian Government**  
**Productivity Commission**

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**PRODUCTIVITY COMMISSION**

**INQUIRY INTO THE TELECOMMUNICATIONS  
UNIVERSAL SERVICE OBLIGATION**

**MR P LINDWALL, Presiding Commissioner**

**TRANSCRIPT OF PROCEEDINGS**

**AT CAIRNS  
ON THURSDAY, 2 FEBRUARY 2017 AT 9.22AM**

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**MR LINDWALL:** We don't have - you know, I don't know if there might be other people turning up, but I have some introductory comments that I normally - well, we have to for hearings, which I'll give, and then we'll invite our first people up. This is a very informal proceeding, so transcripts are made but you'll see it's pretty informal.

So how about I start so we can get going. Are we right? Yes? Okay. Good morning. Welcome to the public hearing of the Productivity Commission inquiry into the Telecommunications Universal Service Obligation. I am Paul Lindwall and am the Presiding Commissioner for the inquiry.

I'd like to start off with a few housekeeping matters. In the event of an emergency, Rydges Esplanade Resort staff will direct and assist everyone in evacuating and moving to the assembly point, which is outside the building.

We will be breaking for morning tea around 10.30, which I think Tim has arranged for some nice tasty treats, so we should be able to enjoy that. We look like we will be concluding the hearings at around lunchtime or 1 o'clock. If you have any particular questions, or wish to present at this hearing, please see Tim, who will be able to register you. I should point out that you can comment on previous submissions or what other people have said if you don't agree with them or you do agree with them.

The inquiry started with a reference from the Australian Government in April last year that has asked us to examine "to what extent are government policies required to support universal access to a minimum level of retail telecommunications services?" This includes recommendations on the objectives for a Universal Service Obligation or equivalent, the scope of services to achieve objectives, specific user needs, and funding and transitional arrangements.

We released an issues paper in June and have received about 60 submissions since its release. We have talked to a range of organisations and individuals with interest in the area. We then released a draft report in December, and have received further submissions, which continue to flow in.

We are grateful to all of the organisations and individuals who have taken the time to meet with us, prepare submissions and appear at our public hearings.

The purpose of the public hearings is to facilitate public scrutiny of the Commission's work and to get comment and feedback on the draft report. Following this hearing, we will also have hearings in Launceston, Melbourne, Port Augusta and Perth. We will then be working towards completing a final report to be provided to the Australian Government in April. Those who have registered with us, including today, will automatically be advised of the final report's release by the government, which may be up to 25 parliamentary sitting days after completion.

We like to conduct all public hearings in a reasonably informal manner, but I remind participants that a full transcript is being taken. For this reason comments from the floor

cannot be taken, but at the end of the proceedings you will have an opportunity to come and make a statement or to question things.

Participants are not required to take an oath, but should be truthful in their remarks, and they are welcome to comment, as I mentioned, on issues raised in submissions or elsewhere.

The transcript will be made available on our website following the hearings, provided you have internet coverage, of course, which is interesting. Submissions are also available on our website. We tend to get away with a paper that we used to do, used to print.

Participants are invited to make some opening remarks. In fact, today I don't really care, you can go as long as you like, really, as long as we keep the whole thing to about 30 minutes or so each, of a brief presentation with questions included.

And I'll now welcome Andrew Pegler and Louise Martin from the Isolated Children's Parents' Association. Please, come up here. Now, these microphones do not amplify, they just record, so just speak normally, that will be fine. As long as you're loud enough so everyone can hear in this vast room.

And what usually happens is you just say your name and organisation for the record and then make a statement as you see fit.

**MR PEGLER:** Thank you, Commissioner. Yes - - -

**MR LINDWALL:** Paul. It's very informal here.

**MR PEGLER:** Thank you, Paul. Yes, I'm Andrew Pegler, from the Isolated Children's Parents' Association of Queensland, with Louise Martin, and the Isolated Children's Parents' Association of Queensland see this as a very, very significant issue, the future of the telecommunications and the legislation underpinning our telecommunications issues throughout Australia.

The Isolated Children's Parents' Association advocates for equitable access to quality education opportunities for children in rural and remote areas. ICPA Queensland represents 46 branches, comprising over 1,200 families throughout rural Queensland.

ICPA recognise the need for legislation underpinning a right for broadband data access for all Australians. Your support for a baseline broadband data inclusion in future communications planning is appreciated.

Inhabitants of rural and remote Australia have the greatest need for fast, reliable services for education, business, health and social needs, as they are the most isolated from other forms of service delivery.

Our organisation contends the needs of these Australians are shown very little consideration within the Commission's draft report. The assumption that the government service delivery should only occur if cost effective is open to interpretation by bureaucracy and is potentially discriminatory.

Terminating the Universal Service Obligation and customer service guarantee will threaten the lives of these people, not to mention access to education and commercial enterprise. Without the implementation of a supporting USO and CSG for mobile services, reliance on mobile phones where coverage is present is not an option. Much of the mobile network has insufficient capacity for existing demand, and the service is power-dependent. Many residences do not have the option of mains power. Indeed, this lack of available mains power is often cited by Telstra as a problem with extending mobile coverage.

In urban areas the average mobile user may be within the footprint of several mobile towers and not solely dependent on a single tower. When a rural tower fails, all mobile service in the area fails. Much of the mobile voice network is delivered by 3G. While 4GX has a similar range to 3G, at present 4GX is only a data service. Virtually all other new technologies being publicly discussed will be extremely limited in areas of coverage, owing to limited transmission range from a tower.

Is there any assurance that existing coverage will be maintained after retirement of the 3G network? Providing voice services via NBN Sky Muster satellites should never be considered as an option. Latency from a satellite service to a fixed line is an issue, but latency when calling from a satellite to a mobile or satellite to another satellite service is a major impediment. Such latency would prevent many group activities, such as music for schools with distance education students.

While the draft report lists reliability of 99.7 per cent for the satellite, in the real world this is totally unachievable. For instance, on Sunday and Monday 29 and 30 January there were 15 of the Sky Muster spot beams not functioning due to rain at the ground station in Geraldton, Western Australia. These spot beams covered areas of Queensland, New South Wales, South Australia, Western Australia and the Northern Territory.

NBN advised ICPA's 2015 state conference they expected outages or severe degradation of the Sky Muster service of about 10 days a year for users in tropical areas due to atmospheric moisture from rain events at the consumer's end.

Extended power outages on rural electricity services or property with non-continuous power will also create service problems. In our area, power outages of several days at a time are not uncommon. At present, Sky Muster services are not demonstrating a very high standard of robustness or reliability. While this may be influenced by the adequacy of the retail service provider networks, the end result is often chaotic. Fault reporting systems become choked, resulting in short-term outages going unreported.

NBN's 2014 review of satellite services, along with the regional telecommunications review, both highlight the inadequacy of the Sky Muster satellites to meet projected needs. With present data use, congestion is assured with 400,000 end users. Your recommendation to discontinue the copper continuity obligation and phase out ADSL networks would degrade service to many users, and further congest a stretched system.

If more than 5,400 users are uploading or downloading simultaneously, congestion will occur. That's the maximum capacity of the satellite. Add voice calls to this mix, and the system will be further compromised. If the standard telephone systems are not maintained in rural and remote areas, people will die through lack of communication.

Pedal radio communication with the Royal Flying Doctor Service is long since passed. These days you use a telephone. The USO needs overhaul. We believe data should be included, but also greater emphasis should be placed on reliability and quality of the existing service.

Much of the existing fixed phone technology currently in use, such as the high capacity radio concentrator, or HCRC systems, are virtually obsolete. Unavailability of parts should not be an acceptable reason for outages of weeks in duration.

A focus on upgrading current systems with a reliable, high quality alternative is essential. Satellite technologies should not be considered a solution, as outlined in our original submission and the aforementioned reasons. The Australian Government, as network owners, may be fiddling while Rome burns.

Thank you, Paul, for the opportunity - - -

**MR LINDWALL:** A pleasure. Thank you.

**MR PEGLER:** - - - to make those points.

**MR LINDWALL:** Perfect. You didn't also want to make - no? Could I ask, to start with, could you perhaps give us examples of how technology has allowed improvements in isolated children's education over the past, you know, 20 or 30 years or whatever, and give good examples of the types of improvements in education they might get?

**MR PEGLER:** Technology has been absolutely wonderful. I was a correspondence school student myself. In my day, the papers came from the Brisbane Correspondence School, and it was all - absolutely paper based. We - I was one of the early students on School Of The Air. My mother actually incidentally designed the badge for the charter School Of The Air.

But in those days, the School Of The Air system was not at all the length of your education essence as such. It was more of a social outlet. It looked at things like music and poetry and - - -

**MR LINDWALL:** This was using CB radio or HF radio?

**MR PEGLER:** It was HF radio based.

**MR LINDWALL:** Yes.

**MR PEGLER:** Since then, distance education in Australia has come a long way. Distance education in Queensland has come an exceptionally long way, and I think Queensland is one of the lead states in distance education delivery.

We have seven schools for distance education throughout Australia.

**MS MARTIN:** Queensland.

**MR PEGLER:** Throughout Queensland, sorry. Of those seven schools, three schools have an enrolment of predominantly isolated students. There's a very large number, for instance, of medical enrolments on schools of distance education.

The current schools of distance education classrooms, there's a lot of what they call direct teaching, where maybe your complete math lesson for that student, or maybe the maths curriculum for that student, may be delivered via a teacher or complete English or whatever. There's some key subject areas at a minimum that all schools deliver, and deliver in the entirety.

They utilise a telebridge, an audio telebridge, which is great. The kids can hear each other, it's real time, it's normally great communication, providing you've got a working phone, and inter - at the same time, they have interactive whiteboards, they have communication technologies. Depending on where they are, what their internet delivery is, we have had major problems in recent years with lack of capacity on satellite systems.

Satellite systems in rural Australia, in my experience, have been long in promise and very, very short on delivery. The NBN's interim satellite service got extremely badly choked. The then Minister for Communications, our current Prime Minister, came to a visit to my own small community of Yaraka in Western Queensland, and we organised a distance education classroom visit and a visit to the school of distance education.

In those days, when that - the interim satellite service was really struggling, when he attended the classroom in Longridge at the school, there was two students could connect. The rest did not have the internet speeds to connect for their daily lesson, and that was the reality of a congested system.

We have had major step forwards from the data side with a dedicated service on the NBN Sky Muster satellite that was - and I think the government and the current Prime Minister and a lot of other people have worked very hard to put that in place, and it is a great initiative.

However, it is still a Sky Muster system, and that's - the head of the satellite and wireless side of NBN has assured us that that system will be a lot more robust, because

it's what they call on the public interest program, or their PIP program, which means that it basically shares a service with the health facilities, and as such is a priority service.

That's great for education. But at the end of the day, it's great while it works. Satellite still has the same problems of so many other - of - that so many other services do not, in that it's very weather related, and we have problems in those areas when it comes back to anything that is real time.

It's great for interactive whiteboards. It's great for the data transfer while it works. The NBN Sky Muster service at the moment - and I've got a Sky Muster service. Virtually everyone out there has a Sky Muster service. It's quite unreliable. When you have a short-term outage you cannot report it. You can wait for ours on the fault line and, depending on who you're with, some of the retail service provider fault lines, after you wait a certain length of time they terminate your call anyway. Some of them say, "Press a button, we'll call you back, we'll place you in a queue." I have never, ever had a returned call. This is pretty standard.

To date, Sky Muster satellite is showing about as much suitability as a robust and reliable service as most of our previous satellite communication that needs two-way communication. The whole area of education and delivering the need for these kids needs good communication. We have less and less availability to face to face service delivery for things like tele-health, speech language pathology, people like that.

Those are services that if we had decent internet, there are some great tele-health programs that can assist and aid and fill the gaps with what is available, but we need that technology.

**MR LINDWALL:** Some of the hearings and submissions, I get an impression, and it's hard for me to distinguish so I'd appreciate your comments, Andrew, is about what part of the Sky Muster service outages you're talking about are due to teething problems for a new service versus those that are weather-related and in other words will be long-standing? In other words, are we getting less service at the moment because of temporary problems, teething problems for want of a better term?

**MR PEGLER:** I think we are getting more outages because we're getting more people connected. I think the service is starting to get loaded up a little bit and we're seeing more problems. It could also be that we're coming to the summer months and the Sky Muster satellite utilises a frequency they've never trialled in Australia before.

In North America it averages 10 days a year outage because of atmospheric moisture. When the - and I think that a lot of it as we come into the summer months - and we've been very, very fortunate this year. We've had quite a bit of moisture around in western areas, in some western areas. In the drought years it probably would have been a lot more effective, but we need a service for every year.

**MR LINDWALL:** Have you - and could you say that some of these are due to the retail service provider, or is it - - -

**MR PEGLER:** I don't have the skill to say that. However, it doesn't appear to matter which retail service provider you're on. Everyone seems to have problem with outages. There's very, very few people that know. But some footprints are a lot worse than others.

**MR LINDWALL:** Okay.

**MR PEGLER:** Anyone connected to the Ceduna Earth Station and the - there's 101 spot beams, and there's an average of about 15 spot beams to an earth station, but those spot beams will be scattered all over Australia. Anyone connected to the Ceduna Earth Station has probably seen a lot more downtime since the installation than anyone else.

**MR LINDWALL:** In speaking about the retailers, and I understand there's about 12 retailers that offer NBN - - -

**MR PEGLER:** I think there's not quite that many anymore.

**MR LINDWALL:** Okay. All right. Well, let's talk about the retailers that may be there in general, rather than specifically. Are they providing the types of information - you've said that it's hard to get through. Well, that's not very good. Are they providing - before you sign up, do you get good information about the services that might be available, and the packages that are available, and the speeds that you might reasonably expect?

**MR PEGLER:** You get a lot of promises from retail service providers, and this has always been an issue. I run a business where I - I sell water infrastructure, pumps and water gear. If I made the sort of promises for my product that retail service providers have been allowed to make and not been held accountable for, I think I would have been - well, I certainly wouldn't be in business. I think the only thing that sticks to them is that they're all probably making the same sort of promises.

And everyone in the industry seems to be able to assume that they can make promises they know they cannot deliver, and it's fine, it's the industry. NBN do the same. They talk about 25 meg speed for Sky Muster. Gavin Williams, the head of the NBN satellite service, told the 2015 Broadband For The Bush conference in Darwin they expected real time output speeds of about half that.

Now, if you expect the speed of half that, why are you touting it as a 25 meg service? And I've yet to see anyone at any hour of the day get a 25 meg download speed from Sky Muster. It's - when I talk to other people that are technically a lot more savvy than me in the industry, they say, "Look, you only ever expect 70 per cent of the claimed speed at best," but if it's only going to be 70 per cent at best, that's a bit like me selling - going to buy a Prime Mover, and I want a road train rated Prime Mover that's got 600 horsepower and can pull three trailers, and I take it out of the dealership I find that, sorry, it's only got 300 horsepower and it's only legal to take one trailer, but that's sad, you paid for it.

Well, at the end of the day, you should be entitled to get what you're paying for.

**MR LINDWALL:** So what do you suggest? I mean, what are the alternatives to the satellite service? I mean, I've heard some positive stories about Sky Muster too, and if it's entirely negative we wouldn't want to go to the solution that it should be stopped altogether, I guess.

**MR PEGLER:** I think there's a few things. One is there's a lot of small communities throughout Queensland that have a very, very good ADSL service, copper wire service. They're getting their 22, 24 meg speeds. It's a good, reliable robust service. Some of these communities also are struggling because those services could do with a little bit more investment, a few more lines available, because some of the - or that sort of thing.

But in general it is, for a lot of these small communities, it is a very good service. Why not leave those people on those services? Why not maintain those services why they are a viable alternative? Why take a backwards step and go to satellite?

The other thing is I think that satellite limitations need to be recognised and there's a lot of glossy sell. We hear the Sky Muster referred to as a broadband service. If broadband definition is 25 megs and it's not delivering it, it's not a broadband service. We need to get the language right about what we're getting. We need to get the expectations right.

And having a system that if 1 in 80 is uploading or downloading at once it becomes congested, and the service will slow up, that in itself, we really need to look at the adequacy of these services and whether we really want to try and put 400,000 people on these services.

The people in rural and remote Australia have the greatest need for adequate internet and they also have the greatest need for a good telephone. To my mind, the data side is half the story. The other half the story is what is going to replace our ageing phone systems? What is the future planning for our phone systems? Voice telecommunication is absolutely critical. We have got 70 per cent of Australia with no mobile coverage. The 499 sites of the Mobile Black Spot Program increased the mobile footprint in Australia by less than 1 per cent. Now, when you look at that figure we have got a long, long and slow way to go to get the rest done.

We need to have a focus on probably more mobile coverage as part of the answer, but we also need to be looking at what we can do to modernise and build a robust phone service into the future that's not going to come out - have an outage if there's a cyclone coming so you can't talk to anyone or - - -

**MR LINDWALL:** I mean, some of the people that - you're right about ADSL, but a large number of the 400,000 premises that are in the satellite have never had ADSL at all.

**MR PEGLER:** Absolutely.

**MR LINDWALL:** So they are getting a service on broadband which they have never had in the past. Surely that's better than not having it?

**MR PEGLER:** The service is better while it works.

**MR LINDWALL:** But I still can't - no one's said a practical way of having the reach out to the remote areas other than satellite. What alternative is there?

**MR PEGLER:** I don't think - I'm not a technical person, but for data delivery I do not think we have much other than satellite. However, I do think that for our voice communications, there are solutions other than satellite. We've got them now. They've just been let get obsolete. There's been very, very little investment in - - -

**MR LINDWALL:** These are the HCRC for example - - -

**MR PEGLER:** Yes.

**MR LINDWALL:** - - - which I think is quite antiquated technology.

**MR PEGLER:** And there's 21,000 of them in Queensland.

**MR LINDWALL:** Is there? 21,000?

**MR PEGLER:** 25,000 in - well, there's 25,000 connections outside the copper wire network, predominantly HCRC, in Australia, of which 21,000 are in Queensland.

**MR LINDWALL:** I didn't know that. Yes. And how reliable have your members been, speaking of the HCRC, as well as copper? Because I mean, I give that example of my mother, who lives in a farm an hour's drive from Canberra, has no mobile coverage, has had her local - she relies entirely on her phone, and it's been out for more than a month on two occasions - three occasions, actually, each time.

So I haven't seen a system that's entirely reliable. And that's less reliable than the satellite here, in fact, if you look at two months out in 12.

**MR PEGLER:** Was that system more reliable in years past? Is it a lack of investment, lack of maintenance?

**MR LINDWALL:** I don't know. I mean, it's gone out at various times in the past. I mean, they've been in that farm since 1982 and I lived out there for a long periods, and there would be long periods where it's been out. So maybe our expectations are higher than they used to.

**MR PEGLER:** Now, I've lived with copper wire services and HCRC services. I've currently got an HCRC service. They've both been generally good services. The HCRC is probably not as reliable as it used to be because I don't believe Telstra have the proactive maintenance programs they used to have.

In years past, occasionally Telstra would ring you up and say, “There’s a fault on your phone, we’re coming out to service it,” and you’d say, “Hang on, I don’t think there is, I’m talking to you on it,” and they’d say, “Oh, yes, but it’s only giving 70 per cent output or whatever and it will degrade so we’ll go and fix it first.” That doesn’t happen anymore.

I think that those sort of technologies have fulfilled the needs of people in those areas very well. They’ve been a very robust, very reliable system. The problem we are having now is that we’ll get someone that does have a fault in the system, and they say, “Oh, we haven’t got any parts and there’s no parts made for them anymore, we’ll have to get something made,” or we’ll have to - “We’ve got to scrap another system to get parts to keep yours going.”

And the - and that in itself, we get occasionally people that are out for weeks. But in general, the existing HCRC system and the existing copper wire systems have been very, very robust. I think that the copper wire systems in a lot of areas probably haven’t seen the scale of investment to equally equate with the scale of demand, and I think that there’s areas where certainly more investment in those technologies would have made them a lot more - not - they would have probably fulfilled the expectation of the community a lot better.

But I think that comes back to an investment decision, and I don’t think - I think for quite some years the question of what’s going to happen with the future rural telecommunications has been put in the too hard basket and no-one’s been making any more than minimal expenditure on that sort of gear because they’re not sure what’s round the corner and they don’t want to waste money.

Well, at the end of the day, you’re not going to replace 21,000 HCRC systems overnight. You’re not going to replace a lot of ageing copper infrastructure overnight. It needs to be an ongoing long-term program of renewal and planning for the future.

**MR LINDWALL:** But not necessarily copper, because - - -

**MR PEGLER:** Not necessarily copper.

**MR LINDWALL:** - - - it might be fibre-optic.

**MR PEGLER:** It may be fibre-optic, it may - it may be a lot of other options. But it needs to be robust and reliable.

**MS MARTIN:** I think it’s absolutely critical that not all of our eggs should be in the one basket. Absolutely. There needs to be - to consider putting our voice communications over the same satellite as our data is fraught with peril and danger, because once one’s out it’s all out. I think that is absolutely critical, whatever decision is made, our eggs should not be in the same basket.

**MR LINDWALL:** But you're talking about a redundancy, about mobile, I guess. Because in practice, if you look at people who live in urban areas or towns which have fixed wireless, or they have fixed line services, they don't anymore have a straight-out voice service. They may or may not have mobile service. So some people who are in the area that are covered by fixed wireless, for example, have very good voice service through that, and may not have mobile coverage. Some do. But they've all lost their traditional copper line, because after a year of the NBN being rolled out into those areas the Telstra service drops out.

**MR PEGLER:** Those people will also be nowhere near as isolated from - - -

**MR LINDWALL:** Of course.

**MS MARTIN:** Can I just give an example? I had a backpacker who fell off the motorbike the other day and broke his collar bone. We're out a long way from anywhere. And if we - to have all your communication in one place, and should that service be done, which happens, we are in a lot of trouble.

**MR LINDWALL:** But wouldn't you also sensibly have a satellite phone in that circumstance for emergency use?

**MS MARTIN:** Not necessarily. That's - - -

**MR LINDWALL:** They did have - like, the sleeves on the mobile phone.

**MS MARTIN:** Huge, huge expense.

**MR LINDWALL:** Well, for an emergency purpose it might be worth it.

**MS MARTIN:** For emergency purposes. I just find, why should rural and remote people always have to spend more money on something else to be safe? The extra expense we already pay above and beyond for our limited data usage. Why should we have to have an emergency satellite phone because the government can't provide us with adequate services in the first place? I just think we're always getting the raw end of the deal.

**MR LINDWALL:** Because a lot of people in rural - yes, I agree, but a lot of people in remote areas are very self-reliant and they've been self-reliant by default since - - -

**MS MARTIN:** Well, we are very self-reliant and we continue to be self-reliant, but I don't think we should always have to - - -

**MR LINDWALL:** I agree. You want multiple redundancies, but on the other side, wouldn't it be a reasonable argument that government's got a fixed amount of money and it has to allocate it efficiently, and some solutions might be extremely - well, prohibitively costly.

**MS MARTIN:** I think the government needs to bear in mind how much a very small population is providing to the bottom line of this country and bear that in mind when they're making those decisions.

**MR LINDWALL:** Agreed, yes. Sorry, Andrew?

**MR PEGLER:** I was just going to make a point about your mobile satellite phones. I have them. I have them for a safety backup for my drivers. Excuse me. I've had - over the years I've had four different brands of mobile satellite phones. I think the only one I would have considered to be a reliable emergency use service was the original Iridium sat that lasted about 18 months and the service was turned off.

There's a lot of areas of Queensland where the satellite footprint area is not as strong as it should be.

**MR LINDWALL:** Strong, yes.

**MR PEGLER:** There's not the number of satellites for the low orbit satellites in action that there used to be. They haven't been replaced as the satellites have died. You get south of that road that runs from Wyndora to Burkeville, down that bottom end of Queensland towards the South Australian border, and see how long you wait to get a usable sat phone signal.

They are an emergency tool. If I have a driver broke down or whatever, I'm peace of mind to know he's got one. Don't count on using it straight away all the time.

**MR LINDWALL:** I guess what I'm saying is, though, is it's a tool, along with HF radio for that matter, which provides a backup in extreme circumstances.

**MR PEGLER:** They're a tool, and as duty of care that's something we have to consider. It's a bit like a spot dragger. I have a spot dragger - - -

**MR LINDWALL:** Yes, yes.

**MR PEGLER:** - - - as well, and if there's someone working by themselves or whatever. However, they are an emergency tool. They are not a day to day mode of communication.

**MR LINDWALL:** The - what else? Is there anything else that government could do to improve the satellite service beyond what the - I mean, they've launched a second satellite now.

**MR PEGLER:** The inquiries have highlighted that two satellites won't cope with the demand. I think that the - there either needs to be more satellites, more space leased on other satellites - potentially if the demand is too great for those satellites, tropical areas of Australia may be better serviced by other satellites that are running at a frequency that's not going to be nearly as affected by moisture.

**MR LINDWALL:** Do you know anyone who's using the USO satellite that's provided by Telstra?

**MR PEGLER:** Mother used to have a USO satellite. Certainly better than trying to use VOIP over a Sky Muster service.

**MR LINDWALL:** Because it's actually - - -

**MR PEGLER:** I have VOIP on my Sky Muster service as an emergency backup. It's got to be an emergency. It's - yes, it works, but that's the best you can say for it. It's a pretty ordinary service. It's - the - Telstra's USO sat, if you have no alternative or if there's something down for a certain period of time and they provide some sort of service as an interim, it's probably something that can be used as a Band-Aid measure. I do not believe it's a suitable service to be considered as a voice communication for large areas, long-term.

**MR LINDWALL:** So where should the - now, going back to the original premise of this inquiry, which is about the USO, which is about fixed line to the home premises, voice only, and I think you'll agree that data's, as you said in your submission - - -

**MR PEGLER:** I think data is extremely important.

**MR LINDWALL:** - - - extremely important. HCRC doesn't give you data, as far as I understand.

**MR PEGLER:** HCRC was never designed as a data service.

**MR LINDWALL:** So where else should the government be looking apart from - well, of course there's always the scope to extend the fixed wireless at the margin, which would take some of the load off the satellite.

**MR PEGLER:** Fixed wireless, because it's such short range from the tower, is probably going to be an option that will take some load off, but I think they need to look at other wireless technologies other than fixed wireless to take load off satellite.

I think that the - for instance, the 4GX networks, where they are, appear to be a very, very good service. Potentially that sort of thing could be something that could be considered as an option and really expanded in the rollout. 4GX, from my experience, is one of the best things to happen to the bush, as far as data, that I can remember.

**MR LINDWALL:** I also urge you, if you like - because one thing that came out from yesterday's hearings seemed quite clear to me, anyway, and we're not talking about here remote areas where there are individual families which are highly remote, but talking about small communities, hamlets, if you like. They've had some leadership where they have been able to build some towers - I think it was the Optus, David Epstein might have said this yesterday - at much lower price than the NBN wireless satellite and - fixed

wireless, sorry. And in that hamlet being able to bring pretty much broadband at - quite reliable broadband at much lower price, and they've been able to, as a community, work together and get that type of service built.

**MR PEGLER:** I think that's a great initiative in some areas, but you need the backhaul capability, and so many of these areas we need the investment in the backhaul capability before that can proceed. They also need to look at spectrum price. The cost for the licencing for these cheaper alternatives, when you're only covering a small number of people, that's a major inhibitor.

**MR LINDWALL:** Well, the Vodafone representative yesterday said that - well, he made the point that spectrum is highly intensely used in cities, less intensely used in regional areas, and hardly used at all in remote areas, and they were quite happy, because they had Australia-wide spectrum, to sub-let it at quite a low price to - for that type of purpose.

**MR PEGLER:** Hopefully we'll see more of that. I know that Vodafone, Optus and Telstra all express a willingness to share resources, co-locate, et cetera.

**MR LINDWALL:** Yes.

**MR PEGLER:** The head of the regulatory side of Telstra told me - told a meeting that I was at that they'd had, I think, 3,700 approximate applications for sharing of Telstra resources and over 3,600 had been approved by Telstra.

So certainly there seems to be a willingness there in the industry, and I think that the industry probably understand the problem better than, in a lot of ways, the government does. I think that the biggest problem is lack of future planning over the last few years, and the lack of an ongoing - everyone's looked at the NBN to be the saviour. NBN is probably great in a lot of areas, but NBN on its own is not the saviour.

**MR LINDWALL:** It has to be supplemented by more targeted solutions.

**MR PEGLER:** There has to be other programs running in conjunction with NBN.

**MR LINDWALL:** Okay. Any final points you'd like to make, Andrew or Louise?

**MR PEGLER:** The only point I would make is that I think that there needs to be some form of tidy up in the relationship between NBN and the RSPs from the consumer's end. At the moment it's very easy for NBN to say, "Oh, the RSPs are letting the side down." The RSPs say the NBN system is not working, it's not robust.

It's too easy for buck passing. I think that the NBN's name is on the scheme, on the program. I think NBN need to take ownership of that. I'm not saying they need to own the RSPs, but I believe they need the fault reporting, that side of it. I believe NBN need to be a lot more visible in that space, a lot more across what's happening, and a lot less blaming each other.

**MR LINDWALL:** So a bit more like, you would say, if you were to use an analogy that was used the other day, the car manufacturers, Ford, Holden or whatever, are the wholesaler and then your dealers are your retailer, that type of relationship would be better than what you see at the moment?

**MR PEGLER:** I'm not sure exactly how the relationship needs to be. However, I do think that with the fault reporting and the customer interaction there should be a focal point that - and I believe it needs to be NBN focal point, because at the end of the day it's the NBN name that's on this. That's the NBN service that needs to be delivered to the customer at a suitable and reliable means.

I think that there needs to be more of a presence there. NBN are a wholesaler, I can understand that, but at the end of the day it's their product that's being sold, it's their product that needs to be delivered in a way that's reliable, that's usable, and it's in everyone's interests not to have everyone thinking that NBN are peddling something that's rubbish. And if it's not NBN's fault that it's rubbish then NBN need to be there to be seen to be taking some sort of proactive measure to make sure that if their RSPs aren't doing the investment to - and they're choking the system because their backhaul or whatever is not up to speed, then NBN need to be saying, "Sorry, if you're selling our product you need to be making investment."

**MR LINDWALL:** Well, thank you very much then, Andrew and Louise. Now, I believe we now have Rod Harris from Telebiz. Good morning. Paul.

**MR HARRIS:** Paul, good morning.

**MR LINDWALL:** If you'd just say your name and talk about your business and give a bit of an introduction, that would be perfect, and then we'll just follow like that with the informal questions.

**MR HARRIS:** Okay. Good morning, everybody. Sound test okay?

**MR LINDWALL:** It doesn't amplify, it only just records.

**MR HARRIS:** Okay. My name's Rod Harris. I'm the managing director of company called Telebiz. I have over 30 years' experience in telecommunications, predominantly providing retail solutions. I've had branch offices from Brisbane through to Darwin, and over the years I've been a Telstra dealer, an Optus dealer, a Vodafone dealer.

We deal a lot these days with migrating businesses onto the NBN. We could deal with consumers, but we're busy enough with the businesses, but we understand some of the issues there, and we're also a regional market leader for satellite phones and satellite communications.

So the purpose of me being here this morning is there's just been a few ongoing issues, and I thought, well, I could come along and help contribute to the review of the USO for telco. I have presented a document to the Commissioner.

**MR LINDWALL:** Thank you, yes.

**MR HARRIS:** Which I presume you've got a copy there?

**MR LINDWALL:** Yes, I do.

**MR HARRIS:** Yes? I can go to some of those issues, or - - -

**MR LINDWALL:** Please, for the - it's quite good for everyone here to hear, yes.

**MR HARRIS:** Okay, okay. What I've done - well, I've only had a couple of days' notice, so I've just gone through some of the issues, but I concede there's many, many more. So I'm happy to take questions, even in reference to some of those satellite conversations with the previous presenter.

My overall view in terms of operating with Universal Service Obligations are that I believe it's crucial that the Australia Federal Government has total control of reviewing, managing, governing the telecommunications USO in Australia. My second point there is I believe it's crucial the TIO remains in place with powers to issue orders, and I am sure the TIO works closely with the Productivity Commissioner, as with the ACCC. And my third point, out of three, is that I believe it's crucial NBN Co remains 100 per cent owned by the Australian Federal Government.

Okay. Now, here are just a selection of some of the issues. I've highlighted an issue, an effect, and a suggestion, and I've got one, two, three, four, five.

The first issue I have is to do with NBN migration rules, and that is the inadvertent - the issue with inadvertent disconnection of telco service numbers under NBN migration rules. So the way it stands at the moment, when the NBN rolls out into an area you have a person in that area with telephone numbers has 18 months to migrate those services to be NBN compatible. If they're not migrated by the 18th month, they are disconnected, and when they are disconnected it is extremely difficult to get them reconnected.

Sometimes if we're lucky we might well get them put on a diversion to a temporary number, if we're very, very lucky. In some instances it's taken as - we had a recent one where a legal firm had their three main numbers disconnected. Collectively, three of the senior people in my office, it took us 80 hours to get one number reconnected. That was a huge cost to us. The other number, we are now, over six months down the track, we think we can get it connected by, believe it or not, adding it to someone else's account and then transferring it back to the customer. That's how ridiculous it is. And the third number, we've just given up.

This particular law firm, I know for a fact he has lost at least \$50,000 off his bottom line, and I think - and that was several months ago. It's probably close to \$100,000.

We have people contacting our office weekly. In one day we had three business owners in my office at our boardroom table in tears. They had lost their phone numbers, they didn't know how to get them back. Now, you might notice I said the word up-front, "inadvertent disconnection of telco services". It's not just a matter of the services being disconnected after 18 months, it's a case of Telstra wholesale or whoever the powers that be, NBN, whoever's involved, we find often phone numbers are disconnected prematurely, and other people - other businesses in particular might have bought another business that's had a phone number on diversion from a particular exchange for years and they haven't realised that, and those numbers have been disconnected, in an area that might be outside of where the end user is actually located.

So that's the issue. Inadvertent disconnections of telco service numbers under NBN migration rules, and the effect is that it's very difficult to reconnect and very, very expensive and costly and frustrating for the end user, and it places a lot of pressure on the retail service providers like my company.

I know my Cairns office is probably over \$100,000 net profit off the bottom line from the last 12 months just trying to reconnect customers who have been inadvertently disconnected. My suggestion, under - and this is what I like to see happen under the Universal Service Obligation, is that all customers who have lost their service number because of an inadvertent disconnection should be able to apply to a central government department that could be managed by ACMA, Australian Communications Media Authority. They should be able to apply to the central government and have their phone number reconnected within seven days with a telco service provider of their choice, and pay a maximum of \$300 plus GST to cover the administration fee of the department that's managing it.

Now, from my experience over the years, I don't think that's too difficult. When numbers are disconnected, there seems to be a grey area as to where they go, whether they go back into the reservoir of the carrier that the number was allocated to, or it goes back into quarantine with ACMA. I'm not quite too sure yet, different stories.

But that needs to be addressed, and urgently. Any questions on that?

**MR LINDWALL:** What happens where - well, I understand that in a lot of cases where the NBN has been rolled out and that people have been disconnected - well, firstly I've heard that the NBN goes out of its way to advertise that it's coming and you've got 18 months. Well, I mean, they would say that, I suppose, but - and then secondly, don't the copper lines often get removed entirely? So how do you reconnect then, when it's just an NBN service there?

**MR HARRIS:** Yes, okay, well, two replies to that one. First one, NBN's doing a lousy job of letting people know what's going on, and I might come back to that, in the following issue, so we'll put a hold on that one. The second one, a lot of these numbers -

well, these numbers that are being disconnected are PSTN numbers, and when an area is being rolled out with NBN you cannot apply to have a PSTN number connected.

So if their PSTN number is disconnected, the carrier, Telstra, Optus, whoever, they simply cannot reconnect it as a PSTN number. Now, in the case of the law firm, for instance, eventually we managed to work our way up through the hierarchy of a little tiny back room in Optus, and they said that, look, we can reconnect it as a basic, as a VOIP number, but the customer had to sign up to another two year NBN plan which he didn't need. He already had two NBN services. But for \$220 a month of whatever it was, it was a good idea to get the number put on, which I guess solved his problem to a certain extent, but having to pay those extra fees is ridiculous.

**MR LINDWALL:** Okay. Yes, please.

**MR HARRIS:** The USO, regarding the inability to reconnect the PSTN number, I think that should be reviewed.

**MR LINDWALL:** I thought you could, when you sign up with the NBN - well, I've signed up with the NBN. I've got fibre to the node at my place, and talk about reliability of that, that's another issue, but I had an option of taking the service as what I would call a naked service, without a dedicated - it's not voice - it is VOIP in a way, but it's a more dedicated deal with its own phone number which people could use. That would cost me a little bit extra, or I could say no, I didn't want that, and in my sense I didn't need it so I relied on a mobile phone, as we have down there. So that was sufficient, and so I could use VOIP on the NBN service if I wanted to anyway, so isn't that what it is? So you do have an option if you want to, through an RSP, subscribe to a service such as that?

**MR HARRIS:** Well, you can. What we've got to remember is PSTN is basically an analogue line.

**MR LINDWALL:** Yes.

**MR HARRIS:** The world is going digital. It's a bit like back in the days of old mobile phones, the first Motorola bricks, they were an analogue signalling device, and of course you couldn't do much with it. You couldn't access the internet, send photos, messages. I don't even think you could text, from memory. I should know, but I can't remember. So  
- - -

**MR LINDWALL:** I don't think so either.

**MR HARRIS:** That was part of the reason for going to digital, and for those of us that are old enough, you might recall that transition period when we went from analogue to CDMA to GSM to where we are today, and there was a lot of teething problems.

So unfortunately when you migrate the masses across to new technology, there are issues, but I think a lot of the issues that we're experiencing today across the board could be handled a lot better.

**MR LINDWALL:** Yes, thanks. Good point. All right, shall we go on to your second issue?

**MR HARRIS:** Okay. Issue number two, anyone can sell NBN plans without any prior training or qualifications. That's the issue. To highlight that, my company, we're a bit different than other, I guess, retail providers. We are a regional service provider, so we actually buy air time off the hierarchy of NBN layer 3 and other voice and data suppliers, and then we bill our customers, so the customers are actually getting a phone bill from us. They pay us, and we pay our upstream providers.

But being an independent means that we are dealing with many, many different types of upstream providers. Telstra, Optus, Vocus, TPG, iiNet, and the list goes on.

**MR LINDWALL:** 140 or something, I think.

**MR HARRIS:** Look, there's a lot of them, and I mean, as an example, my business can offer over 100 different types of NBN plans just for business alone. So consequently we are touching those upline providers every day. We are talking to them every day, and across the board, across the board, the amount of knowledge that those people have, whether that be in the sales, service, even the contractors that install the NBN services, but today let's walk on the sales and service side, they are so devoid of essential information, it is absolutely appalling.

NBN has no knowledge centre. People in our industry can't tap into any learning. But I just want to go back to the fact that the people that are selling it - so what happens? The issue is that people don't know what they need to know to sell the products, and the effect of that is customers are being sold the wrong plans, that customers are being given wrong information, that customers are not given the right expectations, and it is creating a huge amount of angst, and it is costing businesses a lot of money.

If I had to put a figure on what it's - if I had to average it out on what we've come across in the - Cairns and across the Tablelands, I would say for every business that's migrating onto the NBN it's probably costing them \$5,000 to \$10,000 net in bundles. Bundles from NBN actually providing the service, because people through the whole channels don't know what they're doing, and then we have customers that have been sold the wrong - and I'm referring more to business - been sold the wrong solutions, and it's costing them like, for a small business, over \$10,000.

We are - my company is pulling out other NBN service providers' solutions on a weekly basis. So that's the effect. Not good. My suggestion for that is there needs to be a mandatory accreditation program for everyone wishing to market, sell or service NBN solutions.

It needs to be managed by either a government department or maybe NBN Co, and - -

-

**MR LINDWALL:** Surely it's more an NBN Co, in this, than a government department?

**MR HARRIS:** Well - - -

**MR LINDWALL:** Do we really want more government regulation in this space?

**MR HARRIS:** Well, what I'd like to see is I would like to see everyone that's involved in selling and servicing NBN to have studied and passed some exams. Doesn't need to be hard. It's not that hard to learn about it, when you have all the information in front of you. Have a registration ID.

The NBN is changing almost on a weekly basis. Those people with those IDs probably need to spend about an hour a week on a teleconference, probably with NBN. I'll tell you why NBN as opposed to their layer 3 provider. And to keep their registration ID current.

So if any member of the public or business is approached by an NBN sales person, the NBN sales person can say, "Here's my ID," and that person can go onto a website and look and see if their ID is current. It has to be current from week to week, because it is changing. The way the NBN is rolling out, it is changing week to week.

Now, we can't leave it to the layer 3 providers to provide that training, because quite frankly they don't know, and it is the people that are working within the layer 3 providers that have said to me, "Right" - we were Telstra, for instance. "We can't go along and admit that we don't know what the hell we're doing." And same with Optus and everybody else. But they say, "You, you're one of the very rare independents in Australia that touch everybody, so you can speak on behalf of all of us."

And I'll tell you how much the independent telcos are keeping that as a secret. There's an organisation called the Communications Alliance, which I presume you've heard of. When I raised some of these issues with the Communications Alliance - and by the way, when you ring up the Department of Communications or NBN Co they say, "Well, have you reported it to the Communications Alliance?" and they go well, you know, "I've got to pay \$1,000 a year to belong to that and educate them, well, someone better start paying me."

Because when I ring up the Communications Alliance, they know nothing about the issues. So their own members are not telling them, because the Communications Alliance is made up of some pretty powerful representatives of each telco group. Well, they're not going to put their hand up in the front of all their peers and say, "Sorry, we haven't got a clue what you're talking about."

**MR LINDWALL:** Well, isn't the issue here that it's really an NBN problem? I mean, if a retailer is selling a bad NBN product, a wrong one, the NBN's get the bad reputation. It's a bit like the car manufacturer who has the shoddy dealer. So isn't there a strong incentive to the NBN to make sure its retailers are operating reasonably?

And perhaps what you really need is like Uber, where Uber has all these drivers, and you as a customer - you know, you use Uber and then you rate them from one to five, and if someone gets rated less than four a few times, then they get cut out of the system altogether.

**MR HARRIS:** Yes. Well, I agree with that. The - and I'm working on a separate report that's going to the Minister of Communications regarding NBN providing a knowledge centre, and the management of that. So first and foremost, I think that it should be an NBN responsibility.

At the moment they're throwing it back on the layer 3 providers, and that, for the sake of the audience here, goes NBN then layer 3 and then down to your service providers to your retailers to the customer. So NBN's saying, "Well, we give adequate information to the layer 3 providers like Telstra, Optus, Vocus, TPG, whatever, it's up to them to train their staff." But the reality is that I don't think the information's coming - the essential information's coming from the NBN.

So first and foremost, it should be managed by NBN, and there's a lot of ways that they could do things a lot better to not only provide that training to the industry people that are selling the service and the product, but - and then the public. That's another whole recommendation as well, that basically the public don't get anywhere near the information they require to make a decision on that.

**MR LINDWALL:** Could I ask, because I don't want to get too far overtime, but on that point, people sign up for various packages. They might have 12 megabits a second download and, you know, two upload, and then 20 and then 25 and then 50 and 100, usually, and they may be only finding, you know, 12 - they might get 100 megabit a second and only getting to 12 to 16.

Should retailers say that the minimum you'll get or the minimum I'll guarantee on average is X, and on average you should expect Y, or something like that?

**MR HARRIS:** Absolutely, absolutely. I can't believe it's gone on this long, that it hasn't. Every advertisement should mention the maximum speeds they're going to get for the pricing. I just can't believe. It's disgraceful. I mean, 12 over 1 NBN is basically half the speed of ADSL 2, but people don't know that.

**MR LINDWALL:** Okay. Well, could I suggest we move on, because I think - - -

**MR HARRIS:** Yes, okay, all right.

**MR LINDWALL:** - - - I hear you on that, so - - -

**MR HARRIS:** Okay. The - issue number 3, NBN commence billing the day - at present, the NBN commences billing a service on the day that it goes live as far as they're concerned. The issue with that is that it often takes days and weeks for the end user to either rectify the NBN faults, because their installations more often don't work than work,

and it can often take days or weeks for the end user for - particularly in the case of a business, for their IT&T techs to configure the services on the NBN.

So my suggestion there is that the NBN, once a service goes live, they should not commence charging until 30 days after that date. Straightforward.

**MR LINDWALL:** Okay.

**MR HARRIS:** Issue number 4, the end user of NBN who moves addresses is heavily penalised for breaking an agreement. Now, previously if you were with - had normal ADSL or phone lines with a carrier, whether it be Telstra, Optus, whatever, and you moved address, that carrier would often make it a little bit easier if you were having new services at another address.

However, because NBN owns the network, there's no facility there, or seems to be no facility, where there's a flat rate if a person - if they have to move, what flat rate can they pay to get out of the program? Now, we've had customers that had to pay the full 24 months they've signed up on. We've had some customers - I can tell you at the wholesale level, it's down below a couple of hundred dollars for us to break contracts. There's no set amount there.

**MR LINDWALL:** Whereas if you had a contract with the electricity and you had to leave early, you wouldn't pay the full two years or whatever you'd signed up?

**MR HARRIS:** No. No. And sometimes when they're moving, they're moving to an area whereby there's no NBN available, so there should be a set rate, an industry set rate. Issue number 4 - sorry, it was number 4, wasn't it? Issue number 5.

**MR LINDWALL:** Yes. Yes, 5.

**MR HARRIS:** We're jumping onto the mobile phone network here. Inability for all mobile phone users to access coverage of government-funded mobile phone towers. Now, the effect there is you're forcing taxpayers to contribute towards the profiteering of non-aligned telco service providers with no benefit to the non-aligned mobile phone end user, or EU, who as a taxpayer is paying for the other provider's transmitter.

So what I'm suggesting is the government funded mobile phone towers should provide either (a) equal access to all mobile phone users, irrespective of whatever carrier they are aligned to - - -

**MR LINDWALL:** Which would be called full roaming, as far as I know.

**MR HARRIS:** Correct. Or (b) offer equal access to all mobile phone users, but with a price loading upon non-aligned end users. Thank you. That's my - - -

**MR LINDWALL:** That's very helpful, and I understand that, and if you listen to - if you read some of the transcripts when they get up from yesterday and the day before in

Sydney you'll see divergent views on that from obviously Telstra versus Vodafone in particular.

Telstra would argue that - and I'm not arguing it, I'm just telling you what they argue, that if you have full roaming that would reduce the incentive for them to expand their network further. Vodafone say that having full roaming would benefit consumers and it wouldn't reduce the rollout of the mobile phone network under the Black Spot Program. That's - as you see, you get both claims, yes.

**MR HARRIS:** I have an opinion on that, yes. I do have an opinion on that, and if a company like Telstra is going to invest a lot of money for a large rollout, well, I can understand why they're upset at being forced to allow other users onto it. However, if you give the non-aligned users the opportunity to tap into - for instance, an Optus or Vodafone customer to tap into a Telstra tower, I think that should be available. However, they do need to pay a premium to use that service.

**MR LINDWALL:** Okay, that's good.

**MR HARRIS:** And that premium should go back to the tower operator. And that will solve the problem. I don't know why they haven't figured that one out before.

**MR LINDWALL:** Yes. Now, could I - maybe you could - who knows. Could I ask you, Rod, while I've got you here, and before we go to morning tea - - -

**MR HARRIS:** Yes.

**MR LINDWALL:** - - - about the NBN's service on the satellite, the Sky Muster, which we've heard of earlier and I've heard a lot about - - -

**MR HARRIS:** Yes.

**MR LINDWALL:** - - - about its reliability, what can be done to improve it? Do you think that the issues, as you're in this industry, are temporary in nature, or are they long-standing?

**MR HARRIS:** Well, for interest, listen to the previous speaker. The bottom line is that there's no alternative other than go to satellite if we want to have excellent data services. We are halfway through a transition. The second satellite's gone up there. I'm hoping that with the deployment of the second satellite, which takes several months to position them in orbit, I'm hoping that will improve the amount of gig allowance that customers can have. They really need to have up to a terabyte, 1,000 gig per end user, because that's what students can use in a month. At the moment I think it's 180, which is ridiculous, and half of that's night-time daytime, at night-time, off peak.

In terms of the reliability, yes, look, satellite is susceptible to weather conditions. There are - Iridium is just launching a new network at the moment. I think the first satellite went up a couple of weeks ago. They're putting 70 new satellites into space. It's

going to come into effect late this year, probably early 2018. I'm hoping that someone in our government is talking to them about redundancy, because they are low-earth orbiting and are - being new technology, I think that could be a very good redundant opportunity for our Australian Sky Muster system.

**MR LINDWALL:** For voice services, that would be, I guess?

**MR HARRIS:** Yes, for voice services and data.

**MR LINDWALL:** Yes.

**MR HARRIS:** But the reality is, is that the PS10 has to go, which is currently what people use out bush. I think at the moment they can still retain a PS10 with their satellite, but ultimately it's going to go because it's so limiting. It's an analogue signal.

So we need to get the satellite right, and I got back to the one of the issues I was saying there before, the people supplying it and selling it and servicing it are not - I don't think they even - they understand, so they're not giving the customers the right expectations.

And I do concur that the ability to get support on their phone lines is shocking. Same boat. We are ringing them up, leave a message, never hear back from them. So there should be some changes in their mandatory service obligations. Yes, so I think with the satellite it's - we're in a transition period, and it's going to be nice to see what the second Sky Muster satellite will do for us.

**MR LINDWALL:** And - - -

**MR HARRIS:** And sorry, one other thing, Commissioner.

**MR LINDWALL:** Yes?

**MR HARRIS:** There are a lot of alternatives to hand-held satellite technology now, and I'll just cite one example. We have satellite phones now for under \$1,000 and they're a \$15 a month plan with a mobile phone number. They are very, very cheap to use, and the coverage is excellent for far north Queensland, Northern Territory and WA. So in terms of having a hand-held satellite phone for redundancy, very, very popular and you can get the sat sleeve, so you can get the data.

There's a lot of cheaper alternatives coming out for redundancy on the land for - for terrestrial redundancy.

**MR LINDWALL:** What's your experience in using the NBN satellite in terms of latency? I understand that if you call someone on a mobile phone or you call someone on a fixed line then the latency is not really detectable.

**MR HARRIS:** Yes.

**MR LINDWALL:** It's only when you're calling to another satellite service that it's noticeable.

**MR HARRIS:** Even though we're a regional service provider for a wide field of telecommunications, we actually stayed out of the satellite one, for two reasons. One, there's not one cent profit in it for us. But we do communicate with the people that are installing it and the end users.

Our understanding is the latency is not too bad, but we are - I'm referring to our business customers, and of course they are having outages. There was a big one out at Cape Tribulation about a week or so ago, and they were off air for several days.

So yes, I'm probably not the best person to ask about that, but I have heard the latency's fairly good. Fairly good. We expected it to be worse than what it is, but it's fairly good.

**MR LINDWALL:** Would you say that if you had an NBN - because obviously redundancy is the important thing, that - - -

**MR HARRIS:** Yes.

**MR LINDWALL:** - - - no service is ever 100 per cent guaranteed, but if you have multiple redundancy you increase the likelihood you'll get some service.

**MR HARRIS:** Yes.

**MR LINDWALL:** That having the low earth satellite solution such as Iridium - - -

**MR HARRIS:** Yes.

**MR LINDWALL:** - - - plus the NBN satellite would give you a pretty reliable service?

**MR HARRIS:** I think it probably would. We find with our general satellite comms, they tend to work very well these days in adverse weather, and we've done our own trials in storms and things like that, and we've been quite surprised. But then you can have a beautiful clear day without a cloud in the sky, don't know what's going on up there in the ionosphere, we might get a little bit of a problem with signalling.

I go back to that - with the Sky Muster, with the latency. It is our opinion to date that customers should be able to port their PSTN phone to VOIP and it will work okay on the Sky Muster system. I think we've just got to make sure that the Sky Muster system is operating perfectly well.

Now, we haven't put one of our VOIP lines on it yet. We're about to trial that for some businesses, and it'll be an interesting exercise.

**MR LINDWALL:** One final question, and then we'll have morning tea, and I'll give you an opportunity if you've got any final comments. Yesterday we had a presentation by Mr Ben Livson of BAL Consulting Pty Ltd, who was speaking of a solution that involves tethered balloons, and he said that about 200 of them could cover the 100 per cent geographic area of Australia and they'd be about \$2.5 million each, and I said - you can look at the record later on, but it was that - it sounded a fascinating technology, and I like technology, but I'm a natural sceptic when it comes to claims like that. Have you heard of these types of technology?

**MR HARRIS:** I have. I've seen articles about it and I think, look, I think in theory it sounds pretty good actually. It could be an economical way of doing it, but I don't know, you'd have to have solar panels on top of the balloons, I suppose, and a link to the ground. You've got weather conditions.

**MR LINDWALL:** Yes, he did say that they would have solar panels.

**MR HARRIS:** I don't know if that would be viable for our part of the world with our various climate, but you've got to keep looking at all these opportunities.

**MR LINDWALL:** Yes, yes.

**MR HARRIS:** And options - I know for instance like - if you're looking at mobile phone coverage, the price for a mobile phone tower, well, you know, we're talking a lot of money. I think, you know, they seem to vary between \$500,000 to \$5 million depending where it's located, so it's not cheap to put it up there, but if you've already got a satellite up there, and then supposedly it's got good coverage, well, it's probably the easier way to go about it.

**MR LINDWALL:** Now, Rod, did you have any final points you'd like to make?

**MR HARRIS:** No, but I'm happy to take questions if anybody wants to talk to me afterwards.

**MR LINDWALL:** Yes, well, if you wish to.

**MR HARRIS:** I've got plenty of issues I could have brought up, but I thought I'd just stick to these few.

**MR LINDWALL:** Okay. Well, if you want to put any more submissions in, that's - you're most welcome to. Let's have morning tea, thank you, and we can have a chat there over that, off the record, obviously.

**MR HARRIS:** Thank you.

**MR LINDWALL:** Thank you. So we'll - until what, just after 11 I think we can - - -

**ADJOURNED**

**[10.40 am]**

**RESUMED**

**[11.02 am]**

**MR LINDWALL:** Philip, if you just say your name and organisation and give a bit of a presentation today, that would be perfect.

**MR DUTCHAK:** Okay. All right, thank you for your time. I'm Philip Dutchak. I'm the managing director of Cape York Digital Network Pty Ltd. It's an Indigenous ICT company registered under the ACNC Charity Register operating as not-for-profit.

CYDN started in 1999 under the Regional Telecommunication Infrastructure Fund (*error in recording*) networking the nation. CYDN in ICT terms built and then networked and then supported 16 internet tenderers in Cape York communities for our operations centre in Cairns. So we're an Indigenous company working in remote Australia, yes?

We provided community people with reliable internet connection or IP for video conferencing, thin client or Citrix, web browsing, emails, and, particular to this forum, each of the centres were affected with Wi-Fi for the community. That is remoting from an external antenna broadcasting into the community.

Each centre had computers that were networked and supported remotely with virus protection web filtering. CYDN employed a full-time community person to be the respective centre's managers, who could assist or show people how to use the system, so there is employment and training was an aspect of the roles.

We supported the centres with CYDN technical staff in Cairns. (*error in recording*) in Cairns. Worked to make the centres and their ICT systems secure and as a place where people like to come to, and CYDN's goal - we started in 1999 - was to be sustainable and - as a business, and we're still here.

CYDN started as a unit under the Bulk And Cape York Development Corp. CYDN became (*error in recording*) in 2010 and we have made a number of submissions to the USO and other government bodies. That's the brief introduction.

**MR LINDWALL:** Okay, thank you. In some of our inquiries with the Broadband For The Bush Alliance, for example, they were saying that the programs that the Prime Minister and Cabinet's Department have for some Indigenous communities like the type you just mentioned, I think, are superior to the traditional payphone. Would you agree with that?

**MR DUTCHAK:** Yes. I mean, I've been doing this since 1998, always in remote comms. I mean, there are other people might know regional better, but I know remote

pretty well, and I know it across the country. And years ago, Telstra tried to get the government not to push payphones, back about eight or nine years ago, so yes.

But I mean, it varies. Indigenous communities, particularly in the Cape, are quite large, and they're on the coast. But in the Northern Territory and Western Australia some of them can be terribly isolated, and in some cases payphones are actually the only means of communications, so there is a community in Utopia in the centre of the Northern Territory near Tennant Creek. It's Campbell Camp, it's got three people. They have a payphone. You wouldn't have anything, else, yes? It's the only thing that makes sense.

**MR LINDWALL:** Or you could have, perhaps, a Wi-Fi distribution point there, I suppose.

**MR DUTCHAK:** Yes.

**MR LINDWALL:** One of the questions we asked in our draft report was about the types of services provided to Indigenous communities, and whether it was better to have programs such as the ones PM&C Department have targeted directly to Indigenous communities in remote areas, or whether more generalised ones would be better, and do you have an opinion on that?

**MR DUTCHAK:** I would think remote Australians in general need specific attention.

**MR LINDWALL:** Okay.

**MR DUTCHAK:** I mean, sure, Indigenous - there's an awful lot of Indigenous people who don't live in remote Australia, but remote Australians in general. I mean, CYDN is a company, and sure, we concentrate on Indigenous people. Some of our clients have included, you know, government departments, mining companies, anyone who works in remote, yes?

**MR LINDWALL:** The USO, of course, is a premises-based system, and a lot of communities in remote areas may not stay in the one premises and they are more mobile, so how - what types of solutions are best for those communities?

**MR DUTCHAK:** Well, in the Cape - the situation in the Cape is that fibre came to the Cape quite early, and fibre in the Northern Territory came very late, so you have the introduction of mobile phones in the Cape York quite a long time ago, while mobile phones has only been introduced in the Northern Territory in the last two or three years, yes?

And so in the Cape - well, when we first started, we put computers in the centres, and that's what people wanted. Now it's smart phones. Now it's smart phones because they want to be mobile, because - I mean, I believe there's a line going out there, that data needs to be mobile, and Indigenous people are mobile, and a phone sort of suits them a great deal.

**MR LINDWALL:** Yes.

**MR DUTCHAK:** But it changes, yes? I mean, there are certain conditions - certain geographical conditions particular to remote Australians everywhere, yes?

**MR LINDWALL:** Yes. And in terms of using the mobile devices, it's all very well to have the towers, but are there - which provide the free Wi-Fi for example, and ACOSS have told us of - you know this - issues about what they call the poverty premium, where people have, you know, pay as you go type contracts rather - or pre-paid contracts rather than contracts which are post-paid, and the latter tend to be at lower cost. Is that something that's an issue for - - -

**MR DUTCHAK:** The issue really is the credit management. So I mean, years ago Telstra used to put stuff in for Indigenous people. For whatever reason, some of these Indigenous people did pay, some of these people didn't, and so then Telstra came up with the pre-paid. That got around the credit issue, yes?

And indeed, it's used by an awful lot of people and things like that. But you know, remote Australians in general, it's a tough life, yes? I mean, whether you're, as they would say, green, blue or brindle, yes?

**MR LINDWALL:** Yes. Yes, yes. And there's a bit of a sharing of the services, which means that I've heard of very large bills being run up. Maybe those are less problematic now with the types of contracts that are available?

**MR DUTCHAK:** Yes, there's a real problem, actually. When the telecommunication world sort of said that contracts, you know, agreed to over the phone became binding, that has created an awful lot of problems for - I'll use an example, because I know this - an elderly lady in Mosman gets talked to by a nice person who sort of says, "Do you want to buy this, that?" "Oh, this is very nice," and she buys it, and if you have an Indigenous person up in a community, someone gets on the phone and says, "I'm going to give you this." I mean, CYDN has had to step in a number of times when a service provider - and there's heaps of them - call up a number cold and they sort of say, "Well, listen, we're going to give you a mobile phone, it's all going to be free," and in some cases that carrier doesn't even provide a service in remote Australia. So it's an issue across the board.

**MR LINDWALL:** Yes, yes. So what's the best way of addressing that type of issue?

**MR DUTCHAK:** Well, I would think that the - there needs to be an awful lot more regulation going on, or an awful lot more safeguards, you know? An awful lot of people don't understand that after 24 hours - I mean, a contract is still un-valid after 24 hours, yes? So you can go in and cancel it.

**MR LINDWALL:** Yes.

**MR DUTCHAK:** But not many people know that. Now, that's part of what CYDN does, in trying to - - -

**MR LINDWALL:** Communicate the message - - -

**MR DUTCHAK:** And, you know, get that going for people. I have a couple of points I'd like to raise.

**MR LINDWALL:** Please, please, I - - -

**MR DUTCHAK:** Yes. The points I'd like to raise with the Commissioners are first - well, Commissioner.

**MR LINDWALL:** Paul.

**MR DUTCHAK:** Paul. Paul. Paul. In the Cape, there is optic fibre into a number of Cape York communities, and this is not necessarily unique to remote indigenous communities in Cape York. There is fibre into the communities in the Dampier Peninsula - that's north of Broome - and into the NT communities mostly in the Top End.

While many remote Indigenous communities, out stations, farms, isolated dwellings do use or will need satellite NBN, in regards to the USO the Productivity Commission's draft report has noted the technical limitations on satellite, so as a baseline USO, whatever that may be determined to be, the USO would be better delivered by the transport - using the telecommunications term - of optic fibre where available in remote communities.

I'm not too sure in terms of reading the report whether the Commission understands how much fibre there is out there, and how much fibre is actually being built.

**MR LINDWALL:** There's a lot more fibre out there than people realise.

**MR DUTCHAK:** Yes.

**MR LINDWALL:** There's a lot of what they call dark fibre that hasn't been properly accounted for, as far as I know, going to mining communities and crossing all sorts of locations for other purposes, which I won't name here, so yes, and there's never been a proper audit, as far as I can see. That may be a good idea, is to audit what's already there.

**MR DUTCHAK:** Because it's our understanding from reading the government - the government's made a policy decision if you're in remote Australia you're going to get satellite. And if there's fibre optic going into the community - and indeed, in a number of communities where the mobile base station is, it's being fed by fibre optic, that strikes me as almost double - a double use of government money, yes?

**MR LINDWALL:** Yes.

**MR DUTCHAK:** The second point I'd like to raise in regards to Wi-Fi, when CYDN deployed Wi-Fi out to the communities it was a valued add-on to our then core equipment

and services install and package we deployed for a community. This success was a pleasant surprise to CYDN. There was a number of reasons for this, but one of those was that we supported it. There was, if you like, a CYDN customer service guarantee to people who used it and some people who relied on it.

Our point is that if people get a USO they want, they should know what to expect from it in terms of service, and have someone to call if it isn't working.

Our last point is, finally, as the government moves increasingly to the delivery of its services - digital delivery of its services, this will ultimately be a cost saving to the government compared with government officials having to make site visits with charter flights, four wheel drives, accommodation, travel allowances out to remote communities, or, conversely, arranging and paying for remote Indigenous clients to come into government offices.

Now, these aren't insignificant costs. They're a lot of money. Our points are, the baseline USO should include that it is reliable and adequate for the government's digital services, whatever they may be. If people cannot connect, or have to connect multiple times to a service, the speed, the bandwidth, is really secondary to what is going on.

The costs for a new USO need to be measured against the total delivery of services, and not only to how much the USO is now or not costing. And finally, the content services from the government - and this is on the government's side, so content is king - need to keep improving in its digital access, ease of access, its websites and its digital services. So it's a two-way street.

**MR LINDWALL:** I agree absolutely on that. We spoke to the - I think it's changed its name now, but the Digital Transformation Office, and its objective ultimately was that all government websites, at least at the federal government level and ultimately state and territory and local government levels, would be optimised so that (a) they didn't use too much bandwidth, because as you know some websites use considerably more than they need to, and that they would be able to cope with satellite services fairly readily, so the latency wouldn't be an issue.

That's a very important thing, and you're quite right about the savings from government services being delivered digitally. They have to be reliable, as you say, and that, I understand, is the objective, but how far then down the track I'm not so sure at this stage.

**MR DUTCHAK:** I just - I mean, I've taken a long look - well, as much as I can, at the actual cost - how they've costed all this, you know? And I mean, everyone keeps talking about the cost of remote Australia. Well, yes, it is. It costs an awful lot. If it didn't, there'd be heaps of businesses, you know, in - doing all types of business and the bonanza would continue, but it's tough going.

And the - you know, the amount of money that people have to spend to go into the communities and out of communities, if it can be supplemented - never completely

abated, but supplemented by digital services, that means they're improving remote communities.

Now, I mean, CYDN is in line with the, you know, the National Farmers' Federation. I mean, I don't have meetings with them, but an awful lot of things that we're saying are really coming from regional and remote Australia, yes?

**MR LINDWALL:** Yes. No, absolutely. On the point about the use of optical fibre, of course, to the extent that that's more used than it currently is, that takes some of the pressure off the satellite service, obviously, so - - -

**MR DUTCHAK:** Yes, absolutely. I mean, my understanding is that when Telstra - and an awful lot of fibre in the cape is Telstra fibre, yes? My understanding is that Telstra reserved maybe some - I'm not particularly up on optical fibre, but I think they have 14 threads per cable, or something. But some of those threads have been reserved, nominally reserved, for NBN. Even though they're Telstra fibre. They would have to be leased by NBN, but they're still available.

And the point I'd like to make about Wi-Fi, when we provide Wi-Fi to the community, we're using Telstra backhaul, which is - at that stage it was ISPN, that's all we could get. But the point of the matter is that Wi-Fi can be mainly an access mechanism. So the access mechanism, that's fine. But it had to go into a reliable backhaul. And if you put Wi-Fi phones - which the PMC is doing, and it connects a satellite, and satellite itself is potentially flaky, yeah? So then what happens, you've got two things in line here. You've got the Wi-Fi, and the community would not - or may not know that Wi-Fi is working fine, but the satellite's incorrect, yes?

So we're suggesting that if you're going to provide the USO, that has to be provided on the best platform, or the most stable platform and reliable platform available. Now, some places are going to have satellite, that's it. I mean, there's no other way around it. But in places where there are other means, it should be used.

**MR LINDWALL:** Well, it's supposed to be technologically neutral and not creating a disincentive for new innovations that might provide better services.

**MR DUTCHAK:** We are particularly keen about mesh Wi-Fi, so that is meshing a community.

**MR LINDWALL:** Yes, yes.

**MR DUTCHAK:** So meshed Wi-Fi is where the actual carriage across the community is actually for free, and there are certain gateways when people need to punch out to the internet. Yes, so we're very keen for that.

**MR LINDWALL:** Are there any issues with the public Wi-Fi in terms of control of certain content?

**MR DUTCHAK:** Not that I'm aware of, but I do know there's a trial going on from the PMC in Arakuen, and that is - I've heard varying stories about that. There is a trial going in the Territory, and there are varying stories about that also, yes.

**MR LINDWALL:** And - - -

**MR DUTCHAK:** I think it's using Telstra - in Arakuen I think they're trying to use Telstra Air.

**MR LINDWALL:** Yes, okay, yes.

**MR DUTCHAK:** Yes.

**MR LINDWALL:** And what about any issues that you might be aware of with people in remote Indigenous communities in particular with mobile phones and keeping them charged? How - - -

**MR DUTCHAK:** Well, power is always a problem, but they - yes, look, if they want it they'll get it to work.

**MR LINDWALL:** So some of these Wi-Fi centres have, like, charging points, do they?

**MR DUTCHAK:** Ours do, yes.

**MR LINDWALL:** Okay.

**MR DUTCHAK:** Yes. I mean, ours do, but I mean, the - what the government is rolling out and they're trialling it, yes, I'm not too sure. They're running off of solar.

**MR LINDWALL:** Yes.

**MR DUTCHAK:** I do know Ben from BAL Consulting.

**MR LINDWALL:** Yes, yes, yes.

**MR DUTCHAK:** I do know him, yes.

**MR LINDWALL:** What else? Sorry, I'm just checking to see if there's anything I missed. Overall, though, obviously technology is changing over time. The services that are being provided are better than the past. Your experience with the satellite service provided by NBN, have you got any particular comments on it?

**MR DUTCHAK:** We don't use satellite. CYDN started out - I mean, when NBN was launched under the Labor Government, I went down to the initial launch of that, and the Chief Information Officer for BHP stood up as one of the keynote speakers, and he turned to the then-minister, and he said, "We don't use satellite unless we absolutely have to.

It's something of last resort. And we run fibre, and we'll sell it back to the community or where we're working."

In some cases, satellite's the only option, and the government should be congratulated for doing that. That's terrific. But if people - people in remote Australia - farmers, whoever - they use telecommunications a lot more than people in the city. They can't go down to the shop and pick it up. They have to use it for health, education, an awful lot of things, and there is an argument, our argument, would be that the best use of telecommunications is to the people who are most needy or to the people who need it most, and that - sure, Indigenous people, farmers, you know, station owners, remote education, health.

I mean, there's a real chance, you know, that the digital divide will get worse for Indigenous people, and you're moving - I mean, sure, things have gotten better, but the entire framework has moved. I mean, 20 years ago if you - or 20 or 30 years ago, if you introduced a technology, like ATM machines, five, 10 years it would take, or 15 years it would take before it was accepted in the community.

Now technology is moving so fast, and people can see other things happening in the big cities, they want it. You know, they want it here. There's - I mean, I'm not saying that every single service available in the city should be available in the country, but I'm saying that people in remote Australia or regional Australia basically need better than they're getting, and the fact that people - I keep reading articles of other people trying new systems away from what the government is offering and suggesting to me that there's a gap. There's still a gap.

**MR LINDWALL:** So you wouldn't be surprised, I guess, that - it surprises me to some extent, but it may not surprise you, that there were - when the NBN was first considered or broadband around generally, that is, that the estimates they made of usage were on the basis that, you know, people in remote areas had not had the internet and therefore their usage would, on average, be less than in the cities. That didn't seem credible to me, because if you haven't got it doesn't mean that you're not going to use it heavily once you do have it.

**MR DUTCHAK:** Correct. I mean, Indigenous people are quick adapters. They may not understand the technology, but they sure understand Facebook and Twitter and all those type of things, yes, I agree with that.

**MR LINDWALL:** Yes, okay. Philip, did you have any final comments before you go today?

**MR DUTCHAK:** Can I thank the Commission for the report? I thought it was very good. I thought it was very inclusive and - I mean, you know, I'm involved in my business, I've kept my head down, so I've learnt an awful lot of things, so thank you very much for that.

**MR LINDWALL:** Our pleasure.

**MR DUTCHAK:** Thank you for the time.

**MR LINDWALL:** Thank you. Well, now we may as well move to Graeme Bruhns, Errol Watson and Malcolm Haskard from Bruman Rigging and Recovery Pty Ltd. And after this we'll offer anyone else who wants to say something more or who wants to comment on previous presentations - anywhere. Just the two of you?

**MR BRUHNS:** Mal is going to be doing most of the talking.

**MR LINDWALL:** Well, if you can just say your names for the record and then give a bit of an introduction, that would be perfect.

**MR BRUHNS:** Right. Graeme Bruhns, managing director of Bruman Rigging. We actually fix most of this stuff, occasionally, so - well, we try to. We've been to Yaraka a few times recently. Very nice pub there. It's hospitable. But yes, we go into the Northern Territory and North Queensland and do a lot of the actual fixing of this stuff, and I'm just surprised there are not a few of my opposition here to try and find out more about exactly how this is going to work. And Mal's got - he's the technical side of the company, so he's got a few notes just on how the nuts and bolts of how this actually works.

**MR HASKARD:** Yes, Malcolm Haskard from Bruman Rigging and Recovery in Townsville. We came in a little bit late into this, but I've got a few things I'd like to speak on and perhaps introduce to a few people regarding a lot of different things, particularly with regard to the NBN USO. I've been involved in communications for approaching 45 years, and the last 20 years have been servicing what's referred to in the report as the other 3 per cent of the people.

That's what I've been doing for a long time with Telstra in all its different formats, starting in the PMG, and five years overseas on secondment as well.

Just - some of this might be a little bit disjointed, but we'll go for it. The previous gentleman commented on the fact that they seem to be going straight to the satellite when fibre's already there. I've been a bit concerned about that for some years now. For example, at Julia Creek there's spare dark fibres in the exchange there that could be utilised by NBN. NBN tells the people in town, "You're going to be satellite customers." What on Earth are they going to be satellite customers for? It's just ridiculous.

With regard to - - -

**MR LINDWALL:** I'll let you just go, and then I'll ask questions after, if that's all right.

**MR HASKARD:** Yes, no worries. With regard to the NBN satellite, originally they weren't designed for voice. So I don't know if everybody's aware of it, but we've got a couple of technologies called VOIP, which is voice over internet protocol, and another one a bit more recently called VOLTE, and not as in volts for electricity but voice over

LTE. LTE is generally referred to as 4G for the radio. It's been used by NBN for the local wireless, and it's quite good but the range is a little bit limited.

So that's a couple of terminologies. But they don't work all that well. If you have to use VOIP, with the noise, yes, that's right, I'm sorry, but when you were speaking I was having a hard time restraining myself from saying people would never use it. They don't know what they're on about, right?

It's not a primary form of voice communication for reliability, and I get a bit concerned when I think about School Of The Air, for example. The USO - I've done quite a few of those for Telstra. 20 solar panels, massively power hungry, and if they've got School Of The Air we'll give them another battery bank, each battery bank big enough to run your house, and we'll give them 24 panels to do School Of The Air. It works really well - pretty slow on data, but for voice, fantastic. Far away better than, from what I've seen, from the Sky Muster.

There's also the power to run the NBN satellite. I've only seen one Sky Muster installation and I'm hoping the guy was having a bad day, because it was extremely poor. I've never seen such a bad installation. Telstra's installation things were very good, perhaps sometimes considered a bit too high a standard by some people, but at any rate, the other thing is with these satellites, it was brought up in the report there, in the draft, about the life span of them. This thing doesn't go up there and stay up there forever and a day. They've got to be replaced. They've got a use by date.

Just going back probably eight years ago, one of Telstra's - we've got about - at that time, about 750 USO satellite customers, and the satellite was replaced, and I'm one of the crew who went round and physically repositioned the dish for those 750 people.

Now, you don't always have to do that, because the satellite can be moved in front and behind and all this sort of thing, but on this occasion it couldn't be done, and that's only 750. We're talking tens of thousands.

**MR LINDWALL:** And that was realigning the dish?

**MR HASKARD:** Yes. I mean, it's obviously totally ludicrous to suggest going to replace - I beg your pardon, to repoint them later on. Sorry, the term is repointing the satellite dish. So that's just one thing that doesn't seem to be being brought up very much.

Moving along, the USO sats on the cattle stations, under the old system if a cattle station had a USO sat at the main homestead and 100 kilometres away they've got another house, Telstra and the USO would say, "Sorry, you can't have it," so you had to go down and get the head ringer to apply for the phone and then he could have a USO sat phone down the other end of the property, right? I mean, that's the realistic implications, and that's how it was solved.

What else have we got there? The power. A bit like NBN in your house. Two AA batteries in there. When they run out and the power's off, too bad, unless you've paid extra for the larger battery installation.

**MR LINDWALL:** Yes.

**MR HASKARD:** All of the HCRC and the USO sats that I've done - almost all - have been solar powered, and it's the answer. The cattle stations provide their own power, and this is a large percentage of them. The solar power has solved your problem. There's no connection with the station, and it works, and if there's a problem it belongs to the carrier.

But the new NBN one, the power problem is yours. So you know, somebody's got to look after it, and it's all very well to say, "Well, the station generator is running, we'll get a UPS and we'll run it that way." Somebody's got to look after it. Somebody's got to pay for it. Somebody's got to tell the people that they've got to do it.

What else have we got here? I was interested to see that Andrew, I think it is, has retained his HCRC. I was told three years ago when I started enquiring about all these things that, "Well, once we get the satellite up for Sky Muster, you can turn your HCRC off." Sorry, HCRC is the same as a swing or DRCS, or digital radio concentrator system. The theory was you could turn it off so you didn't have to pay twice.

When I started bringing them up - you know, those NBN caravans and Telstra caravans, I stopped at every one and asked them. They don't have a clue. So at any rate - but the reality of it is most people are going to settle to keep their swing system going because they know it's reasonably reliable. Yes, it's getting a bit older, we're changing launchers in the grid pattern - sorry, the antennae and parts of them on an ongoing basis, but some of them have been in for a very long time.

You're right about the maintenance angle. There's less and less Telstra technicians. We've got our new breed of fly-in fly-out technicians who have been trained to some degree. It's not their fault. They need more experience and more training, some of them. The people who are still there from what I'd call the old school from Telstra are doing a really good job, and most of them are overworked.

Richmond, Hewenden, Julia Creek, Georgetown, all those people, Karumba, Normantown, those blokes out there, it's ridiculous what's going on, the amount of work they're doing and expected to do.

Mobile phone base stations, yes. Solar power ones have been tried. We've done two of them. Half of the solar panels that are installed at those are to run the air conditioning, because we've got so much, and made the base stations so small, the problem is they still get just as hot, so you've got to get rid of the hot air. There's another one just going in at Camooweal - sorry, between Mount Isa and Camooweal that we had a look at the other day, it's not one of ours, and it will be interesting to see how it goes, because there's a lot of spare towers between there and the three ways in the Northern Territory that could be utilised if it's a goer.

The ones that are in are okay, but there was a lot of work done on them. They couldn't be rolled out like that, it's too expensive, but the new ones - there's actually a base - the base station is in a cabinet on the ground instead of in a building, and when you open the door, the air conditioning unit is built into the door, and it's a 48 volt unit that's solar powered.

So they're there. They're being given a bit of a trial run, and hopefully - - -

**MR LINDWALL:** So they're a lot less expensive?

**MR HASKARD:** A lot cheaper. No building, and you're only air conditioning a thing the size of - call it two fridges.

**MR LINDWALL:** Yes.

**MR HASKARD:** So it's probably going to be a winner. But anyway, just another thing. There's all these things that are going on - sorry, just refer to my little list here. I know it's a little bit disjointed, but - that's probably most of it. But there was one very interesting reply to the draft submission by a fellow called Malcolm Moore.

**MR LINDWALL:** Yes.

**MR HASKARD:** When I read that, I thought, "This bloke knows what he's talking about," and I hope that you and the Commission will take on board what he said in there, because when I read it, I thought, "This is really good," and he's spent a lot of time getting that together. I mean, I know the gentleman, even though it appears we probably work for the same employers most of the time, but what he had to say in there I was very impressed with, and I'd like to think that some of it will get taken on board. But anything else you can think of?

**MR BRUHNS:** No, that's about it, I think.

**MR HASKARD:** Yes, well, if anybody's got anything like - to be installed - like - - -

**MR LINDWALL:** I might ask - sorry, please - - -

**MR HASKARD:** I might just elaborate a bit. With the HCRC, the swing and the USO, I have worked in different areas, like including going out on radio survey work to find out first of all where the place is and what sort of technology might work, how high do we have to make the tower, will it work at all. No? We've got to go to USO sat.

I've been involved with that, and then going and building whatever technology it is in all of those and maintaining them, and still maintaining them. But, you know, it's just there's a lot of things in that draft submission there that I found quite interesting, but I can't understand why they're saying, "Yep, all these people need to go on USO," and quite frankly I think someone - - -

**MR LINDWALL:** You mean the NBN satellite?

**MR HASKARD:** Sorry, I beg your pardon, you're correct, yes, the NBN Sky Muster satellites, because there seem to be a huge number of people there compared to my knowledge of the number of satellite customers that we've got, and the number of - - -

**MR LINDWALL:** There's 400,000 premises, according to the NBN.

**MR HASKARD:** Yes. Well, I read that too, and I thought that was a bit over the top, but it may be correct. But the other thing was, there's no reference in here to what happens to the people that have got an existing USO satellite which gives pretty good voice, when we're talking about the latency and that. It works all the time. Yes, the rain may affect it - - -

**MR LINDWALL:** But not to the same extent?

**MR HASKARD:** But not the same extent, you know. And you don't get that echo when you're only going to a land line from them. Most people can't tell. If you're going from one satellite USO on a cattle station to another one, as in another sat one, then yes, you do get that echo.

But on a normal one site, you wouldn't know, most people. But you know, I don't know whether people are expected to retain their USO sat for voice and then get an NBN for data, but I can see a lot of the people I deal with, that's what they're going to do, because they know their satellite is hit and miss, and these numbers in here of 99%, that's ludicrous. There's no way they can expect that sort of service.

I'm taking - I realise I said about it might be out for, you know, up to ten days a year, and they don't mean the whole day, they might mean ten minutes in the day, but I just can't see how it's going to work. And if the sheer numbers that they're quoting in there are correct, I've got my doubts about the whole show.

**MR LINDWALL:** Could I ask about the installation because of the NBN services? Because I have heard other people saying in other locations that it's been shoddy workmanship in some cases.

**MR HASKARD:** Well, I've only been - I've only seen one, because of course once they go, I've got no need to go back, either working for Bruman Rigging or when I was with Telstra, but the one that I did see, I couldn't believe that it was the final thing. It was absolutely appalling. It worked. It was absolutely appalling.

**MR LINDWALL:** So it was unsightly?

**MR HASKARD:** It looked like a temporary thing that we'd whack up to use for three days, but it was permanent, yes, and the guy - and he had to provide his own power, so he had two car batteries, and he said, "When I run the generator, I make sure I've got the

charger,” and I said, “You’re going to put up with this forever and a day?” He said, “Yes, it’s not quite the same as yours.”

What, ours had 20 solar panels on it and all the rest, and he was retaining both. He wasn’t silly.

**MR LINDWALL:** So did he complain to his retailer to get the installation - - -

**MR HASKARD:** I don’t think he would have known any better, except he knows what our standard of work was like. We’d done two other jobs for this gentleman, and I just - I mean, I don’t - I didn’t comment on it. It’s not my job to comment to the man, but I sort of looked at it, and he said - he said, “It’s a bit rough, isn’t it?”

**MR LINDWALL:** Would that make it less reliable?

**MR HASKARD:** Absolutely.

**MR LINDWALL:** Yes, yes, I thought so.

**MR HASKARD:** The dish was too small, the cabling wasn’t supported, no proper drip loops in it, no proper catenary. The batteries are just under the bench in the house.

**MR LINDWALL:** So it’s conceivable then that problems that people have with the NBN satellite may not just be their satellite, but they might be the installations within the premises?

**MR HASKARD:** That’s for sure, yes. Mainly power is the one I get a bit concerned about, yes. The other thing is, when we’re - - -

**MR BRUHNS:** From our point of - well, mine as the boss, et cetera, the Universal Service Obligation, we’re talking about who’s going to actually pay to maintain all this in the future, but - and there’s been numerous inquiries when the NBN started off on the cost that they pay people like us to actually install this, and the figure that they quote all the time is ludicrous. All these installations, whether they’re optic fibre, fixed wireless, whatever, are done on scheduler rates basis that is ludicrous.

**MR LINDWALL:** Ludicrously low, I presume?

**MR BRUHNS:** The companies that actually run it, the service streams, vision streams, have a figure up here they pay the guy that actually does the work way down here. Figures where everything is basically built down to a cost, not up to a standard. And it is the cheapest person that will do it that will get that work. And to do it cheap, you do shoddy work, you cut corners, et cetera. We don’t do much NBN work.

**MR LINDWALL:** No.

**MR BRUHNS:** Because there is no money in it. And there’s no point.

**MR LINDWALL:** So Telstra, when it provided for you to do work for the USO satellite  
- - -

**MR BRUHNS:** Pay a reasonable amount and get a reasonable job.

**MR LINDWALL:** Can you disclose how much more they pay compared to the NBN?

**MR BRUHNS:** 50 per cent, at least.

**MR LINDWALL:** That's a big difference, isn't it? Yes.

**MR BRUHNS:** A \$100 job with the NBN would be \$800, \$900 from Telstra.

**MR LINDWALL:** Yes. The issue of the dark fibre going past and not being used, that's been said to us before. I'm just wondering why it's the case. Why isn't it being used? Because more people using that means less strain on the satellite services.

**MR HASKARD:** Yes, absolutely. Initially, going back probably three years - no, four years, sorry, it would be now, they told, "Oh, less than 500 people, they're going NBN satellite. We're not going to use the fibre, not enough people," and I just thought, "That's crazy. 500 people in a" - I mean, Julia Creek's a small place, but the people out there are pretty keen. I mean, they give it a go, and they're looking to improve the situation communications-wise out there, and the NBN is saying, "Oh, you're going to be a satellite customer," and the USO sat system is pretty good, because when we're talking about the rain, you can put a bigger dish up, make it more high powered, but that means more solar panels and bigger batteries.

You can do lots of things, and they'll overcome problems up to a point, but it's all built to a price. So if we're going to put in a dish that's, I'll call it, you know, a metre in diameter versus a 2.4 metre dish or something like that, the standard's 1.8.

But the NBN ones I believe might be 1.2 metres, and that's okay, as long as the footprint's okay for it. Sorry, as you get to the outskirts of the footprint from the satellite you need a bigger dish, and it's also how we do some of the islands that - islands might be outside of the footprint. That's all right, we'll put up a four metre dish, or bigger, and you can often get enough to do it. But you know - - -

**MR LINDWALL:** Would that help with rain fade, if you had a larger dish?

**MR HASKARD:** Only if you were back in the footprint. Once you're out - if there's a footprint area here, and we've got an island out here and on a four metre dish now, the rain is going to knock it about, unless you go - we have, prior to my work with Bruman Rigging, done an eight metre dish on an island that was well outside. The signal was that low, we had to get Channel 7 after hours to bump the output of the thing so that we could find it, because this is a - experienced people, I'm talking about, could not find it, because the signal was that low.

Once they got it, it locked on and everything, and then Channel 7 put it back to normal, but that is extraordinary circumstances. That is a mine, that can afford to pay it for all its employees.

**MR LINDWALL:** But what I'm saying is that if - other things being equal, if you've got a satellite service within the range - - -

**MR HASKARD:** Yes.

**MR LINDWALL:** - - - and it's, say, a 1.2 metre dish, and it's affected by rain fade, would a larger dish reduce the amount?

**MR HASKARD:** It'll help, but yes, a lot of factors come into play, but yes. But it's just - generally, yes.

**MR BRUHNS:** And just going back to Julia Creek, it's not just Julia Creek. There's a lot of those towns between the NT border and Townsville, Cairns, et cetera, that have not just the Telstra fibre going through it, but they've got the next gen one as well, and neither of them are giving those towns access, and they are running right through the middle of town.

**MR LINDWALL:** And those communities have tried to get access, obviously?

**MR BRUHNS:** NBN have basically blunted said under this number we're not going to do it.

**MR LINDWALL:** Even - okay.

**MR BRUHNS:** Yes.

**MR LINDWALL:** On the NBN satellite and its solar-powered status - not solar-powered, I mean, is that just a cost saving measure, was that?

**MR HASKARD:** Yes, that's my thoughts on it. However, there is another thing that just came to light only this week, where a lot of these HCRC systems - we are led to believe that they might be superseded by - and their service will be provided by NBN satellite, and the theory is that most of them have a triad or a 20 to 30 metre mast. Take the top section off, put another couple of solar panels on, put a pole in the ground and put the satellite dish on there.

The radio equipment for the new satellite, they tell me, fits in what we call a type 3 shelter, which is a standard one at tens of thousands of these places, and that it only needs a smaller battery than what we'd normally provide, because it only uses, I'm told, 20 per cent of the power of the ones we presently use.

Okay, less power, we just said, bigger dish, smaller dish, less power, more power, but - and if that's the case and we're going to whack thousands more people on the satellite, it's going to get congested. We're going to get slower speed again. We're going to get all the things that have been outlined by other people. The system - a lot of it might be getting a little bit old now, but it's still working generally, you know.

And everybody knows how to fix it, and yes, a few systems have been taken out of service and replaced by other technologies so that Telstra could get spare parts, that's quite true, but I can't really comment a lot on the Telstra side of it because I'm not employed by them.

**MR LINDWALL:** Is there anything finally you'd like to both say, that we haven't already discussed?

**MR BRUHNS:** Not really. As Mal said, we came into this late and missed a lot of the original submissions, et cetera, but I saw this one here in Cairns, so it was - we wanted to come along more to try and find out more about it and make sure, by being at this one, that then we can involve ourselves a lot more in any future negotiations and submission, et cetera.

**MR LINDWALL:** Well, thank you very much, yes.

**MR BRUHNS:** Because all my - I'm ex-Telstra, all my staff are ex-Telstra. We're all in our 50s and 60s, and while we do our best to do these things at present, there's a limited number of people that can actually do this.

**MR LINDWALL:** Yes.

**MR BRUHNS:** And that is also going to be a problem that you have.

**MR LINDWALL:** Exactly, yes, yes.

**MR HASKARD:** With people retiring.

**MR BRUHNS:** Thanks for your time, and - - -

**MR LINDWALL:** Thank you very much.

**MR HASKARD:** Yes, thank you very much.

**MR LINDWALL:** Okay. I much appreciate you both coming.

**UNIDENTIFIED SPEAKER:** (indistinct)

**MR LINDWALL:** Sorry?

**UNIDENTIFIED SPEAKER:** Can we ask (indistinct).

**MR LINDWALL:** Do you want to ask a question?

**MR HASKARD:** Yes, if that's all right with you - or do you want to do it after?

**UNIDENTIFIED SPEAKER:** (indistinct)

**MR LINDWALL:** Maybe outside of the session.

**UNIDENTIFIED SPEAKER:** (indistinct)

**MR BRUHNS:** Yes, we'll hang around.

**MR LINDWALL:** Because (indistinct) from the floor. But I do need to invite anyone else who wants to make a presentation to come forward who has not already done so, or who wishes to say something more. Please.

**MS BOISEN:** Sorry, my name is May Boisen from Telstra. I'm not here to make a submission or anything, but I just sort of wanted to sort of clarify on a couple of comments that yourself and Rod have made earlier.

With regards to the fixed wireless, you asked the question whether customers then had to disconnect within that 18 month period. At this point in time, no, they don't, and what I'm finding in my region is that customers are retaining both, so they will get the fixed wireless service for their internet, but they will retain their PSTN line as well. So I just wanted to clarify on that.

**MR LINDWALL:** Yes, good.

**MS BOISEN:** Also Rod mentioned about speeds. Our CEO just recently announced that by the end of this financial year, basically when you walk into a store or call us up, we will actually provide you with a speed that you will get to your premises.

So we can - you come in, and we'll go, "Yes, at your address with this data, this is the speeds that you're going to get."

**MR LINDWALL:** Good.

**MS BOISEN:** So we're actually already doing that.

**MR LINDWALL:** Yes.

**MS BOISEN:** And also Rod mentioned about the co-location and the mobile black spot. We actually already do that, so any service provider, once we install a tower, can co-locate with us, it's just they have to pay for that co-location. Unfortunately a lot of the other service providers, that then becomes a challenge.

So I just sort of wanted to clarify a couple of those things and just have that on record.

**MR LINDWALL:** Is there anything else you'd like to say while you're here?

**MS BOISEN:** No, no, just thank you for having us here, and - - -

**MR LINDWALL:** Okay. A pleasure.

**MS BOISEN:** - - - like I said, I just wanted that on record.

**MR LINDWALL:** Okay, no, perfect.

**MS BOISEN:** Thank you. Thank you so much.

**MR LINDWALL:** Anyone else would like to say something? No? Well, I think that's probably it then. What do I have to say? Yes, that concludes the scheduled proceedings. I now adjourn them and the Commission will resume the hearings next week in Launceston. Thank you all for being here and much appreciated your contributions.

**MATTER ADJOURNED AT 11.47 AM UNTIL  
TUESDAY, 7 FEBRUARY 2017**



**Australian Government**  
**Productivity Commission**

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**PRODUCTIVITY COMMISSION**

**INQUIRY INTO THE TELECOMMUNICATIONS  
UNIVERSAL SERVICE OBLIGATION**

**MR P LINDWALL, Presiding Commissioner**

**TRANSCRIPT OF PROCEEDINGS**

**AT MELBOURNE  
ON TUESDAY, 7 FEBRUARY 2017 AT 9.24AM**

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**MR LINDWALL:** Good morning, everyone. I might - we've got some introductory remarks that we have to always use, apparently, so I'll go through this and then we'll get started, if everyone's happy with that, and it's relatively informal so we'll do our best.

So good morning. Welcome to the public hearings of - I should have asked you. You're off? You're going? Good morning. Welcome to the public hearings for the Productivity Commission inquiry into the Telecommunications Universal Service Obligation. I am Paul Lindwall and I am the Commissioner on the inquiry.

The inquiry started with a reference from the Australian Government in April last year that has asked us to examine "to what extent are government policies required to support universal access to a minimum level of retail telecommunications services?" This includes recommendations on the objectives for a USO or equivalent, the scope of services to achieve objectives, specific user needs, and funding and transitional arrangements.

We released an issues paper in June and received about 60 submissions after its release. We have talked to a range of organisations and individuals with interest in the issues. We then released a draft report in December, and have received further submissions, including - they're still flowing in, as far as I understand.

We are grateful to all of the organisations and individuals who have taken the time to meet with us, prepare submissions and appear at these hearings

The purpose of the public hearings is to facilitate public scrutiny of the Commission's work in its draft report and to get comment and feedback on the draft report. Following this hearing, we are also holding hearings in Port Augusta and Perth. We will then be working towards completing a final report to be provided to the Australian Government in April. Participants and those who have registered their interest in this inquiry will automatically be advised of the report's release by the government, which may be up to 25 parliamentary sitting days after completion.

We like to conduct all hearings in a reasonably informal manner, but I remind you that a full transcript is being taken. For this reason comments from the floor cannot be taken, but at the end of the proceedings you will have an opportunity to come forward and make a brief presentation.

You are not required to take an oath, but should be truthful in your remarks. Participants are also welcome to comment on issues raised in other submissions or by other people appearing at our hearings.

The transcript will be made available and on our website following the hearings, about two weeks, I think, maybe a bit less. Submissions are also available on our website.

For any media representatives attending today, some general rules apply. Please see Ish or Jane if you wish to, or any of our other staff, and a set of the rules that apply to media.

To require with the requirements of the Commonwealth Occupational Health and Safety Legislation, you are advised that in the unlikely event of an emergency requiring the evacuation of the building you should follow the green exit signs to the nearest stairwell. Lifts are not to be used. Please follow the instructions of the floor wardens at all times.

If you believe you will be unable to walk down the stairs, it's important that you advise the wardens, who will make alternative arrangements for you. Unless otherwise advised, the Assembly point for the Commission in Melbourne is at Enterprise Park, situated at the end of William Street, on the bank of the Yarra River.

Participants are invited to make brief opening remarks, and then we'll have questions and answers as we. And I'd like now to invite Mark Gregory to appear, and Mark, if you like, if you just state your name for the record and then give a bit of an introduction.

**MR GREGORY:** Do you want me to sit?

**MR LINDWALL:** No, over here, sorry.

**MR GREGORY:** Thanks. Yes, it's good to see you again too. Hello.

**MR LINDWALL:** They don't amplify, they just record.

**MR GREGORY:** No, I'm just making sure. Hello. My name is Mark Gregory. I am an associate professor at RMIT University, and I am an expert in the area of access networks and have spent nearly 30 years now working on systems that would be complementary to the Universal Service Obligation, and have a particular interest in ensuring that any future outcome for the USO is an improvement and not a retrograde step.

So I've put in two submissions now, one prior to the draft report, one after the draft report. My key concerns are that any transition to a new Universal Service Obligation from the existing situation needs to take into account the reason why the existing situation was put in place in 2012 was that there was a realisation at that time that there was the potential for the NBN not to be able to satisfy the needs of the Universal Service Obligation, particularly in rural and remote Australia.

And several times now over the past couple of years, the CEO of NBN Co, Mr Bill Morrow, has stated publicly, including in the Senate Estimates, that the NBN is not satisfactory for the Universal Service Obligation. And I just want to draw the point to that, in that the draft report makes a number of mistakes in regards to the NBN and the potential for the NBN to be utilised for the Universal Service Obligation.

Technically the NBN is an inferior solution, even for its intended purpose, and the NBN is not satisfactory, technically, for the Universal Service Obligation, and it is my great concern that the final report is going to recommend that the NBN be utilised for the Universal Service Obligation without any regard to the technical requirements to meet the services that are required under the Universal Service Obligation.

The only way forward, if the NBN is to be used for the Universal Service Obligation, is for performance to be degraded, and that is that we will go to a solution which is prior to 1950 in technical performance, and it would be something remarkable for the Productivity Commission to recommend, that we go back 60 years. I find the draft report to be quite remarkable in its naivety about the NBN.

So some other remarks that I'd just like to make around that is that the 21st Century Universal Service Obligation has got to be one that provides universal access to services that Australians need, irrespective of where they live and work. In particular, I am concerned that there has not been enough attention paid to universal access for people who are homeless, people who are itinerant. Australia has a large itinerant workforce that are not given enough attention, except when there is talk of taxing the youth that come into Australia to pick fruit and do other jobs that are absolutely necessary for the economy and the productivity of the nation.

And these people also need access to these services, and yet many of them can't get that access, so we're asking them to do jobs which many Australians won't do, and yet we're treating them as inferior people, or people that we don't really care about.

So universal access is a critical and vital component of any future US, in that we need to take into account the socially disadvantaged. We need to take into account the itinerant workers, which play a vital part to our economy. By itinerant workers, I also include in that people that work on boats, fishing and doing other jobs on boats, and also people that are in mobility roles such as transport and so on. You know, there's not been enough attention paid to people in these areas.

So universal access to the service is vital, and in today's environment there's no reason why especially the socially disadvantaged can't be provided with the means to access telecommunications and broadband, and that service provision be subsidised or made free, depending upon social means.

The cost is marginal compared with the benefits to government and to business, because of the data that's collected and the information that's provided about where services are required, and also bringing those people back into society. This is a way of doing it.

An anecdote that I was told - and I've also had this told to me by several different people - is that homeless people, when they are forced to move or for whatever reason they lose their camp of where they're living, the one thing that they will keep with them is their mobile phone, whether it be wireless or mobile provided through a service subsidy or a community service, that's the one thing they will not lose. They will get to the end

of the earth to get that mobile phone, because that's their way of connecting with friends, family and, you know, people in their lives.

And so we need to take that into account. We are not doing enough for the disadvantaged, and the USO needs to step up to that. It's one thing to provide infrastructure, but there's no point if you can't afford it. Having infrastructure is pointless if you can't afford the service.

I'll go back again to my technical performance concerns about any future USO, in that just because the current government sets the bar low in terms of performance for the National Broadband Network there is no requirement for the Productivity Commission to subsequently adopt such a low horizon.

In terms of provision of broadband data, it is a no brainer that the USO should include broadband in today's world, so the transition to broadband is something that needs to be considered carefully, particularly for people in regional and remote Australia.

Now, realistically in today's environment what the Canadians recently did with their USO is something that needs to be looked at very carefully, in that they set the minimum download of 50 megabits a second for all Canadians.

Now, I'll just translate that onto the NBN for a second, and also onto mobile cellular carriers who have spent an inordinate amount of energy publicising their wares for the USO. The problem with copper-based solutions and also anything that's wireless is that it degrades over distance, and so therefore if the USO is going to be utilised by either of these means, then the minimum service requirements, the minimum service performance that has been set, needs to be set for the person at the end of the line.

So if a particular performance is set for telephony, then that performance needs to be tested and set for the worst possible case scenario. If that performance requirement is set for mobile wireless or mobile cellular, if that is to be included in the USO, then that performance requirement has to be set for the worst possible situation, and that is someone that exists or lives or works on the very margin of a mobile cellular cell, not someone standing next to the access point.

This is a vital point in terms of the argument about using mobile cellular and other means, other technologies, in terms of the USO. So the testing that was done for the original USO and the performance standards that were set were set based upon the fact that there was minimum requirements in terms of mean opinion score over copper-based services.

Now, if we're going to go away from the test sets, the test requirements, the performance requirements that we had when the USO was put in place to something based upon the NBN or something that is based upon mobile cellular networks, then equally we need to set performance requirements, but for the worst-case scenario.

If we set generalised performance requirements, then that means that there will be a large percentage, possibly 25 or 30 per cent of people, that will get a substandard or degraded service, or an unworkable service, under which circumstances the USO has lost its point and, you know, will have done Australia a disservice by implementing a USO of that variety.

So I'd just like to conclude by saying that my opinion of the draft report was that in areas of economic need, in areas of performance, in areas of improving outcomes, in areas of adding broadband data to the USO, I am in total agreement. I have great concerns about performance requirements, any indication that the NBN can be used for the USO. The NBN could only be used for the USO if there is a stipulation as to the performance requirements that the NBN is to provide.

Similarly, I have grave concerns about mobile cellular being used for the USO unless, again, there is a minimum performance requirement set in stone before mobile cellular is allowed to be used for the USO, otherwise we will end up with a situation which is pointless. Thank you.

**MR LINDWALL:** Well, thank you for that, Mark. Could I ask about - I mean, you said - maybe that was a rhetorical flourish, but that we're going to send it back to the 1950s, but in the 1950s people had party lines. We have never said that we should go back to voice only. We have said that it should have data. I mean, there was no such thing as data in the 50s, so I'm not quite sure where we're saying that we're going back to an inferior system.

**MR GREGORY:** The point that I'm trying to make is that mobile cellular is fraught with problems. You have drop-outs, you have degraded service as you move away from access points. There are many people that I know that report to me on a regular basis that their mobile cellular - they're told by the company that it's absolutely fine, and yet it's completely unworkable where they live.

So what I'm saying is that one of the things that they did when they set the USO in place, and that had occurred when we upgraded the telephony standards in the 70s, was that we provided, like, a line in the sand saying that these are the minimum performance requirements.

Now, Telstra has a very, very good record, an internationally renowned record for meeting those standards. What I am suggesting is that it's a very fine line, and it's highly possible that changes to that fine line mean that we're going to have 25 to 30 per cent of Australians fall over the line and end up with a technically inferior service that would be no better than what they got for voice or data, if you consider it from a comparative analysis point of view, from the 1950s or before.

**MR LINDWALL:** But the current USO, to be quite clear, is about fixed line voice to the home premises - - -

**MR GREGORY:** Yes.

**MR LINDWALL:** - - - as well as payphones, so anything that's beyond - so really you have to compare, surely, a proposal to what the existing state of the nation is, which is that it's fixed line to the premises, and then you have to ask yourself, for voice, what is inferior about voice if we have NBN reliance in the 97 per cent of premises that are covered by a fixed line or fixed wireless?

**MR GREGORY:** For voice, in terms of the NBN, I think that you'll find that there's a large percentage of people that are actually ending up with a degraded service. I mean, you would have seen the remarks by Telstra CEO Andy Penn last week, where he said that Telstra is going to start publishing the performance data, simply because what people are being told by NBN is not what's happening in reality.

What I'm suggesting is that the Productivity Commission needs to be aware, or make itself aware, that there's, to use the parlance of the day, a huge number of alternative facts being pushed by NBN Co management.

**MR LINDWALL:** I'm not here to defend the NBN, but wouldn't they argue something like that it's a work in progress, and that really it shouldn't be - that until it's been fully rolled out it's a bit difficult to judge the performance standards?

**MR GREGORY:** Even where they've rolled it out, the performance is not meeting what they're saying.

**MR LINDWALL:** But isn't it sufficient for voice, though? I mean, I have an NBN connection at my home. It's fibre to the node, so it's copper as you suggest, and I get about 12 to 16 megabits a second. I'd like to get more, but that's what it is, but the voice quality is perfect. I wouldn't complain about the voice. You only need about 150 kilobits a second for voice, surely?

**MR GREGORY:** Okay, so I'll say two things in regards to that. One is that that wouldn't meet the Canadian USO requirements, would it?

**MR LINDWALL:** What, 12 to 16 wouldn't?

**MR GREGORY:** No, because they've set it at 50 megabits per second.

**MR LINDWALL:** But I don't think they've achieved it yet, though.

**MR GREGORY:** You know? No - - -

**MR LINDWALL:** That's an objective.

**MR GREGORY:** But they're setting it as the stone, the line in the sand.

**MR LINDWALL:** But isn't ours 25 megabits a second with a longer-term objective of 50?

**MR GREGORY:** No, it's - if you look carefully, they have withdrawn that - that statement. In fact, they've withdrawn any statement about performance at all, right? The government and everyone else have done complete backflips and quietly pushed that off to the side.

**MR LINDWALL:** So you - - -

**MR GREGORY:** There are people that will get, with fibre to the node, 12 slash 1, or whatever, and they're not really going to get anything better than that.

**MR LINDWALL:** But it's still enough for voice, though, isn't it?

**MR GREGORY:** In terms of the voice, again, there is a percentage that have got very bad voice. One of the things at least with Telstra in the USO was that you could ask Telstra to fix the service, and they would do so. Currently there is no requirement on NBN Co to do that.

**MR LINDWALL:** Yes. Well, what do you think about the legislation that's out for comment at the moment about statutory infrastructure provision, which is along the lines of what you're suggesting, surely?

**MR GREGORY:** Again, there's, you know, this blank statement in there about performance. It's one thing to provide infrastructure, it's another thing to actually provide infrastructure which meets a technical performance requirement, and the problem that we have right now is that there's just a void when it comes to performance.

And yet, all through my life, and when I read back through the generation before me, it was all about performance. It was all about meeting certain performance for communications and telephony and so forth and bringing the performance up to this minimum standard. And yet today, in Australia, we're backsliding on performance.

**MR LINDWALL:** I mean - - -

**MR GREGORY:** Let me just talk about the data for a second. Again, the problem with the data is that the data connectivity and the data transmission performance degrades over distance with copper and mobile cellular or wireless, any sort of wireless, right? Now, there is no line in the sand saying what the minimum performance is to be, even for the NBN. What I'm saying is that the Productivity Commission is setting the scenario without saying that there needs to be minimum performance requirements as a recommendation of the report. It's setting a situation where, yes, people will get infrastructure, but it will be hopelessly bad.

Now, that number, that percentage - say for example that percentage is what we're seeing with service class zero and the NBN and other problems, about 15 per cent. Well, that's the whole regional and remote Australia. So essentially we're setting ourselves for

a scenario where a great slab of Australia is going to get a third-world technical solution. Right?

We have to be very careful not to do that. What I'm suggesting is that we need to take the technical performance requirements that have been developed over 50 years, and any future USO needs to have those performance requirements, the technical performance requirements, set in stone, because otherwise we're opening the door for a sub-standard solution.

Now, the NBN is a point in case. It is a perfect example of how a good idea has turned into a disaster because of a government coming in and downgrading everything to the point where the only people that don't recognise that it's a third-world solution is the current government.

**MR LINDWALL:** But wouldn't the argument be that yes, fibre to the premises would be a better solution in the alternate, but it's slower to roll out and therefore more people are enjoying faster internet now because of the multi-technology mix, and ultimately over time they'll be phased into whatever the solution might be in 20 years' time, I don't know, but it could be - who knows? But hasn't it accelerated the rollout of the NBN?

**MR GREGORY:** No, not at all. Because they renegotiated with Telstra for 18 months, and then they had to re-gear and change all of their production systems. You know, the former CEO of NBN Co has showed quite categorically - and from my experience I totally agree that both approaches, fibre to the premises and fibre to the node, would have finished about the same time, in 2020, 2021.

Both approaches would have cost about the same. We're seeing cost blowouts with the fibre to the node left, right and centre. Originally the government was going to do it for 29.5, then they were going to do it for 43. We're already up to 50. If you check the media release, carefully, if you check everything that's been said by the government ministers carefully, you will see no statement that the 49 billion that they've given to NBN Co so far is the final amount they're going to give.

**MR LINDWALL:** But that doesn't prove the alternative, that a full FTTP would have achieved at that less cost. I'm not sure that - - -

**MR GREGORY:** The costings were in. But we can look at the evidence, and there is international evidence available for us. New Zealand. Their costings have decreased for the fibre to the premises rollout in line with the predictions that were made by NBN Co in 2010 here. They have mirrored each other. The actual costings of a real rollout in New Zealand have mirrored what was predicted in Australia and was holding true up until September 2013. So it's not a prediction. It's not fantasy. It's fact.

**MR LINDWALL:** But anyway, isn't this getting slightly aside from the point here, which is that we have currently a Universal Service Obligation, voice to the premises, and we're now considering what we should do as an alternative, and we've said that - well, the government has made a major investment in the NBN, and you can argue whether

they've done a good job or not. You know, any infrastructure project has proponents and opponents about its structure and the way it's been rolled out, but nonetheless it's better than what we had before, one would argue.

I mean, surely we're getting data when previously there was only voice, so - and in the Commission's proposal you do have data. We're not saying that mobile phones are a USO. We're saying that as a complement, that it adds serviceability to the USO, and we've also moved away from calling it a USO to more of a targeted approach based upon those criteria of availability, affordability and accessibility.

**MR GREGORY:** Yes, but the one thing that always must be included in there is performance, and I don't see sufficient attention to that in the report.

**MR LINDWALL:** Would 25 megabits a second be a reasonable baseline?

**MR GREGORY:** No. I don't see why do we have to be less than Canada?

**MR LINDWALL:** But most people, from my understanding, who have fibre to the premises, choose to buy only 25 megabits.

**MR GREGORY:** Only because of the failed business plan of NBN Co. In New Zealand  
- - -

**MR LINDWALL:** But it's up to their retailer to provide something - - -

**MR GREGORY:** In New Zealand 70 per cent are selecting 100/40, because they've got a business plan that works. In Australia, like everything else this government's done with the NBN, the business plan is a failure.

**MR LINDWALL:** But people have a choice of choosing 12, 25, 50, 100 and other things, and they choose what they will. Surely that's revealed preference?

**MR GREGORY:** Because of cost.

**MR LINDWALL:** Yes.

**MR GREGORY:** Yes.

**MR LINDWALL:** But isn't that reasonable?

**MR GREGORY:** So - but the USO should have no - should not - that should not be the major concern.

**MR LINDWALL:** So we should provide 100 megabits a second to people even if they don't want it?

**MR GREGORY:** No, it's not a matter of "don't want it". If the cost was right, they would all have it. New Zealand is a perfect example of that, and countries like Portugal and so forth in Europe.

My point is, is that we should not be looking at less than Canada, in what Canada has set.

**MR LINDWALL:** But Canada hasn't got 50 megabits a second.

**MR GREGORY:** No, they've set it as what they're going to do.

**MR LINDWALL:** It's an objective. Well, that's right.

**MR GREGORY:** Because they're just about - - -

**MR LINDWALL:** People make promises. It doesn't necessarily mean it will be achieved.

**MR GREGORY:** Politicians do that. But they are just about to start a process of building an NBN.

**MR LINDWALL:** I'm not entirely - I don't see what the difference is. We have an objective here in Australia with the NBN of 25 megabits a second, and you could argue whether that's sufficient, but that's what an objective is. That's been stated by our Communication Minister and others, and then Canada's got another objective. But neither of them have been achieved in full yet.

**MR GREGORY:** But the previous government's objective was 100/40 for everyone. So this government will be gone in a couple of years' time. So do we not have this report wait until the new government, see what they set the objective for the NBN as, which will be higher than 25, and then publish the report then?

**MR LINDWALL:** So what do we do if we had a USO for the whole of every - I mean, I assume that you still agree that it should be premises-based, and not geographically based? In other words, the coverage of the mobile phone network with Telstra is about 30 - or just under 30 per cent geographic area of Australia.

Some people have argued that a USO should include the entire - well, mobile should have 100 per cent coverage of geographical area of Australia. That would be quite expensive, wouldn't it?

**MR GREGORY:** Yes, I'm not proposing that - again, I'm saying that we need to be very careful about including mobile cellular in the USO, right, because of coverage and performance.

**MR LINDWALL:** So you're still happy with the premises-based nature of the service obligation?

**MR GREGORY:** Except that I believe the term premise - - -

**MR LINDWALL:** You did mention about - you know, by people who are itinerant or so forth?

**MR GREGORY:** Yes, I believe that the term premise needs to be extended to include homeless and itinerant.

**MR LINDWALL:** So how would you define it if it's not premises then?

**MR GREGORY:** Well, I consider that they have a premise. In terms of the homeless, that they tend to stay in one location for weeks at a time, and then they move to another location, so in a way they're sort of like a semi - they are, in a way, itinerant. I believe that we need to include a flexible definition of the term premises to account for people who are socially disadvantaged and itinerant workers.

We have people in Australia who move around all year in a circle type of thing, you know? They don't have a premise, you know. Also we have to be careful about the term premise in terms of caravans and mobile homes and so forth, because a lot of itinerant workers use mobile homes now, or caravans and so forth, and you know, so I'm saying that we need to do that.

I'm not saying that they need to be satisfied by mobile cellular. I'm saying that we need to define premise in terms of all Australians so that we capture everyone, whereas the previous definition didn't.

**MR LINDWALL:** But surely the objective of 100/40, like you're mentioning, never was meant to apply to 100 per cent of premises, though?

**MR GREGORY:** No, that's right.

**MR LINDWALL:** About 93 per cent, if I'm not mistaken, by the old scheme, so - - -

**MR GREGORY:** Yes, and I'm not suggesting 100/40 needs to be the line in the sand. What I believe is that a USO needs to set a reasonable line in the sand, and I believe that that needs to be determined, you know, after it's reviewed.

My problem is, is that if we set this, for example, with broadband low, without any rationale as to why it's set low, 25/5, we need to also consider the amount of data that's needed by people in an average month, and we're already seeing people in the bush screaming about the data that they're getting over the satellites is not being enough, right?

**MR LINDWALL:** Could we talk about that, then, about how would you solve that issue?

**MR GREGORY:** I've said it many times. Put a third satellite up. The new satellites give you twice as much capacity as each of the existing Sky Musters, right? So because we - the technology is doubling every five years, so if we were to order a satellite today, in five years from now when the satellite goes up we would instantly have two Sky Musters in one satellite for the same cost.

So in any program, we need to be building ahead. Satellites only have a 15 year life, which means that essentially 10 years from now if we don't order another satellite then those two satellites are going to come down and we're going to have no satellites. So we need to be essentially ordering the next iteration of satellites now, to take into account the fact that people need more data.

**MR LINDWALL:** So could I ask about funding then? Because all of these solutions, once you start - a baseline to me is something that's a minimum, right? And once you start increasing the minimum, it involves extra cost, doesn't it, by definition?

**MR GREGORY:** Yes.

**MR LINDWALL:** So how should we fund the Universal Service Obligation issue?

**MR GREGORY:** Well, as I put in my original submission, we need to broaden the base, in that it is unreasonable to just, in today's environment, especially as broadband is brought into this, it is unreasonable to only levy Australian telecommunication companies. We need to broaden the base to include a levy on multinational companies providing services over that infrastructure.

**MR LINDWALL:** These are over-the-top providers?

**MR GREGORY:** Absolutely.

**MR LINDWALL:** Such as Google and so on?

**MR GREGORY:** Netflix.

**MR LINDWALL:** Netflix.

**MR GREGORY:** Everyone keeps saying that Netflix is the major beneficiary of the NBN, so there's no reason at all - - -

**MR LINDWALL:** I've been informed that it might be difficult to levy some of these providers.

**MR GREGORY:** Then just simply block them.

**MR LINDWALL:** Can you block them?

**MR GREGORY:** Absolutely. I can do it no problems at all.

**MR LINDWALL:** Because people can't get around it by using a VPN?

**MR GREGORY:** They can get around it by using a VPN, but you know, there are ways and means to block companies that haven't been thought of in terms of the way that this government's gone about it.

**MR LINDWALL:** What about direct funding by the government, which is something we mentioned in our report, as an alternative?

**MR GREGORY:** The problem is, is that the government is being - the government or the industry is then being left to carry the can. Part of the major beneficiaries of the NBN are the international multinationals, so therefore more needs to be done to (a) collect tax from these companies, and (b) to get them to subsidise or be a participant to subsidise the USO.

I mean, I strongly agree with the argument from the industry that it is unfair for the industry to be left carrying the can, because it's the over the top providers - and they can't actually say to them, "Well, 80 per cent of the traffic is coming from you, therefore you need to pay something to us as the telco." They have a similar problem getting money out of them.

**MR LINDWALL:** So I understand that 50 per cent of the data being used in the world at the moment is due to Netflix and YouTube. That's what someone told me.

**MR GREGORY:** Yes.

**MR LINDWALL:** So would you, what, charge these providers by the megabyte or something like that?

**MR GREGORY:** You would work out a charge based on not just volume but value, because sometimes volume does not have - - -

**MR LINDWALL:** That's true, yes.

**MR GREGORY:** - - - equivalent value. So the way I would do it is to work it out based on volume and value of the service provided, and I don't see any reason at all why the large multinationals in this scenario can't contribute. Because if you look at the bottom line, they are making absolutely billions out of this country.

**MR LINDWALL:** Could I ask your view about the Mobile Black Spot Program?

**MR GREGORY:** I think that the program is better than where we were. The problem with the Mobile Black Spot Program is that there needs to be a broader effort made to ensure that any infrastructure that's installed is equally able to be used by all the mobile cellular companies.

There are two issues that are happening. One is that the states are still off doing their own thing, whereas, like, you know, Western Australia recently gave a large handout to one company and effectively the other two companies are shut out. They can't even access the infrastructure.

The other issue, of course, and it's a perennial issue that's also tied into one of the major issues with the NBN, and that is the backhaul. We're paying probably one of the highest rates for backhaul in the world, in Australia. The ACCC has addressed the problem a little bit, not enough. So therefore it's one thing to put in a mobile cellular tower under the Black Spot Program, but then some of the companies may not be able to utilise that tower because they're hit with a backhaul cost which is, you know, uneconomic.

In my view, which of course is a different inquiry, there is an overwhelming argument for mobile broadband roaming in Australia, now. Not permanently, but for a number of years, because in some areas one tower with one set of equipment on that tower to handle customers in that particular area is all that you need, right?

**MR LINDWALL:** Yes.

**MR GREGORY:** You know? There's no need for three companies to put three sets of equipment on that tower to service the customers, right? It's just uneconomic to do that, and we're essentially in a silly scenario which we all argued about 10 years ago where we're seeing three towers being put side by side on ever hill in Australia because there wasn't infrastructure sharing. And we're slowly getting rid of that problem, but we're still seeing the problem occurring with the Mobile Black Spot Program because of the backhaul costs.

But we're also seeing it where the argument is quite valid, that the actual locations that are being selected for these sites could be improved, and I think that there's a strong argument that there's - you know, there's a need for that program to be independently managed.

Now, it also needs to bring the states into it, because there's no point having that program if the states are then going off giving money to one company, and I don't think people realise the amount of money that had been given by the states to one company to build access points and towers and all sorts of things. So the Mobile Black Spot Program is a step in the right direction, but it's still got a long way to go.

**MR LINDWALL:** Okay. Look, I'm mindful of the time - - -

**MR GREGORY:** Yes, sure.

**MR LINDWALL:** - - - so did you have any final comments you'd like to make?

**MR GREGORY:** I think just a final comment, I'd like to reiterate that to change the USO without a focus on performance would be wrong, and I strongly agree with Telstra's

submission that their major concern is that by trying to renegotiate or change the USO, that there will be a degradation in the service that's provided to customers.

Irrespective of what people think about the existing USO - and I've argued that it needs to change - I'm very, very concerned that people have taken this need to change and immediately taken it as being, "Let's save some money and give everyone a sub-standard inferior performance solution," under which circumstances then I strongly agree with Telstra that - you know, that the exercise could become fruitless.

**MR LINDWALL:** Okay. Well, thanks very much for appearing then, Mark.

**MR GREGORY:** My pleasure, thank you.

**MR LINDWALL:** So I'll now invite - is it Melanie Gordon from the Victorian Farmers' Federation? Hello, nice to see - - -

**MS GORDON:** Brett (indistinct).

**MR LINDWALL:** Yes, please. Just introduce yourselves and then give a statement. That would be perfect.

**MR HOSKING:** Sure. Okay. Yes, Brett Hosking. I'm Vice President of the Victorian Farmers' Federation, and Melanie Gordon, our policy officer. I guess we're here, you know, in the response to the inquiry, to look at what is probably the biggest concern that our members and the communities they live in face.

Whenever we travel out to rural areas, it's the number one thing that's talked to us about is mobile connectivity and access to data and the internet. We're moving very rapidly into a more technological era, and there's a lot of opportunities there for agriculture to improve our - excuse me, our productivity, our sustainability, our efficiency, and the opportunities that we have in agriculture, but we're currently in a situation where we're very heavily limited by our access to connectivity and data, so I guess in response to the inquiry, we've advocated quite strongly for a technology-neutral USO that covers, you know, voice communication as well as data.

Do you have anything to add, Mel?

**MS GORDON:** I think that's everything.

**MR LINDWALL:** Okay.

**MS GORDON:** A high-level view of it, yes.

**MR LINDWALL:** Well, thank you. The current USO, of course, is about voice, as I said previously, and anything would be different to that once it adds data. The VFF - I understand - effectively you think that mobile should be part of a USO, is that - because it's currently based on premises delivery, not - - -

**MR HOSKING:** Yes.

**MR LINDWALL:** - - - geographic area. That's a big change if we went not only from voice to data but also to having it available everywhere.

**MR HOSKING:** Yes. We think certainly - certainly data should be part of it, without a doubt. We have - I mean, we've moved into that part of the world now where data is part of everyday lives. One of the challenges that we have as farmers and living in rural communities is that we don't work from home. We work in a paddock where we're surrounded by trees and, you know, very little access to technology, so often what we're seeing now with our mobile phones and our equipment and GPS and that sort of technology, I think there's scope there in the future. I think at the moment the infrastructure doesn't support extending the USO across, you know, all mobile areas.

So I think whilst it's a very ambitious goal, I don't think it's achievable in the short-term. There's a lot more work and investment needs to be done to achieve that.

**MR LINDWALL:** Now, the NBN - and we've heard differing views on that, but the NBN has an objective to provide broadband to the premises for 99 - sorry, 97 per cent of the premises in Australia via either fixed line or fixed wireless, and for the remaining 3 per cent by satellite. I assume that your members that are in the satellite coverage are the ones that are more likely to be concerned, because from what I've heard in other hearings people with fixed wireless or fixed line generally are pretty happy with their service, notwithstanding whether it be fibre to the node or fibre to the premises, but nonetheless they're getting a pretty good service out of that.

**MR HOSKING:** Yes. Yes, and you're right, our membership makes up the 3 per cent pretty much exclusively, which is not a great honour in a way. I guess, yes, look, we are hearing - and anecdotally we're certainly hearing good things about the fixed wireless.

We have very few of our members that are on the wireless - sorry, the fibre to the home. What we are hearing about satellite is that, to put it bluntly, it kind of fails the pub test. When people go and they talk about it, they're talking about drop outs, they're talking about unreliability, and I guess if we wanted to set a benchmark for what data connectivity looks like in Australia, it would be terrible to think that a certain - depending on geographically where you live, that your entitlement to that technology is considered far less than the other 97 per cent of Australians.

So I think we need a technology solution that doesn't drop out, that is reliable, and that does provide - - -

**MR LINDWALL:** So what's the alternative to satellite? I mean, a large investment's been placed in satellite, and I think there's an argument, and maybe it has merit, that there's some teething problems at the moment, because the second satellite was only relatively recently introduced - launched, and it takes a while to get it positioned.

Maybe some of the concerns are just about that, rather than the long-term serviceability of the satellite.

**MR HOSKING:** Yes. Yes, look, I'm hopeful. I'm hopeful on behalf of our membership that the satellite problems are resolved. At the moment they're not. At the moment, as I said, it's failing the pub test. I guess in terms of, you know, we've surveyed our members on all things, on mobile telecommunications but also their access to data and what they use.

Roughly half of our members at the moment have not switched to NBN. They're using the wireless technology through your mobile phone, like your data and - they're finding that a more - - -

**MR LINDWALL:** So they're obviously within the mobile phone coverage zone?

**MR HOSKING:** Yes, they're finding that a more reliable service than the NBN satellite at this point in time. As I said, I'm hopeful that it changes, but you know, that's the hope, that's not specific.

**MR LINDWALL:** How will they know when it's - if you're relying on your mobile and there's a satellite service available but you're waiting for it to improve, how will those members know when it's time to sign up or not?

**MR HOSKING:** Yes, yes. Well, we have seen the rollout of NBN satellite in most areas of Victoria now, so the - it's one of those things, you always have those early adopters, and those guys that have got in early are the ones that are telling us that it's unreliable. And until they start changing those conversations, then you're not going to see a shift to a newer technology. When people have a service that works, then why change to one that - what they're being told is it doesn't work.

**MR LINDWALL:** Yes. When you say it's unreliable, what type of things are your members saying about the unreliability?

**MR HOSKING:** Yes, we were speaking with one on Friday from Manangatang, up in northern Victorian, and they access their data through the NBN satellite, and she said it is quite frequently - the example she gave was online banking, doing online banking, and it's regularly dropping in and out, and so it's a matter of sitting there, waiting for it to reconnect and continue on with what you're doing, so from an operating the business point of view, that's unacceptable.

**MS GORDON:** And similarly that same member, she was actually conducting a census report for the Bureau of Stats as well, and going through the process got halfway through, the whole thing dropped out and had to start again, so I guess the government platforms which are being used just aren't being picked up by some people in these areas.

**MR LINDWALL:** So this is not a latency issue, then, in that case, is it?

**MR HOSKING:** She described it as a drop-out, yes.

**MR LINDWALL:** And I mean, obviously - the NBN satellites are more affected, in my understanding, for rain fade than, say, the USO satellite, which some of your members may use, I'm not sure. But Victoria's not one that I would have thought would be so affected as, say, up north in Queensland by cyclones and other things, which are more likely to affect satellites. So I'm surprised about why are there drop outs. What does the NBN or the retailer say to your members about why it's dropping out?

**MR HOSKING:** I think it's an issue with the satellite technology at the moment. I think, you know, cloudy overcast weather certainly seems to have an impact. You know, in terms of the cause of it, you know, I'm not really qualified to give that answer, but I assume it's something that NBN are aware of and would be working to address, but at the moment it's not - well, as of Friday it's not addressed at Manangatang, so - - -

**MR LINDWALL:** Thank you. Yes. What do you think the appropriate way of funding a Universal Service Obligation - at the moment, you know, it's funded on some of the carriers under a telecommunications industry levy, and the government has released a regional broadband initiative which it's looking at funding the NBN in a slightly different way. Do you have any comments on those?

**MR HOSKING:** Look, I don't think we have a strong view, other than that we don't see any reason to - you know, if you've got an existing funding source there, you know, that could be used to improve connectivity and to ensure connectivity across Australia, why take it away? Why not continue to use it, you know, more creatively and more ambitiously to fix those coverage gaps?

**MS GORDON:** And I guess following on from that, with looking at an industry-type level when we've responded to the ACCC inquiry into inter-carrier roaming, which I understand is outside your scope, but we've looked at the USO industry levy model as something that could potentially be picked up and adopted into the inter-carrier roaming space as well, to be able to encourage, I guess, longer-term investment into, for us in particular, mobile black spots.

**MR LINDWALL:** We may as - while you're talking about mobile black spots, would you like to talk about that program and what you like about it and what you don't like about it, and how it could be improved, or how many more rounds you think there should be?

**MR HOSKING:** Yes. Well, as Mel alluded to, we have advocated for inter-carrier roaming - - -

**MR LINDWALL:** Yes.

**MR HOSKING:** - - - because one of the challenges we face in rural Victoria, or rural Australia in general, is that we - the infrastructure requirements that we face are enormous, and I guess to rely on any one carrier or provider to service all those

infrastructure requirements isn't possible, so without sharing of that infrastructure, so we've advocated very strongly for that.

In relation to the Mobile Black Spot Program, we're very supportive of it, and it has made a big difference in some areas, but the task is bigger than the funds that have been allocated to it, and so, you know, until we get to a point when I go out to a hall and - we keep saying Manangatang, if I go out to Manangatang or to Ultima or some of these place in rural Victoria and all of a sudden the growers aren't telling me about telecommunications - - -

*(Mobile phone ringing.)*

**MR LINDWALL:** Sorry about that.

**MR HOSKING:** Sorry?

**MR LINDWALL:** Should have turned off my own mobile phone. Continue. Sorry.

**MR HOSKING:** Yes, no, you're right, Paul. Until we reach a point that they're not telling me that telecommunications are their biggest challenge, then, you know, more needs to be done in that program.

**MS GORDON:** And I think particularly what we're seeing with - while we have a reasonable overall coverage of mobile connectivity in Victoria, it's that ongoing reliability that our farmers have challenges with. So if there's - particularly over summer holidays and school holidays is always when the - when all the kids are home from school, they're drawing down on either internet or mobile phone data access, and your speeds are dropping out or becoming a lot slower, so it's that reliability of connectivity that is probably the biggest issue for members.

Most people have some sort of level of connectivity, but at least, as Telstra or any other corporation would say, yes, they cover this area. I guess there's that reliability that we're not experiencing in Victoria in particular.

**MR HOSKING:** And just to add to that, the nature of agriculture is it's seasonal.

**MR LINDWALL:** Yes.

**MR HOSKING:** So you know, we've just come out of our - probably for - I'm a grain grower, so for us our peak season is that November/December period, which is our harvest time, and I guess it would be fair to say it is rare to say to hold a mobile telephone conversation for longer than 10 minutes without dropping out, during those peak periods, and you know, it's simply a matter of redialling, but that's the reality of the huge load that comes on the tower during that period, and of course, if you went there in the middle of winter then there'd be very little demand on the tower.

**MR LINDWALL:** Yes.

**MR HOSKING:** So the infrastructure has to be built to cope with the peak, not with the  
- - -

**MR LINDWALL:** You're not used to standing outside for long periods of time in winter. Yes, no, that's true. I mean, that's - I think you'll acknowledge, no, that no system is perfectly reliable.

**MR HOSKING:** Yes, yes.

**MR LINDWALL:** I mean, the fixed line to the home is not 100 per cent either, so - - -

**MR HOSKING:** Yes.

**MR LINDWALL:** So I mean, what type of services do your members still use in terms of fixed line to the - the Universal Service Obligation as it currently stands, are they still strongly supportive of it, or do they just want it changed?

**MR HOSKING:** They - and I guess our submission hopefully reflects that, that they want reliable access to telecommunications and data. Now, we say they don't really care how it's delivered, and to a certain extent they don't as long as it's reliable. You know, if it means tying two cups together with a piece of string, if that works and it's reliable then let's do that.

But I guess, the copper wire principle, for many of our members that's become redundant, but not all. So that's probably the challenge that we're facing. We're in that middle period at the moment, but - - -

**MR LINDWALL:** Well, I can understand that if you have less reliability than you like, you will want alternatives to give you a greater certainty about what you are getting.

**MR HOSKING:** Yes.

**MR LINDWALL:** Anything else you'd like to say about the satellites as you observe them, and what you've said already? Is there anything that should be - what more could be done apart from the continued rolling out of the service and improvement of it by the NBN? I mean, could you comment, for example, on the retailers and your members' experience of dealing with the different retailers? Are they getting sufficient information about what they should expect, et cetera?

**MR HOSKING:** Yes. When it comes to satellite, it would appear that the number of retail options that you have as a consumer is less than - - -

**MR LINDWALL:** About 12, is that about right?

**MR HOSKING:** Could be. Yes, look, I don't know the exact number, but certainly there's a world of opportunity if you have NBN to your premises. There's a slightly

smaller but almost equal world of opportunity if you have, you know, wireless access to NBN.

**MR LINDWALL:** Yes.

**MR HOSKING:** If you're going for satellite access, then there's only a very small number of - or very small pool of retailers that you can use, and what we do know is that - I guess, and it's one of the things that our members express about the NBN quite frequently. They know it's going to cost them more. They know it's going to be reliable. They know the speed is going to be slower, and they know the capacity is going to be smaller. So they know they're paying more for an inferior system based on where they live. And that's one of the frustrations they experience. In terms of dealing with the - - -

**MR LINDWALL:** But they understand why it might be more expensive?

**MR HOSKING:** Look, I think when NBN was first announced, and this is going back many, many years ago, many of our members and many of, you know, people living in our communities, said, "Isn't this going to be great? We're going to have internet and that that's equal to everybody else in Australia, they'll have it 97 per cent, and we're going to be paying the same, and everything's going to be fair and equal."

But it hasn't turned out that way. The reality as it's rolled out is that the world's different depending on where you live.

**MR LINDWALL:** So do you think there were false expectations, or a misunderstanding of those - - -

**MR HOSKING:** I think as those - as the information became available then the expectations were curbed. That's a polite way to say it.

**MR LINDWALL:** Well, I mean, I've grown up on a farm myself, so I know some of the frustrations that come with living in rural areas.

**MR HOSKING:** Yes.

**MR LINDWALL:** You know, it's a longer time to get to a hospital, and getting emergency services, obviously. I mean, that's the nature of the beast, but I don't know if there's anything more that can be done. Everything - every improvement, if it's being well-delivered, costs more money, and it's a balance where the money should come from, how you should fund it, and what's the alternative use of that resource, which might be for something else.

**MR HOSKING:** Yes. We do hear anecdotally, again, of a tremendous amount of - I'm trying to use the right word - clunkiness, maybe, in the actual rollout. The actual getting someone to come to your property and fit the satellite, fit the wireless connection, is slow, unreliable and almost unreasonable in their expectation of what the customer will provide, you know?

“Will you be available between Monday and Friday between 9 and 5 each day?”  
Well, that’s a fairly unrealistic expectation for somebody who doesn’t work out of their home, who works in a paddock with minimal access to connection.

**MR LINDWALL:** I did hear that in, say, in Cairns, people were concerned that some of the workmanship of the satellite installations was shoddy. Is that something you’ve heard too?

**MS GORDON:** I haven’t.

**MR HOSKING:** Yes, look, I - - -

**MR LINDWALL:** Maybe that varies where you are.

**MR HOSKING:** Yes, I know of one neighbour who’s been quite frustrated with the fact that they’ve been to his property three times now to fit the satellite, and seem to leave the right part to put it on the roof behind every time they come, or a different right part, maybe, but you know, look, that’s - maybe that’s employing the cheapest contractor, I don’t know.

**MR LINDWALL:** Yes. Well, I think we’ve covered all of those types of issues. Could you, just for the record, talk about some of the technological benefits that come to running a farm using broadband, and what are the types of scope there might be?

**MR HOSKING:** Yes. We’re in this really - I almost call it an exciting space at the moment in agriculture for what we can do with technology. We already see a lot of the machinery that we buy, particularly in the United States, where in their rural and farming communities they actually have very good wireless connectivity.

So we’re seeing headers that can be monitored via the factory, their manufacturing experts there, to ensure that they’re performing at their peak capacity and that they’re performing in the most sustainable and efficient manner as well.

So you know, that’s a really exciting improvement. We’re seeing much more technology. We’ve seen a rollout of - one of the Water Commissions in north-west Victoria has fitted wireless meters on their water meters, so a research group, a grower-owned research group has attached weather stations to many of those wireless stations.

So, you know, we’re actually starting to map things like frost events and rainfall events - - -

**MR LINDWALL:** Yes, yes.

**MR HOSKING:** - - - down to a very, very small area, which is - poses, you know, huge benefits potentially for productivity.

*(Mobile phone ringing.)*

**MR LINDWALL:** What's this thing - - -

**MR HOSKING:** Another one going there? But also benefits in terms of insurance and that sort of thing, ensuring that we have a competitive market there. In terms of what the future may hold, I recently visited a property at Sutton Grange, so just between Melbourne and Bendigo, where they had set up a - they call it a daisy chain network, bouncing off a wireless NBN, you know, base station, which was a couple of kilometres from the property, and they had it down to the point they had a cover on a couple of sheep, and they had a monitor about the size of your mobile phone with a solar panel on top of it, and they monitored that sheep's temperature constantly, its movement, and even in the middle of the night it would alert the grower if the sheep was moving abnormally, perhaps a fox in the paddock or someone trying to steal it.

The animal welfare opportunities that something like that presents, in terms of - - -

**MR LINDWALL:** Yes, yes.

**MR HOSKING:** - - - even that temperature monitoring and being able to identify a sick animal before it shows any symptoms, that's enormous, and from a biosecurity point of view, when we live in a world where people are more and more frequently travelling overseas, or even ordering things direct overseas, and you know, we hear examples of people ordering machinery parts from overseas and they're being sent to the middle of a - perhaps a grain growing area, and then the packaging is being opened there in the paddock, where if there is a live insect in that paddock, then there's a huge biosecurity risk to our agricultural industry.

So we're entering into a world where the world's coming to us, but without that connectivity we don't have the opportunity to monitor and protect our borders in the same way, so I think there's an enormous wealth of productivity that's going to be kind of uncoupled if we can get this connection thing right, so yes.

**MR LINDWALL:** Yes, I can understand that. Are there any final questions, and then I'll ask a few?

**MR HOSKING:** Yes.

**MR LINDWALL:** I understand there are technologies where people in farms can take their broadband connection from their premises and basically transmit out to paddocks. Is that something that you've seen a bit?

**MR HOSKING:** Yes. That's the daisy technology that I looked at at Sutton Grange, and that was set up by a couple of young guys who are computer engineers, and it was as much a demonstration to kind of prove what could be done and prove to themselves that they could do it, kind of a new business venture.

What I can understand, it was done on a small property, so you know, a few hundred acres, so - and the closeness of the relay stations was probably - it was hilly country, so admittedly they would have had to be a little bit closer, but they were probably no more than 200 metres away from each other, so practically implementing that across a 5,000 to 10,000 acre grain growing property or broad acre farming property at this stage isn't really realistic, but we are seeing those opportunities come, and it will be exciting when they do.

**MR LINDWALL:** Yes.

**MR HOSKING:** It isn't the ultimate - like, the ultimate solution is to have that - you know, whether it came from a mobile phone network that was reliable, whether it came through a satellite that's reliable, it could come to the tractor cabin, could come to the dairy, could come to the hay shed, could come to the - you know, wherever it should be, wherever the grower might need it, and wherever technology can aid what we're doing and make us better farmers and - - -

**MR LINDWALL:** But I think - I would imagine that the type of data that's required - the amount of bandwidth that's required for transmitting from the paddocks is not that much, really, is it?

**MR HOSKING:** No, no.

**MR LINDWALL:** It's not like you're streaming videos out there.

**MR HOSKING:** No, no, we're sitting on YouTube in our tractors. But yes, look, I guess that - at the moment, we don't have a reliable enough network to deliver that, so I guess that's the big - that's the final frontier, really.

**MR LINDWALL:** Brett or Melanie, do you have any final comments you'd like to make?

**MR HOSKING:** No. Look, I think we've covered most things, but I'd certainly like to emphasise that point that, you know, it would seem that at the moment the level of - you know, and it seems to be coming from government, from telcos, from, you know, all service providers. NBN's one as well. That it seems that geography, where you live, determines the level of service that you could expect, and to a fair-minded reasonable person, it doesn't really seem right, and I think we've got a big task ahead of us to fix that.

**MR LINDWALL:** Indeed. All right. Well, thank you very much for coming today, then.

**MR HOSKING:** Thank you.

**MR LINDWALL:** We might have a morning tea break for everyone. I think we've got some instant coffee out there and a few other things. I don't know what's out there, but maybe we'll go and have a little break and then we'll resume in 20 minutes or something.

**ADJOURNED**

**[10.31 am]**

**RESUMED**

**[10.50 am]**

**MR LINDWALL:** You're both ready?

**MR FORMAN:** We are.

**MR HEALY:** Certainly.

**MR LINDWALL:** So David, would you like to introduce yourselves and make a statement as you see fit?

**MR FORMAN:** Yes, so David Forman. I'm the public officer of the Competitive Carriers Coalition. I'm also the senior manager, industry and policy, for the Macquarie Telecom, which is a CCC member. So both organisations have made submissions into both. The issues that are raised in both are consistent, but we can speak to either of those if - - -

**MR LINDWALL:** Excellent, yes.

**MR HEALY:** And to the extent I have to wear a different hat, yes, Matt Healy from Macquarie Telecom, who is the executive for industry and policy. Perhaps David could start off.

**MR LINDWALL:** Go ahead, David.

**MR FORMAN:** If I might. Thank you for the opportunity, and thank you for the work into the draft report. We found it - we welcomed the freshness of thinking. I think particularly if we might reflect on the history of our time in dealing with the USO, one of the difficulties with dealing with issues around the USO has been that it's been very poorly defined and confused as to what its purposes are, and that's become more evident in time, or more of an issue over time.

And I think that's because the USO is a device that was conceived and designed really in a very different era, a very different era of technology, a very different era in relation to the nature of the telecommunications industry, and a very different era in regard to the view of the role of government.

In a sense it was developed in a time where it was sort of a direct linear path from the old Postmaster-General running telecommunications, so it reflects in some ways that kind of thinking that the government will resolve whatever problems there are, and that Telstra was still perceived largely as an instrument of government at that time, and of course we're in a very different world today.

But I think part of the issues that we have in dealing with the questions that arise around the future of the USO arise because people inject their expectations into this policy device, which really, as I think you've mentioned a couple of times, it's actually quite simple. It's trying to deliver a universal availability of a thing called the standard telephone service, which in our view, again, we would agree with the Commission, is an outdated concept, and not a useful one to take forward.

The Commission's use of the ideas of availability, accessibility and affordability in designing a future USO, for want of a better expression, I think is also very useful, because it allows us to separate the NBN and the investment around that, and the accessibility and availability issues into that bucket, and then the affordability - the affordability questions can be dealt with separately, and we would regard those questions very much as issues that should be resolved with the lens of social welfare programs.

I think that would bring a much clearer focus to the design of those programs and the expectations of those programs, and separating - utilising the opportunity of the NBN to separate the availability and accessibility questions also allows to do something that's not been done effectively in the past with the USO, and that's to consider the competition implications of the policy.

Certainly those competition implications are the things that are top of mind for much of the rest of the industry. The USO acts as a device that impedes upon the ability of people to compete with Telstra, because it provides a subsidy that is, as the draft report finds, and we would certainly agree, a subsidy that is very, very loosely defined and very, very loosely administered, and we suspect the money that we - every member of the CCC and Macquarie Telecom specifically hands over to subsidise Telstra, we suspect that it's used to advance Telstra's commercial interests, simply because the lines of what the - the boundaries of what can be done within the USO are so blurred and confused, and the opportunity to clarify both the competition implications of the USO through the use of the NBN and define very, very much more precisely who it is who should benefit, and treat that as a social welfare issue to be dealt with on the budget, is potentially a great fork in the road, and we really welcome the Commission's reflections in its report.

**MR HEALY:** I might just make a couple of observations as to why Macquarie Telecom sees the importance of being here today and participating in the Productivity Commission's work here. Firstly, Macquarie Telecom started almost 25 years ago, so entered the market as a new entrant on the opening up of competition at a time when perhaps the standard telephone service as it's currently defined was relevant and was useful and had a place in the communications market.

However, 24 years, nearly 25 years on, I think obviously the world we operate in has moved on a long way from the rotary dial dial-tone and Bakelite handsets. So I think we bring some of that historical view to the debate here and the discussion, firstly.

Secondly, we obviously write a cheque each year, as David mentioned, contributing to the USO, and we therefore have an interest, both from our shareholders' perspective of ensuring that that money is well spent and that it goes to the targeted areas that is most beneficial, if at all.

So both the history, the writing of that cheque is something of interest to us. Thirdly, our target market has always been corporate Australia. So Macquarie Telecom's target market is medium size enterprises up to not quite the largest top end of town, but sort of those that are perhaps below the top 50 companies in Australia, down to those that employ perhaps 300 or 400 employees, and as such, we're the sort of engine room of the economy, and it is very much our customers who need to make - they need to be able to communicate with and contact consumers in order to then be profitable and survive, so our ability to meet their needs is in turn important.

If their communication services with their customers is deficient or is not as it should be or is not as broad as it could be, the target market, the addressable market, if it's not as effective as it could be that is an effect on our customers.

So that's sort of the history of the money, our customer base, and I think our insights into what might be loosely called the new economy. So many of our customers now are companies that were born on the web, so they were not encumbered with some of those legacy arrangements of how one needs to organise oneself with infrastructure, but make use of the internet in particularly, and data services more generally to run their businesses and contact their customers. And these are companies like BPay or Flight Centre or Webjet, that - and those insights of those - very much those digital economy companies, and who in turn need to contact and be able to be contacted and communicate with their customers, I think we can bring some insights into why having the kinds of underlying bedrock telecommunications services in this country available to all at a fair price is something that's important to consumers, our customers and us, and our shareholders.

**MR LINDWALL:** All right, thanks, Matt. Your submission and comments suggest that the actual cost of the current Telecommunications Universal Service Obligation are considerably less than the \$300 million per annum that's been paid. Do you have any evidence for that? Or how would you calculate that?

**MR FORMAN:** That's a good question. I don't - we're not in a position to calculate what it should be, other than to look at the amount of money that's spent and to try to map that against the kinds of estimates of the numbers, for example those in the draft report, the numbers of payphones that are being subsidised and the cost of those, what it would cost to build an extensive network, and what we could do at Macquarie Telecom with \$200 million of capital compared to the - just \$200 million of capital, which is the industry levy part, compared to the number of, again - you know, from a social welfare

perspective, the number of individual citizens who you might say have a network connectivity issue.

And again, I think that's where the question of affordability, it's very useful to separate that out, because we have no legs on affordability.

**MR LINDWALL:** Now, of course, in our report we've tried to structure our response based upon the practicalities of what we see in front of us, and one of it being NBN, obviously. The USO as it stands and the NBN are creatures of the government, to a large part. They're highly regulated. They've been structured by funding directly, whereas the mobile phone service has grown organically, one could argue, with limited government regulation and limited government support.

Obviously the Mobile Black Spot Program is expanding that, and I think in our draft we said that we wouldn't think that there's a need to increase regulation in that space. Would you agree with that?

**MR FORMAN:** We don't believe that mobiles should be captured by a new USO. We think that there are competition concerns in mobile markets, and we've been on the record discussing those. For example, the nature of the wholesale arrangements, the absence of commercial roaming arrangements, and the debate, ongoing debate, around what parts of the continent constitute a natural monopoly for mobile services and what the appropriate regulatory arrangements are to deal with that.

But all of those issues we would regard as being things that should be regarded separately to the USO as it stands today and how it should be taken forward on the basis of the NBN.

**MR LINDWALL:** Yes.

**MR FORMAN:** If you regard the NBN as providing a minimum universal standard - and despite the debate that was had in this room earlier today, it remains our understanding that the USO - sorry, the NBN is intended to provide a minimum download speed to all Australians.

That to us is a very neat place to evolve our thinking around the USO rather than trying to capture all of these other issues that are ongoing in the mobile space.

One of our reasons for saying is it gives us the ability, as I said earlier, to, for the first time, put a competition outcomes lens on a new USO, because we've separated a wholesale platform upon which anybody could then be asked to provide services to social welfare recipients. That is not the case in mobiles. As soon as you began to include mobile services in a USO, you would start to reduce the field of people who could compete to deliver those services, because those are vertically integrated markets.

**MR LINDWALL:** Do you have any comments on the Mobile Black Spot Program?

**MR HEALY:** Certainly. Well, we think that the funding arrangements for quite some time are fundamentally flawed. It - the Mobile Black Spots funding outcomes are a useful piece of evidence to demonstrate the natural monopoly characteristics of much of regional and rural Australia in terms of mobile connectivity and service availability.

At the competition level, absent government funding, we're of the view that there's an incentive for Telstra, as the operator with the largest coverage, to essentially only need to have coverage that is one tower further out than its nearest competitor, which is often Optus, and sometimes it's Vodafone. But if we take the loose market shares of Vodafone first and then Optus second and Telstra with the largest footprint of coverage, Telstra doesn't really have an incentive to build out beyond Optus very far. It only needs to be somewhat further out from it as the costs associated with deployment further out where the densities of consumers is not that high, means that it's probably often not worth it doing it.

So then when the government decides to, for largely political reasons, make available to those in the regional areas that currently don't have coverage - if it puts its hand in the pocket of the taxpayer to fund an extra build, you can see that it kind of makes sense for it to increase the Telstra coverage, because to pay Optus to go further than Telstra would cost more than just the incremental build out by Telstra.

So you have this sort of - the Black Spots funding largely sets up an unhelpful cycle, whereby in order to increase availability of mobile services in the regions, the taxpayer is funding Telstra to build out a monopoly that is ever increasing, and that acts as a competitive constraint against those that, you know, would also seek to be able to get some government funding to compete against Telstra in those areas, like Optus and Vodafone.

So I think that is a flawed arrangement, because value for money on the short-term would say that, yes, Telstra makes sense to be given the money to increase its footprint. It's already got the largest. If you want to increase that, well, give it to Telstra. But the problem is, that just is a competitive advantage to Telstra that actually affects Macquarie Telecom back in the cities, because the ability for Telstra to sell its mobile services bundled with services in the city to a business, where - and to be - you know, to sort of use a fairly crude example, where the CFO of a corporation that Macquarie might want to be trying to win the business of, if that CFO happens to have a beach house on the coast, she might only have connectivity with Telstra, so she will - and that company will be minded to try and get the Telstra over the line as against Macquarie, who can maybe get wholesale services from Optus Mobile or Vodafone Mobile, or a sort of a cut-down version of the Telstra mobile footprint, but will never have the full coverage that Telstra has, so therefore its coverage in the regions gets leveraged back into - its monopoly power in the regions gets leveraged back into markets that should be fundamentally competitive like urban and business markets.

**MR LINDWALL:** So you think that the CFO is acting in her self-interest in that - - -

**MR HEALY:** Well, you know, I didn't mean to say that, but these things happen from time to time. But you know, I'm sort of taking the example to the extreme, but it is that area. Other areas is we are largely kept out from the fleets of services for the logistics industry, because they are operating in the region, it's very much they rely upon connectivity.

We're also kept out of many corporate deals where machine to machine functionality - so is the sort of Internet Of Things, where machines, whether it's farming machines or mining machines, need remote connectivity to provide diagnostics that will have you back into head office or back into the central office.

And again, it's the coverage player that runs the show there, and we find it unacceptable that taxpayers' money goes to deliver Telstra that business.

**MR LINDWALL:** Sorry, David, were you about to say something?

**MR FORMAN:** I was just going to say that the model of funding for mobile expansion really hasn't changed for 20 years. Some of the sort of competitive tweaks and obligations have been dialled up and dialled down in different laws, but sadly for both of us we've been doing this sort of thing around this industry for a long time, and there have been program after program, always seem to have the same outcome.

There's never strong access requirements on the grants that go to, largely, Telstra, which just continues to expand its footprint each time it becomes available.

**MR LINDWALL:** I assume you've been submitting to the ACCC inquiries?

**MR HEALY:** Yes, most certainly. But I think there is something of relevance here back to the present inquiry, in that the solution, as it were, for the mobiles issue is really around having wholesale access, and regulated access, and in the NBN space, in the fixed line, in the USO context, that's also what should be there, and largely is there, because we have a wholesaler who can't retail, so is incentivised to seek retail service providers to service customers.

So I think there is a model here with the NBN and potential USO delivery for areas that are non-commercial - there is a relevance over to the mobiles regulation, where again, I think in the areas where it is a bottleneck, where you can only commercially justify one operator, then that operator ought to be - provide wholesale services to other operators to ensure that consumers in those areas get choice.

**MR LINDWALL:** But Telstra says that it does provide roaming agreements and access to its network to other competitors, if they wish to pay for it.

**MR HEALY:** I think that the price and the terms of that payment, absent regulation, I think history shows a monopoly generally doesn't have a great incentive to provide - well, not a monopoly, but those with market power don't necessarily have an incentive to strike deals, absent regulation.

**MR FORMAN:** And I think just also, without wanting to get too far diverted into the mobiles world, I'm not sure that Telstra has any roaming agreements at the moment. They have had limited ones in the past, but I don't think they have any at the moment, and separately to that, there are wholesale agreements, where companies such as members of the CCC can re-sell Telstra products under their own brand, but what has happened over time is that the ability of those companies to leverage their own network investments to transform those products has become less and less, so now there is very little ability to manage the back end of the data, for example, much less than there was previously, and the product itself is geographically constrained and has performance constraints on it.

So I think Telstra - yes, Telstra does participate in wholesale markets on a commercial basis, but there's no countervailing market power in the negotiation, so it kind of does what it thinks it can get away with, and what is in its commercial interests.

Just to that issue of the importance of separating the wholesale from the retail market, again we would say, going back to the importance of utilising the NBN in the context of any new USO, while it also identifies the geographically marginal areas, it also provides the opportunity to service those customers for whom there is an affordability issue anywhere in the country, because we all know what the prices of providing the service will be.

If people aren't able to afford the service that has that sort of uniform wholesale component and a commercial retail margin, then they will pretty quickly become - it will become clear who those people are, and so it should be possible to have very, very precisely designed and targeted social welfare policies to pick that up.

**MR LINDWALL:** Which is what we basically said, targeted approaches.

**MR FORMAN:** Yes.

**MR LINDWALL:** Now, how many of your members would offer as retailers NBN products?

**MR FORMAN:** I think they all do now.

**MR LINDWALL:** Including. Including the satellite zone? Could you talk a bit about the challenges as a retailer of NBN products, and what type of feedback you've received? And I can talk about some of the feedback I've received, not about necessarily the members, but generally about retailing in NBN?

**MR HEALY:** Yes. The issue around - the key issue around NBN for Macquarie Telecom to date is around two areas. One is the lack of a business-grade service, which is perhaps not necessarily germane to the current inquiry. So that's one, but if we park that, the second one is around the fostering of a wholesale market.

The way NBN, as you probably appreciate, is set up is that NBN is responsible for the - from the network from the front door of the consumer all the way through to the point of interconnect, which is a hand-off point, 121 sites around the country, and at that point, that's the end of NBN, and there's two options, really.

One is that a retail service provider like Macquarie Telecom goes out and builds network or acquires network - - -

**MR LINDWALL:** At each of those 121 - - -

**MR HEALY:** To the 121. Or where it doesn't have sufficient density to justify that build, because it is quite expensive to build out to these points, then it - the hope was that there would be a wholesale market at that point.

And indeed, when the 121 points of interconnect were established, the market structure at that time indicated that there were a couple of things that gave us confidence that there would be a wholesale market for backhaul, as I'll call it, from the POIs back to where we have existing network.

The reason we were confident about a wholesale market and that 121 seemed to be the right number was because there were some independent network owners at that time, like Next Gen and Vocus, who didn't really have retailing operations so much as wholesaling, and they were obviously looking to deliver into that market.

Secondly you had quite a degree of independent retailers, so iiNet, Macquarie Telecom, Internode and others who were independent of those vertically integrated network owners, so they had a pool of traffic, and so they would be able to sort of shop that around to the wholesale market. So that was another reason why we had some confidence that there would be that. And we also had the words from some operators that said, "Yes, we will build out, and yes, we will provide those services."

But kind of fast forward the three years or four years in a sense since that initial establishment of the 121, we have a very different looking market structure. So we've had a lot of consolidation whereby those independent operators, the independent retailers, have been bought by integrated wholesaler retailers.

So the classic example is iiNet being bought by TPG, and then TPG picking up - - -

**MR FORMAN:** AAPT.

**MR HEALY:** - - - AAPT, which was one of the independent network owners - - -

**MR FORMAN:** And Next Gen.

**MR HEALY:** - - - and Next Gen going to Vocus. But if I focus, the easiest example is to use TPG, just as a sort of a neat example. TPG now has - as a vertically integrated operator at each of the 121 interconnect points, it's really interested in providing traffic

for itself, as it were, and is not particularly incentivised in these early - certainly, we've found, in the early days of NBN, to establish a wholesale market.

So you have Telstra that's vertically integrated and seeking to maintain retail margins and therefore focus on retail services. You've got Optus in the same bucket, and then you've got TPG in the same bucket, means that there is, quite frankly, no wholesale market of any effective kind for an operator of our size.

Now, the idea of NBN was that by having wholesale only and open access and non-discriminatory pricing principles that there would be a relatively low barrier for entering the market, and you would get niche providers and those that had particular technologies or market segment focus, and you would get some real competition going, and I think these early days of market share statistics that are coming out, and we saw some last week, indicate that that, you know, hasn't happened, that you've just got a consolidation at the retail level of those three larger operators, slash four if you include Vocus, and the slice of the pie that's left for either newer entrants or niche providers or whatever seems to have narrowed, and that's a real concern because, you know, we've got enough concentrated markets in this country, whether it's groceries or, you know, airlines or banks, and - - -

**MR LINDWALL:** That wouldn't be true of all 121 points of interconnect, though.

**MR HEALY:** No, it wouldn't be. So in - I think I'm right to say Exhibition Street is a point of interconnect. So at that location there is plenty of coverage. But Macquarie Telecom finds that if we were going to win a customer like JB Hi-Fi, for instance, that's fine, we can service all of their CBD offices and outlet through a POI that we can commercially get into, Exhibition Street, but it's not much use for their Bathurst shop or their Bendigo store.

Out there, we literally have no connectivity because there is no wholesale market for a POI out in Bendigo, and so for us to get - to connect to that one customer that we might have at Bendigo at the moment, it would be literally hundreds of thousands of dollars a month to get the cable out there and provide the interconnect, and we obviously can't recover hundreds of thousands of dollars a month from that one site of that one customer.

So for those that are nationally focused, if we can't go to the 121 POIs through wholesale arrangements, it really does constrain our market, and it's difficult to win deals. I think - - -

**MR LINDWALL:** So how many of the 121 would you say are more problematic?

**MR HEALY:** At this stage, I think a good 40, yes? And the pricing constructs of those that might offer services out there are not particularly attractive. They require you to buy either large chunks of bandwidth, and in that example I just gave with JB Hi-Fi, if we've only got one customer at Bendigo it's difficult for us to buy capacity for, you know, 100 customers initially, so the pricing constructs don't work very well, and that's partly because of the way that NBN has structured the interconnect arrangements.

So we think there's some flaws that really do need to be shaken out here, and I think until a wholesale market emerges, the simplest option is to provide hand-off at more centralised areas until there is a degree of competition, and the wholesale market might emerge, and then, you know, those POIs in the capital cities could - well, the regional POIs could be, as it were, turned on after that.

**MR LINDWALL:** How would that be achieved?

**MR HEALY:** Through regulation, yes. I mean, the POIs are purely a construct of regulation, so this can be done.

**MR LINDWALL:** What about third party access under the Competition and Consumer Act?

**MR HEALY:** To those - to the POIs, or - - -

**MR LINDWALL:** Yes, to backhaul from these - or what you'd say is retailer/wholesaler conglomerates?

**MR HEALY:** Yes, this is a - the problem is that the Commission decided that the 121 sites ought to be competitive, so they're not, in a sense, subject to regulation, so it's a bit of a Catch-22 situation. They won't - they're not regulated, because they're meant to be competitive.

**MR LINDWALL:** Yes.

**MR HEALY:** We say they're not competitive, they should be regulated, so we need to go back and revisit this issue.

**MR LINDWALL:** And argue the case, yes.

**MR HEALY:** Yes.

**MR LINDWALL:** And - sorry.

**MR FORMAN:** Sorry, I was going to say, another issue on the other side of the POIs, as it were, that affects all of the CCC members is the pricing construct of NBN itself. So I'm sure you've had plenty of submissions that have spoken about the CVC element.

I mean, fundamentally there are two problems with the CVC pricing arrangement. First is it's simply too high. But secondly, it's a mismatch between the way retail markets are priced and the wholesale product is priced. So the retail markets are flat monthly fees to consumers. The CVC is a usage-based charge, so as people use more data, which everybody wants them to do, it's going to - NBN, ourselves included. As they use more data, the wholesale component of - the CVC component of the wholesale cost goes up, and so the retailer's margin shrinks, therefore the retailer is put in a position where they

have to limit the download capacity of the service to the end user in order to stay in business.

That needs to be dealt with at some point. That's an unsustainable situation.

**MR LINDWALL:** There are discounts available, which I think Telstra has commented upon.

**MR FORMAN:** There are, yes. There's a - - -

**MR LINDWALL:** On CVC charges, which if you have large volumes - --

**MR FORMAN:** As your volumes go up, your charges come down.

**MR LINDWALL:** Yes.

**MR FORMAN:** But all that means is that retailers just sort of bump their head at this capacity price point regularly. As usage goes up, there's no sort of stable margin that they can rely upon. And it's all subject - I mean, we have raised an objection, CCC, to NBN's use of the term "discount", and they're keeping the opportunity for themselves - the option for themselves open of taking those away over time.

I mean, clearly this should be a ratchet arrangement where the price comes down with usage, because nobody can build a business sustainably on the basis that, "We're doing you a favour this month, but at some point we might take it away."

**MR LINDWALL:** Some of the comments we've received in some of the hearings and submissions have related to uncertainty about who is responsible - well, clearly the retailer is responsible for dealing with the customer about an NBN issue, but basically finger-pointing about who's actually going to fix the problem, whatever the problem might be.

Is there anything that should be done further about improving the understanding by consumers about their rights and obligations?

**MR FORMAN:** There's a - I think there's a historical problem around who's responsible for things like the customer service guarantee, and then there are issues about how we communicate with customers in the NBN world, and again, I think a new USO maybe can deal with some of these if we have a review - timely review of our customer service model.

At the moment under the existing customer service guarantee arrangements, the obligation is on the retailer to meet those obligations, and yet very often they will have absolutely no capacity to ensure, for example, that network faults are repaired in time, because they're reliant entirely upon Telstra providing - - -

**MR LINDWALL:** Or NBN.

**MR FORMAN:** - - - that service in a timely fashion. In the existing model.

**MR LINDWALL:** Yes.

**MR FORMAN:** In the NBN model, those same problems exist, but there's an added complication in that it's partly a result of the important rigour around structural separation of NBN, that the communication between NBN and the retailer needs to be transparent and useful and timely, but the responsibility for the communication with the end user customer has to sit primarily with the retailer.

I think there are some teething problems as to how we resolve that over time. I think the primary issue needs to be making sure that we've got the right communication between NBN and the retailer so that the retailer knows what's going on and doesn't find out from the customer that a connection time was missed, which NBN has not communicated to the retailer.

**MR HEALY:** I think we have suffered from the impact or the effects of the change to the multi-technology mix, where areas that were expected to be and were on a roadmap that indicated they would fibre to the premises become fibre to the node or perhaps an HFC based service, and that creates problems for RSPs because they may have been planning for, and in our context we might need to - the implications of one site of a customer becoming NBN might mean that the data network that is being used by that customer across a number of sites, some of which are NBN and some which aren't, probably needs to be reconfigured.

And the way we would reconfigure that if it's a fibre service or it's a copper based service or an HFC. So if there is a change in the deployment class and we don't know about it or we find out late, there's real knock-on effects with the way that the customer's expectation has been set, and then - and so there's a bit of a sort of - it's the classic sort of finger pointing of whose fault this is, and at the end of the day the consumer is the one that's getting duded here, and they will initially blame the RSP, because that's where the relationship is, and it's a source of aggravation that unless there's decent transparency between the RSP and NBN Co about its roadmap and where changes are happening and when and - that has to be crystal clear, and it's not, to date. It's not as good as it should be or could be.

**MR LINDWALL:** So should retailers communicate better with the consumers about if they sign up for a particular package, 25, 50, 100, 12 - - -

**MR HEALY:** Yes.

**MR LINDWALL:** - - - what type of download and upload speeds they should expect on average, and a minimum, perhaps?

**MR HEALY:** Well, I think they should, but unfortunately things like the CVC pricing model and the differences in technology that are out there that deliver different outcomes

means that, from my viewpoint, retailers are no longer really selling services as much on speed.

I happened to be lucky to get NBN under the first round as a consumer at home, and I was offered speeds and download volumes that I could choose from as sort of a smorgasbord. Fast forward to today, and I cannot do that. I just get the download limit that I would be purchasing from one provider or another and a couple of other bells and whistles, but I won't get commitments for speed anymore from the major providers, and I think that's because of the uncertainty around what they can provide because of the different technologies that have different limitations from the access side, and then also the things that they'd need to do to manipulate and manage the backhaul in order that their costs don't blow out as a result because of the CVC pricing construct.

So all of those things are problems for the RSP to manage with the end user, but I think at their heart is about decisions that NBN has made, so I think if we could get a better model for the CVC pricing and we get better and more transparent flows of information between the RSP and NBN Co, I think the consumer's going to be better off, and they will start to get those choices, and they will be able to pick and choose some offers in the market that are real differentiations.

**MR FORMAN:** It's inevitable that the multi-technology mix will result in greater consumer dissatisfaction even if there is complete transparency about what's available to an individual consumer, because there's now always going to be a situation where people in one street are going to have a technical constraint that people in another street don't, so people in one street will inevitably be told, "Okay, you're buying a service that's up to 25." People in the other street will be told, "You'll get 25, because you're on fibre."

That's - you know, I mean, that's a heartache that we're all going to have to deal with in the industry and it's going to be a communication challenge. You can imagine what it's like for consumers trying to deal with this.

**MR LINDWALL:** Government, of course, has said that the multi-technology mix has enabled the NBN to be rolled out quicker to more customers than the alternative, and - is that a reasonable argument?

**MR FORMAN:** They've said that.

**MR LINDWALL:** Okay.

**MR FORMAN:** We're in no position to - - -

**MR HEALY:** I mean, I think that the pause we had and the delay we had whilst that negotiation had to happen around the change of technology - I think if we didn't have that, then - - -

**MR LINDWALL:** Yes, got you. Now, the statutory infrastructure provider that's out for comment, have you got anything that you'd like to say about what you like about it, and if there's anything you dislike about it?

**MR FORMAN:** I think it's - this package of legislation is making clearer and more consistent the arrangements - the statutory infrastructure provider is a logical construct, it's a necessary construct, and it does overcome some of the potential problems of some consumers in one street being in a completely different regime to another, so those things I think are all positive.

The industry levy that's attached to that, which is intended to maintain the cross-subsidy when - allow for, in effect, cherry picking, while maintaining the cross-subsidy that allows for caps on the prices in regional areas I think is important, and that it's targeted at people who are building NBN-like or NBN-substitutable networks is in line with what the CCC recommended as the most appropriate approach.

And again, it's neat in that it can be quarantined into this infrastructure and accessibility part of a sort of future model for dealing with universal service.

**MR LINDWALL:** Finally - excuse me. The TIL, the levy you're already paying, and of course I know your view is that it's too high, and you'd like the alternative, but would you like to comment upon what we said in our report about having government funding versus having a small levy?

**MR FORMAN:** We agree with what you've said in the report. Would, add, though, another - one other comment to that, which is that I think part of the reason that this USO beast has managed to roll on for so long has been that there's been a sense that this - at least for a long time, all of the cost of it was an issue for industry so, in a policy maker sense, who cares?

I cannot imagine if \$200 million - if there was a \$200 million line item - - -

**MR LINDWALL:** As well as the 100, yes.

**MR FORMAN:** - - - that was managed in the budget of the Department of Social Services or the Department of Human Services that had so little visibility to what on Earth it was there for and supposed to be doing and who was getting it, I cannot imagine that that would have been around for the last 20 years.

I think a responsible minister or departmental secretary would have said, "This program design is fundamentally broken, and we need to get visibility into what we're doing with taxpayers' money. So bringing it on to the budget, we'll add a level of scrutiny and discipline and responsibility inside government for the outcomes of a social welfare program that's been completely absent to this point." Whether it's a social welfare program or a corporate welfare program, you tell me, but at the moment it's not seemingly really owned by anybody.

**MR LINDWALL:** Now, I'm reminded that something I wrote here about some of the comments I received in another hearing, that there's a large amount of what - you know, dark fibre passing through parts of Australia that was said to be under-used. Is that a credible claim?

**MR HEALY:** I think yes, there's dark fibre, and yes, much of it is under-utilised, and has capacity that could be tapped. But just because there's some fibre running up beside the Ghan Railway or up the Hume, you need more than just the fibre in order to provide a service, so I think it is - it is appropriate to see how that capacity could be better utilised. To the extent that there's commercial constraints that are because of problems with market structure that stop an owner of infrastructure thinking about utilising it for telecommunication as opposed to just their own general needs, I think that should be looked at.

I'm reminded that one of the early fibre operators in Victoria, in Melbourne's metro area, one of the first to the market, was in fact the offshoot of one of the electricity companies, United Energy, who realised that they had a whole lot of fibre linking up all of its substations and nodes around its electricity network, distribution network, that really didn't use much capacity, because it was just doing little tiny signals, but yet had large fibre out there, footprint.

So they spun off United - UICOM, sorry, yes, UICOM, which became a subsidiary of Optus at the end of the day, and it has been a successful venture. So it might just need to be revisited as to what were the - why did that seem to happen in the past or has happened, but similar kinds of infrastructure, whether it's railways or electricity or gas infrastructure, ownership of that asset, why isn't that being - - -

**MR LINDWALL:** Yes, is there a constraint to - - -

**MR HEALY:** Yes, and I'm not sure.

**MR FORMAN:** I think certainly one of the lessons from the past is, I've been seeing maps of dark fibre owned by various utilities for 20 plus years, which look like a spider's web across the country, but it's a non-trivial matter to often get those - it might be seemingly short distances to somewhere where they can connect to the communications networks. That's the first thing. And it's a major issue for a company that's in the energy business or the transport business to decide to move into the telecommunications business, and suddenly they find that they're trying to enter that wholesale market, maybe against Telstra, which sort of - "Come in, spinner."

**MR HEALY:** Well, I think even the key of it is, if you look in the regions where the volume of traffic is at the retail level, it's with Telstra, and the majority of the underlying network out there is also Telstra, so if an alternative wholesaler thinks that it might be able to enter the market to somehow or other meet these retail ends, if that retail customer base is already locked up with Telstra, then it doesn't look particularly like a good idea.

I think in the cities it was a bit different, because you already had some contestability and some alternative networks going on, but I think that's where perhaps NBN has a greater role, where I know that there's some NBN arrangements that have locked in Telstra as their own supplier out in the regions, but if there were ways that NBN could seek the services of these alternative fibre providers, that might help. That might be a way in which the structure of the market could work to the advantage of consumers, at the end of the day, because there would be more fibre than is currently - - -

**MR LINDWALL:** And maybe reduce the usage of satellite services.

**MR HEALY:** Sure, yes, because that satellite has to hit the ground at some stage.

**MR LINDWALL:** Do you have any final comments? I'm mindful of the time.

**MR HEALY:** Sure. I'm good. Thank you for the opportunity.

**MR LINDWALL:** Thank you very much for coming.

**MR HEALY:** And we commend the report. The draft report we thought was extraordinarily refreshing and precise and great work.

**MR LINDWALL:** Thank you. But it doesn't please everyone all the time, as you know.

**MR HEALY:** No.

**MR LINDWALL:** Take care. Thank you. All right. I think we now have Janobai Smith from Stop Smart Meters. Correct pronunciation, Janobai?

**MS SMITH:** It was very good.

**MR LINDWALL:** Welcome. If you could just introduce yourself and make statement?

**MS SMITH:** I can. I'll just settle myself in.

**MR LINDWALL:** No worries.

**MS SMITH:** Okay. My name's Janobai Smith, and I'm advocacy and policy advisor for Stop Smart Meters Australia. So I'll just start by reading my statement, if I may?

I'm here primarily to advocate on behalf of people who are EHS and rely on landlines and payphones. I also want to highlight the potential costs, which may be considerable, of embarking on a course of action which will result in rural populations being exposed to higher levels of radiation.

EHS is an issue which is garnering increasing attention overseas. In Sweden, where EHS is recognised as a functional impairment, municipalities have a responsibility to accommodate the needs of people with EHS. This might take the form of assessing an

individual's living situation and providing shielding from radiation, or it might involve offering respite accommodation located in low EMF rural areas.

In France, ANSES, the French agency for food, environment and occupational health and safety, currently has a major review underway on EHS. Initiatives are springing up around the world to create refuge zones in areas of low EMF. For instance, this article, "Creation of the first EHS refuge zone in Italy," in a regional park, discusses one such place.

Voice communications infrastructure which does not rely on microwave radio frequency transmissions is essential to these initiatives. The government also must weigh up the long-term costs of not providing residents in rural areas with a safe means of voice communication. This is particularly relevant to children.

A vast body of scientific studies has alerted us to many possible long-term health effects which may occur as a result of exposure to radio frequencies. I'd like to refer you to what the Russian National Committee on Non-Ionising Radiation Protection had to say about this in a statement titled, "Children and mobile phones, the health of the following generations is in danger." I'd just like to read a few words from it. It says:

*For the first time in history, we face a situation where most teenagers and children in the world are continuously exposed to the potentially adverse influence of electromagnetic fields from mobile phones.*

They talk about the potential risk for children's health, which they say is very high. The absorption of electromagnetic energy in a child's head is considerably higher than that of the head of an adult. A child's brain has higher conductivity, smaller size, thin skull bones, smaller distance from the antenna, et cetera.

A child's brain has higher sensitivity to the accumulation of adverse effects under conditions of chronic exposure to EMF, to electromagnetic fields. Today's children will spend a longer time using mobile phones than adults will. They talk about the short-term health hazards, and then they talk about the expected long-term health hazards, which of course include brain tumours, Alzheimer's, and other types of degeneration of the brain.

They conclude by saying :

*It is our professional obligation not to damage children's health by inactivity.*

In France, by law, wireless devices are banned in facilities used by children under the age of three. Wireless internet must also be disabled in elementary schools when it is not in use for educational purposes. European countries are taking active steps to educate the population about harm minimisation in relationship to mobile phones. One of the key themes is that children and teenagers should not be using a mobile phone except in an emergency.

What hope do families in Australia's NBN fixed wireless and satellite footprints have of limiting their children's exposure to radio frequency radiation if they do not have access to a landline? Realistically, none. Instead, mobile phone use will increase. And please consider the potential long-term health costs that might eventuate as a result of abandoning the USO.

An increase in brain tumours is but one of the many adverse outcomes which studies have highlighted as being the possible result of long-term exposure to radio frequency radiation. Brain cancer is a rare disease; however, according to Australia's Cure Brain Foundation it kills more children in Australia than any other disease.

According to an independent study prepared for the Cancer Council New South Wales using data available to June 2006, in terms of the financial costs faced by households, brain cancer is the most expensive cancer. Average lifetime costs for brain cancer were \$149,400, increasing to \$449,400 for males up to 14 years old.

And what about treatment costs that may be borne by taxpayers? An overseas 2013 study entitled "Swedish review strengthens grounds for concluding that radiation from cellular and cordless phones is a probable human carcinogen", states that treatment of a single case of brain cancer can cost between \$100,000 for radiation therapy alone and up to \$1 million depending on drug costs.

There is evidence of an increase of cancer in general in children, with this report dated 3 September 2016 reporting a 40 per cent increase in cancer in just 16 years for young people. The greatest rise was reported for teenagers and young adults between the ages of 15 and 24. One of the factors attributed to this rise is radiation from mobile phones.

It simply isn't good enough not to make available a safe means of voice communications for Australians living in rural areas. I also don't believe that it can be economically justified if one considers the long-term potential health costs. Thanks.

**MR LINDWALL:** Well, thank you. The fact is, though, that more and more people are opting to use mobile phones of their volition, so are you suggesting that they're misinformed, or perhaps we should stop using mobile phones overall?

**MS SMITH:** I think if you look at what's happened in the past with various agents that have been proven to be harmful to the community, yes, there has been a big change. Originally X-rays, when they first were discovered, doctors would use them at garden parties as a party trick. I know a number of people that, when they were a child, their mum would take them to the shoe shop and they would have their foot X-rayed inside the shoe to check the fit, and mum thought she was doing the right thing.

So society does change as more information filters down. Same thing has happened with smoking. At one stage that was quite acceptable. A friend's mother was told by her doctor that she should take up smoking. At one stage it would have been quite acceptable to have been smoking in the car with young kids, but - - -

**MR LINDWALL:** But I accept that. I mean, I don't think any use of tobacco at any quantity is positive, but surely in the case of cellular phones - well, a large proportion of emergency calls are made by mobile phones, and those people could have died, been suffering injuries which are highly painful, so that's a benefit that the mobile technology has provided. So it's not like tobacco, is it?

**MS SMITH:** Yes. I'm not suggesting that people give up their mobile phones. I'm suggesting that they need to be used in a safe and informed manner, and what I'm saying is that people need their landlines as their primary form of communication, and if they want to use a mobile phone, that's up to them, if it's available, and remember in a lot of rural areas it may not be available.

**MR LINDWALL:** True enough, yes. Now, I had a look, and I must emphasise that I'm not a physician or anything, but I had a look at the World Health Organisation, the Food and Drug Administration of the United States, the Cochrane Collaborative, which is the most reputable peer reviewed literature in medicine, and - well, from my scan of that literature, there was nothing that suggested that this was in fact a harm in any way, and that electromagnetic and other radiation surrounds us, both naturally caused and artificially caused, and has in fact led to the evolution to all species of life in the universe, in Australia, in the world.

**MS SMITH:** Yes. Yes. As I put in my report, that the - humans have now increased the background radiation by billions of times what it used to be. This affects all of humans, it affects animals, and there's been literally thousands of studies on these effects. Unfortunately at this point in time it's not to do with science. The argument is political.

The effects have been known for a number of years. Increasing evidence is coming to light, for instance the US National Toxicology program just completed, \$25 million study, again they have released some results early, and the results are highly concerning.

This is a report that - on the website of one of our neurosurgeons in Australia, and hopefully you read the reference I gave you from the scientists that are calling for stricter standards. I think it's small wonder that two of our neurosurgeons, including Dr Charlie Teo, are signatories to the people around the world that are calling for stricter standards.

And the problem is, of course, there's such a huge difference in standards across different countries, and Australia has the slackest standards. 40 per cent of the world have standards which are ten to hundreds and even thousands of times stricter than our standard.

**MR LINDWALL:** But again, the World Health Organisation has, on its website, a paper which says that there's no evidence that links brain cancers and other tumours to electromagnetic radiation.

**MS SMITH:** Yes, and it's interesting - - -

**MR LINDWALL:** But are you implying that they're politicised?

**MS SMITH:** I am very strongly implying that, and I have a reference, actually, here, which I can give you today. A document has just been released this month from a former WHO employee who is accusing WHO of exactly that, and I have brought some of the stories of people who are electrically hypersensitive, if you're interested in reading them. Am I able to leave more documents today?

**MR LINDWALL:** Indeed, of course, yes.

**MS SMITH:** Okay, great, will do.

**MR LINDWALL:** But type of extra controls are you proposing in the use of mobile phones above what we already have in Australia? You said we have slacker standards in Australia than overseas. In what sense are they slacker?

**MS SMITH:** Our standard is based on the ICNIRP standard, and I don't know if you - -  
-

**MR LINDWALL:** Maybe you could elaborate the ICNIRP standard?

**MS SMITH:** Okay. It's in this reference here that I gave you, and it has a very good graph which that red line is the ICNIRP standard. Now, if you look at some of the other countries, we have Austria, which their standard for what telecommunication companies can emit and mobile phones, is right down here, so you can see the difference. This is on page 4 of that reference.

There is a problem because the standard itself is flawed. It's based on heating effects, and so your body temperature has to rise by one degree before ARPANZA, our agency, will be concerned. Emissions are averaged over a six minute period, which is akin to saying if you were shot by a bullet, and you average the impact on your skin over six minutes, well, there'd obviously - there might be a slight bruising.

So there's a lot of problems. I believe it's flawed, and many, many scientists around the world believe the same thing, which is why they have launched that appeal which I gave you a reference for.

**MR LINDWALL:** So yes, some scientists might think that.

**MS SMITH:** Yes.

**MR LINDWALL:** But I would say that the bulk of scientists don't agree with that.

**MS SMITH:** Yes. Well, it's interesting - - -

**MR LINDWALL:** Again, unless I'm qualified in something, I'm only stating what I read, and I'm not an expert in this space - - -

**MS SMITH:** Yes.

**MR LINDWALL:** - - - but I'm a natural sceptic - - -

**MS SMITH:** Yes.

**MR LINDWALL:** - - - so I don't see why one would expect that a reputable organisation such as the World Health Organisation, the FDA and others would systematically lie about something.

**MS SMITH:** Yes. They have already labelled it as a possible human carcinogen. The expectation is that it will be labelled a probable human carcinogen. So it's very slowly moving. It's interesting that when people have evaluated studies - and there are thousands - on the effects of radio frequencies, and the studies that are industry-funded come up with a different viewpoint in the main to the studies that have been funded privately, so - and the statistics are that 70 per cent of the studies funded by industry will say no, there isn't an effect. The exact reverse applies to the studies funded privately, and unfortunately there is very little funding for science privately these days anyways, but yes, so there are obviously political forces in play.

**MR LINDWALL:** Okay. Do you have any final comments you'd like to make on what you've provided today?

**MS SMITH:** No, except for I'd like to very much advocate for the landlines. I do have some questions, but I understand that that - it will be possible to ask them at the end of this session, is that right?

**MR LINDWALL:** Questions of - sorry?

**MS SMITH:** Just - I've got several questions, but I understand at the end of the day today is the appropriate time to ask that.

**MR LINDWALL:** No, no, what we offer at the end of the day is for people who wish to, to come and make another statement, but when you say questions, questions of whom?

**MS SMITH:** Of you, so I've got several questions.

**MR LINDWALL:** Well, you can make a statement, but I'm not necessarily going to answer a question. What - you can ask if you like. I'll listen to them, but I mean, in the end the Commission publishes in its final report what its views are on various topics, and we won't necessarily comment on something we don't have any expertise in.

**MS SMITH:** Okay. Well, if I may ask several questions then?

**MR LINDWALL:** Okay.

**MS SMITH:** Now, responses to the draft report were originally due by 20 January. Now, I noticed later that submissions have continued to be placed on the website.

**MR LINDWALL:** Yes.

**MS SMITH:** Now, my question is, can people continue to submit submissions now, or has that time passed?

**MR LINDWALL:** Well, we always welcome submissions, and I only make the statement that if the report is being published on whatever date, let's say 28 April, and you provide something on 28 April, it's not likely to be taken much account of. So the earlier it is provided, the better.

**MS SMITH:** So there isn't a set cut-off?

**MR LINDWALL:** Well, we do have a deadline, but we don't strictly enforce it. But I do note the quicker the better.

**MS SMITH:** Would it be a good idea if that was perhaps - that information was also put on the website for people? Because I know people reading it right now would think they've missed the boat.

**MR LINDWALL:** Well, they just phone up and - people have phoned up and asked for extensions, and we generally - - -

**MS SMITH:** Okay. But I'm just saying, on the website right now, if I was to read it, I would say, because it says submissions were due by 20 January, I would think, oops - - -

**MR LINDWALL:** Anyway, you've heard now that you may put in a submission after that if you wish.

**MS SMITH:** Yes, okay, great. I've got another question. By what means were rural Australians advised of this inquiry? I only actually found out about it the night before responses to the draft report were due, and I do read our regional - I live in the country. I do read our local regional papers, two of which are weekly and one of which is monthly, and I never saw a mention of this inquiry.

**MR LINDWALL:** Well, it was advertised in newspapers, it was advertised to members of parliament, to the media, advertisements. It was - as much as we can. I can't guarantee every individual gets notification of something. How do you learn? But - - -

**MS SMITH:** Okay. Was it advertised in regional papers?

**MR LINDWALL:** I guess? Not every regional paper.

**MS SMITH:** Because given that the impact is on the regions in the main, when I emailed my shire councillor last week, she was also unaware of it, and expressed her

concerns about the ramifications for our shire, and I guess my comment there is it would have been really good if the Municipal Association of Victoria had been advised, because in their role they would have advised all their members. So I'm very concerned that this inquiry hasn't had as high a profile as I believe it should have in our shire.

A number of people that I spoke to - every one of them has expressed disbelief that we might lose our landlines. They've expressed disgust and they've expressed horror.

Now, one last question, and this one you may not be able to answer. What is the government's liability in the event are landlines are no longer provided and a child - and this is obviously in the rural areas - and a child subsequently develops, for argument's sake, a brain tumour, and the development of this tumour appears to be in consequence of using a mobile phone in lieu of a landline?

**MR LINDWALL:** I think that the fact that most people are using mobile phones to communicate for emergency services purposes would suggest nothing.

**MS SMITH:** Well, I'm talking about, obviously, in the situation where a child doesn't have a landline - - -

**MR LINDWALL:** I mean, you've got so many variables in there, it would be impossible to prove a chain of causality in that.

**MS SMITH:** Okay. Yes. But of course in terms of the emergency situation, that would be only using a phone for a short time. We're talking about using the phone for perhaps hours at a time.

**MR LINDWALL:** Yes, all right. Anything else you'd like to say?

**MS SMITH:** That's everything.

**MR LINDWALL:** All right. Thank you for appearing today.

**MS SMITH:** Thank you as well.

**MR LINDWALL:** Okay. I think now I'm inviting George Gordon, is that correct?

**MR GORDON:** Commissioner, I'm going to have trouble hearing.

**MR LINDWALL:** Well, I'll speak up a little bit then. You'll have to come over here, if that's all right, because otherwise the microphone won't be able to pick you up. But I'll have trouble hearing. If I don't speak loud enough, please let me know. But if you could just introduce yourself and make a bit of a statement, and that will be perfect.

**MR GORDON:** Sure.

**MR LINDWALL:** Would you like some assistance? Thank you for coming today.

**MR GORDON:** Mr Commissioner, my name is George Gordon. I live at 47 Weir Street, Morling, in Melbourne, and I only came to hear of this hearing two days ago, so I am very rushed in my preparation, and I'll just read from what I have written.

I wish to thank you for allowing me to address you today. My message is simple, and will not take up much time. I maintain that I have a right to access telephone communications. If the landline to my house was removed, I would be forced to use some form of radio transmitter in my house.

I am sensitive to electromagnetic radiation, and any additional radiation would further impair my health. I want to be assured that Telstra will continue to provide a telephone service that does not damage my health. I refer to Telstra's response to the Productivity Commission's draft report on the Telecommunications Universal Service Obligation dated 24 January 2017. In the executive summary, at the eighth paragraph, it states:

*For example, in light of additional modes of communication offered by broadband, additional voice call latency may be acceptable, particularly if it is at a level that does not impact on public safety.*

Telstra acknowledges that public safety is important, and I would like to know how they will continue to provide a telephone service that is safe for the thousands of their customers like me who suffer from EHS. EHS is electro hyper-sensitivity. I thank you for hearing me.

**MR LINDWALL:** Thank you very much, Mr Gordon. We have not proposed anything about taking away - - -

**MR GORDON:** Sir, I cannot hear.

**MR LINDWALL:** We have not taken away - we have not proposed the taking away of the right to have a fixed line to the home. The NBN, as it is provided, provides a fixed line premises to all premises in Australia, whether it be by fixed line service or fixed wireless or satellite, and you're in Melbourne, so you would get, under the NBN proposal, an NBN service rather than a Telstra service. But otherwise you wouldn't be forced onto a mobile phone, no.

**MR GORDON:** I understand that NBN is establishing radio transmitters that will broadcast to a mobile telephone.

**MR LINDWALL:** No, no, no, the NBN is providing for most of Australians a fixed line service to the premises, which is either by fibre-optic cable - you know what - which is an alternative to what you currently have, which is copper, or using the copper network. What I think you're thinking about is what they call fixed wireless, which is a way of transmitting information to the premises in more remote areas or regional areas, not in the cities so much.

**MR GORDON:** Sir, I - - -

**MR LINDWALL:** But even in that case, what is in your home would be what you would normally consider a fixed line service. The actual transmission is to a point that's not into the home. So the radio magnetic transmission is external to the house.

**MR GORDON:** I am an ordinary Telstra subscriber. I know nothing about the technology. I want to be assured that my copper telephone, copper wire to my house, or alternative fibre-optic if that's what technology requires, is maintained.

**MR LINDWALL:** Well, that's what the NBN will be providing, yes.

**MR GORDON:** I thought - I thought there was a problem with the government, our present government, saying that that's going to take too long, and we'll speed it up by - - -

**MR LINDWALL:** What you're talking about is they're moving to - they moved to what they call multi-technology mix, and that means that in some cases, including in my own home, I am relying on copper, because it's called fibre to the node, so I've got my copper line still coming into my home even though I'm using NBN.

That may be your circumstance. I don't know, it depends where you live and the rollout scheme. So that- and I would envisage that over time, once the NBN's rolled out, they will move to fibre optic over time for those customers that want a fixed line.

**MR GORDON:** I want to be assured that the telephone communication does not require me to use the radio technology.

**MR LINDWALL:** I think you can be quite assured of that. That's the government policy. And we haven't recommended anything else.

**MR GORDON:** Well, I can't - I have not the knowledge to comment.

**MR LINDWALL:** And do you know whether, sir, whether you've been - - -

**MR GORDON:** Sir, I can have trouble hearing.

**MR LINDWALL:** Do you know whether you've been contacted by the NBN about a service in your suburb?

**MR GORDON:** I have been contacted by some character who represented himself as Telstra at five o'clock in the morning saying I'll have to change my - I had to change my account.

**MR LINDWALL:** I think you should hang up on such calls. That's a scam call.

**MR GORDON:** I took no action.

**MR LINDWALL:** Yes, you did the right thing there. There's a lot of scam calls, and you should be very careful of that.

**MR GORDON:** Yes, at 5 o'clock in the morning, that was.

**MR LINDWALL:** It's disgraceful, isn't it? Did you have any final comments you'd like to say, Mr - - -

**MR GORDON:** No.

**MR LINDWALL:** Any final points you'd like to make, Mr Gordon?

**MR GORDON:** No. I just want to try and safeguard my health and other people in my condition.

**MR LINDWALL:** Okay. Thank you very much for coming.

**MR GORDON:** Thank you, sir, for hearing me.

**MR LINDWALL:** A pleasure. Did you want to make another point?

**MS SMITH:** Yes, I just want to - - -

**MR LINDWALL:** You'll have to come up again and - and then I - did you want to make a - no, okay, I'll - and then - please, yes.

**MS SMITH:** Thank you. I just want to - - -

**MR LINDWALL:** It's just in addition to what you've said already, without - - -

**MS SMITH:** Yes, and I just want to elaborate - - -

**MR LINDWALL:** Please for the record, just say your name again?

**MS SMITH:** Janobai Smith. I just want to elaborate on what you said a minute ago to George.

**MR GORDON:** I have trouble.

**MS SMITH:** Sorry. I just want to elaborate on what Paul said to you, George. You indicated that - obviously if one is in a - on fibre-optic, that is a very safe technology to be using for phone conversations. However, you did indicate that if somebody was in a fixed wireless zone, that that would be acceptable, and it would be like using your normal phone. I just want to say, no, that is not the case at all. I have tested - I've got a radio frequency meter here today. People living in fixed wireless homes and - this meter would be constantly - and if you go up - it would be constantly going up into the - what is

considered to be the danger zones of EHS. This is measuring - this particular meter is measuring between 200 megahertz and 8 gigahertz, so it isn't measuring all the radio frequencies, and it's measuring the volts per metre and the microwatts per metre, power density.

**MR LINDWALL:** But the fact is that fixed wireless, the actual focal point of the energy is to a dish that's outside the home.

**MS SMITH:** That's quite correct, the levels are still very high. In one home I was in, we couldn't get the levels down. The lady finally went and switched off something on her wall to the NBN, and that immediately made this drop down so nothing was appearing - - -

**MR LINDWALL:** But for the purposes of Mr Gordon here, he's said he lived in a suburb in Melbourne. He should be under fixed - - -

**MS SMITH:** Absolutely, he won't have a problem. He'll be on fibre-optic.

**MR LINDWALL:** That's all - - -

**MS SMITH:** But I just want to say that for people accessing voice over NBN wireless, it is a problem. One man phoned me up. He very much wanted internet connectivity. He got the NBN fixed wireless connection. He ended up, he told me, having to rip it out because it affected his health so badly.

**MR LINDWALL:** Okay, well, thank you for that. Thank you again. So no one else wants to present? I think we've lost all our customers now. So thank you for that, and - - -

**MS SMITH:** Thank you.

**MR GORDON:** Do I understand that I'll be getting a fibre optic cable?

**MS SMITH:** Yes, and that's safe. I wish I had it. Unfortunately I'm on Sky Muster.

**MR LINDWALL:** Okay. Well, I'd like to adjourn the proceedings, and the Commission will resume tomorrow in Melbourne for hearings via teleconference. Thank you, everyone.

**MATTER ADJOURNED AT 12.15 PM UNTIL  
WEDNESDAY, 8 FEBRUARY 2017 AT 8.30 AM**



**Australian Government**  
**Productivity Commission**

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**PRODUCTIVITY COMMISSION**

**INQUIRY INTO THE TELECOMMUNICATIONS  
UNIVERSAL SERVICE OBLIGATION**

**MR P LINDWALL, Presiding Commissioner**

**TRANSCRIPT OF PROCEEDINGS**

**AT MELBOURNE  
ON WEDNESDAY, 8 FEBRUARY 2017 AT 8.36 AM**

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*(The Commission requested that the following text be appended to the commencement of the transcript.)*

Good morning. Welcome to the public hearings for the Productivity Commission inquiry into the Telecommunications Universal Service Obligation. My name is Paul Lindwall and I am the Commissioner on this inquiry.

The inquiry started with a reference from the Australian Government in April last year that has asked us to examine “to what extent are government policies required to support universal access to a minimum level of retail telecommunications services?” This includes recommendations on the objectives for a USO or equivalent, the scope of services to achieve objectives, specific user needs, and funding and transitional arrangements.

We released an issues paper in June and received about 60 submissions after its release. We have talked to a range of organisations and individuals with interest in the issues. We released a draft report in December, and have received further submissions from interested participants.

We are grateful to all of the organisations and individuals who have taken the time to meet with us, prepare submissions and appear at these hearings

The purpose of this round of hearings is to facilitate public scrutiny of the Commission’s work and to get comment and feedback on the draft report. Following these hearings in Melbourne, hearings will also be held in Port Augusta and Perth. We will then be working towards completing a final report to be provided to the Australian Government in April. Participants and those who have registered their interest in this inquiry will automatically be advised of the report’s release by the government, which may be up to 25 parliamentary sitting days after completion.

We like to conduct all hearings in a reasonably informal manner, but I remind participants that a full transcript is being taken. For this reason comments from the floor cannot be taken, but at the end of the proceedings for the day I will provide an opportunity for any persons wishing to do so to make a brief presentation.

Participants are not required to take an oath, but should be truthful in your remarks. Participants are also welcome to comment on issues raised in other submissions.

The transcript will be made available to participants and will be available from the Commission’s website following the hearings. Submissions are also available on our website.

For any media representatives attending today, some general rules apply. Please see one of our staff for a handout which explains the rules.

To comply with the requirements of the Commonwealth Occupational Health and Safety Legislation, you are advised that in the unlikely event of an emergency requiring

the evacuation of the building you should follow the green exit signs to the nearest stairwell. Lifts are not to be used. Please follow the instructions of the floor wardens at all times.

If you believe you would be unable to walk down the stairs it is important that you advise the wardens, who will make alternative arrangements for you. Unless otherwise advised, the Assembly point for the Commission in Melbourne is at Enterprize Park, situated at the end of William Street, on the bank of the Yarra River.

Participants are invited to make some opening remarks of no more than five minutes. Keeping the opening remarks brief will allow us the opportunity to discuss matters in greater detail.

*(Conclusion of appended text.)*

*(Call commenced.)*

**MR LINDWALL:** Hello?

**MS NEWTON:** Hello.

**MR LINDWALL:** Yes, that's good.

**MS NEWTON:** Hello, Commissioner.

**MR LINDWALL:** No, Paul. Paul Lindwall here. Hello, Rose-Marie, how are you?

**MS NEWTON:** Very well, thank you, Paul. Yourself?

**MR LINDWALL:** I'm fine, thank you. Yes. Now, if you could just - just because we have a recording, though - you've - it's been obviously explained to you how this works with - you give a statement, and a transcript is made?

**MS NEWTON:** Yes.

**MR LINDWALL:** That's good, all right. Well, if you start - - -

**MS NEWTON:** Do you want me to start?

**MR LINDWALL:** Yes, if you can give your name and make your statement, and then I can ask some questions as you see fit, all right?

**MS NEWTON:** Thank you. Rose-Marie Newton. The removal of the TUSO is to leave the most vulnerable to the variableness of communication infrastructure to the mercy of service providers when telecommunications systems fail.

Rural remote families, businesses, community have the most to leave if the USO is scrapped. The advancement in telecommunication has pushed us all to rely on these services in conducting our business, in receiving education and/or healthcare, networking socially within our communities, or if it's simply just keeping in touch with our loved ones.

I have experienced real-life instances where infrastructure has failed and the waiting for the return of services begins. I don't have exact dates or duration, but have been without a phone for three weeks and without internet connection for three months, and there was nothing I could do but wait for service personnel to arrive and to fix the issue.

Our urban counterparts can take telecommunications services mostly for granted, or have other options available to them. Rural and remote families, businesses, individuals, communities, need to have assurance from government that we can expect to continue to see improvements in reliability and quality of voice and data exchange.

Part of that assurance is to have our fixed phones maintained, as these are most reliable and instant means of communication. Mobile phone service does not reach all of us. NBN long-term satellite service does not provide reliable connectivity. To scrap the TUSO is to scrap our assurance of being able to communicate with whoever we please, when we please, and how we please.

Thanks, Commissioner.

**MR LINDWALL:** Thank you very much for that. May I ask whether you're using the service, the Sky Muster service, at the moment?

**MS NEWTON:** I'm using the fixed landline.

**MR LINDWALL:** Okay, so the internet comes to you - how does it come to you? Via ADSL, does it?

**MS NEWTON:** No, we have a satellite service.

**MR LINDWALL:** So yes, you do use the - which satellite service is that?

**MS NEWTON:** I swapped over to NBN Sky Muster on 12 December last year.

**MR LINDWALL:** Oh, okay.

**MS NEWTON:** So I've had it for eight weeks.

**MR LINDWALL:** And when you said that you had it out for three weeks or something, was that the Sky Muster, or was that - what did you have before Sky Muster?

**MR LINDWALL:** So the interim satellite - - -

**MS NEWTON:** But in the eight - - -

**MR LINDWALL:** Sorry, please.

**MS NEWTON:** But the internet service I've got at present, NBN Sky Muster, in those eight to nine weeks, I have experience interrupted and unreliable connectivity. It appears to be very weather-sensitive, and also it appears that there are certain times of the day when it must be in huge demand, and unable to download or upload the data that I would like to do.

**MR LINDWALL:** Okay. But did you have any - but the interim satellite, I understood that people had a lot of problems with it, but you're saying you actually preferred it to the Sky Muster?

**MS NEWTON:** On a personal note, yes, that is correct.

**MR LINDWALL:** That's interesting. Now, I think the NBN would say that it's teething problems at the moment and it will get better as time goes by. So you're distrustful of that assurance.

**MS NEWTON:** I think it is something that rural remote people should continue to seek, that that assurance is always given. But at present, systems of communication need to remain multi-modal with fixed lines, and being able to have that assurance that if our fixed lines fail us that we do have a timetable by which they should be restored.

**MR LINDWALL:** Do you have mobile phone coverage at your home?

**MS NEWTON:** No, we do not enjoy that service.

**MR LINDWALL:** No, all right. Well, in our report, which I think might have been misinterpreted, we've never said that a person who has relied entirely on the satellite should not have some alternative. In fact, we asked about that. We were more about people that had satellite and a mobile service that perhaps they wouldn't need an alternative, so - I mean, if you had a reliable satellite service and a mobile phone coverage, would you be satisfied with that?

**MS NEWTON:** I believe we are looking to that in the future. Reliability of being able to make a call when you need to would be the issue. As an example, last night, my partner, who is away on another property where there is mobile phone coverage made a call, but it dropped out. He attempted again, it dropped out.

There is that issue of unreliability. It was only a chat call, so it wasn't important, but if it had been an emergency it would have made life very difficult.

**MR LINDWALL:** Indeed, yes. Now, may I ask - you don't have to say the name of your retail provider for the Sky Muster service, but when you've had the problems with the Sky Muster - and you might say whether it's the same retailer that gave you the interim satellite service - but have you been satisfied with the response the retailer has given to you, and has it passed through concerns to NBN, to your knowledge?

**MS NEWTON:** I am with Reachnet, and I have had no issues with Reachnet themselves. They have provided a wonderful service.

**MR LINDWALL:** Okay, good. So it's entirely on the NBN side that you're concerned, obviously?

**MS NEWTON:** It appears to be largely the sensitivity to weather, cloud cover, heat, wind, whatever, and also if there is a high demand at a point in time.

**MR LINDWALL:** That's very helpful, and we can investigate that with the NBN. We can ask them ourselves. Is there anything else you'd like to add to what you've already said, Rose-Marie?

**MS NEWTON:** One last thing, Commission, is delay in voice communication sometimes can detract from the level of exchange between the two participants. There are times when that makes an issue more of an issue, especially if they are discussing something of a sensitive, emotional nature, and with children - with children and family members living away, sometimes that - or not sometimes. It can be quite a frequent occurrence.

**MR LINDWALL:** All right. Well, thank you very much for speaking with us. Sorry, please go ahead.

**MS NEWTON:** Sorry, as a footnote to that, I'm thinking largely of being rural remote families, that the issue of black dog and mental health is very much there on the government's agenda as well, and to my mind that would be one factor that should be considered in terms of voice quality in communication.

**MR LINDWALL:** I hear you. All right. Well, thank you for that, and have a great day.

**MS NEWTON:** Thank you, Commissioner.

**MR LINDWALL:** Bye then.

**MS NEWTON:** Bye.

*(Call concluded. Call commenced.)*

**MR LINDWALL:** Hello, Georgie, it's Paul Lindwall here. How are you today?

**MS SOMERSET:** I'm well, thanks, Paul, and yourself?

**MR LINDWALL:** Very well, thank you. Would you be able to just say your name and organisation and then give your statement for the record? I think you've been - you know that a transcript's being taken for this?

**MS SOMERSET:** Yes, thank you, Paul.

**MR LINDWALL:** Please, go ahead.

**MS SOMERSET:** So Georgie Somerset, the AgForce South-East Regional Director. AgForce is the peak state farming organisation representing the majority of beef cattle graziers, sheep and wool producers and dry land grain growers in Queensland, and in 2014-15 these commodities represented \$6.3 billion in Queensland's economy.

So we feel ourselves significant managers of land and predominantly working in rural, regional and the very remote parts of Queensland. Our priority issues in regards to Universal Service Obligation are about maintaining existing and developing further the protection that our members have across Queensland.

We are recommending that the Telecommunications Universal Service Obligation is technology neutral and provides access to affordable, reliable and ethical voice and broadband data services for Queenslanders irrespective of what technology is installed or where they're located. We believe that the inclusion of broadband data services is critical for our members and for agriculture productivity in the future.

AgForce is also recommending the TUSOP agreement is annulled and that the government ensure transparency and stewardship of a competitive tender for USO services into the future. We believe AgForce members require a guarantee on baseline broadband access, which we've spoken about before, but it's critical to have broadband to run businesses and to interact, you know, at a community, education and health level. They need speed, quality, reliability and affordability that is reviewed on a regular basis, and we believe a baseline needs to be developed around those elements.

And we believe that the broadband access should also be technology neutral, that there should be options provided as we don't know what the development will be in the future for broadband.

AgForce recommends that the revised USO aligns with outcomes from the various activities and reviews that are underway in the telecommunications arena in Queensland and Australia. There are various legislative and organisational reviews, and we believe that just looking at one in isolation will not enable the most effective and beneficial outcome. So we really believe that there's a need for alignment across the various reviews that are occurring in different segments of the telecommunications arena.

AgForce recommends that the revised USO not consider a transition to digital telecommunications services such as satellite and fixed wireless in the rural, regional and remote parts of Queensland unless acceptable reliability can be ensured, and that reliable

access and quality of service, e.g. for voice services, is not compromised. We do not believe that the current Sky Muster is suitable for voice and we have reservations about the capacity of fixed wireless at the edges of the coverage is going to be able to deliver a voice service.

We actually believe that in regards to the customer service guarantee, it needs to be both retained and expanded to include improvements such as technology neutrality. We do have members who will choose to only have a mobile and won't install a landline in a new property home, and we believe that they have the same customer service guarantees that are afforded to people who have an existing copper line.

We believe that the copper line will still be the most reliable for many of our members, particularly in the outer regional and remote. We also have concerns with broadband if there is only one provider guaranteeing, but there needs to be some neutrality around the technology for broadband, and that the removal of copper could bring about removal of ADSL and other options that are there.

We don't believe that mobile connectivity can be considered as a replacement to the USO for rural and remote users unless there are service guarantees similar to what we have currently on landlines. We have many members who have no mobile connectivity, and again, they have Sky Muster, copper landline, or a radio landline, and we believe that they need to have their existing landline and their service guarantee maintained.

We believe that - or we recommend that improvement in digital ability is going to be a critical part of enabling people to actually access and utilise telecommunications in the future, and so we're recommending that funds be made available for programs that enable capacity building, that the telecommunications industry takes responsibility for actually building capacity, which will help to reduce the digital divide between urban and rural Queenslanders.

We really welcome this opportunity to put forward the issues for our members, and welcome some questions from you now, Paul.

**MR LINDWALL:** Thank you very much, Georgie. Could I ask firstly about the digital divide which you mentioned, and it's been mentioned a few times. My understanding is about 8,000 to maybe 16,000 premises within the satellite footprint of the NBN would have got some form of ADSL, not necessarily all good, but the rest of it had no service whatsoever except for the interim satellite service, so I guess my question is asking, has the launch of the satellites by NBN in terms of Sky Muster made an impact on reducing the digital divide?

**MS SOMERSET:** I believe that Sky Muster's launch has really provided a much better feed for people. I'm on Sky Muster myself, and what I believe, it still has some teething issues and some reliability and service guarantee challenges around Sky Muster and its service, and we've - and the challenge there is right from installation right through to outages - I believe there were 15,000 customers that had an outage yesterday, and how they - some of those things are managed.

So I think that Sky Muster itself is a fantastic service. I think it should be there for those that have no other option, and I guess overcrowding of the Sky Muster beam is one of the challenges, and it's not just the overcrowding of the beam but the overcrowding to be able to provide effective service. So being able to provide service to people who are on that broadband technology is really critical too.

**MR LINDWALL:** Has AgForce contacted the NBN directly to enquire about the teething issues? I mean, I guess I'm asking you whether you think that they are genuine teething for the Sky Muster and not some systematic problem?

**MS SOMERSET:** We've had a lot of meetings with NBN. We are part of their rural, I guess, reference group for want of a better word, and met with them as recently as a couple of weeks ago. We've certainly been talking to them also about the role they play in extensions, that once you're on something like Sky Muster, how do you then use that effectively so that you can be part of cloud computing within a very limited data allowance, so the 55 gig peak, 60 gig off-peak maximum, they need to be very smart about how they're using that.

And so we've been - I'm not - I believe that NBN are still working through a range of challenges with Sky Muster, and I think their transparency has improved significantly since probably October last year, and I believe that rural customers completely understand if we have teething issues, but they actually want to be informed about what's going on.

So being told that everything is fine and that "we'll sort this out" and that it's actually up to the RSPs really means that we're being kept in the dark, and that's the thing. So I think transparency around broadband guarantees is also critical.

**MR LINDWALL:** Are you happy with the - generally speaking, are your members happy with their service by the various retail service providers that you were mentioning, which are I think about 12 of them for the satellite service?

**MS SOMERSET:** My anecdotal feedback from them is that they - when there are challenges, the RSPs are - in my experience, when I've logged calls, I've never had a call back from them. I've usually ended up resolving the issue myself through, you know, walking away or restarting. But that they're not capable of handling the magnitude of enquiry when there is a challenge. But I don't think the RSPs have adequately resourced their helpdesk to be able to manage the volume, to scale up and scale down when there are challenges.

**MR LINDWALL:** Yes, I can see that, especially when they're of more of a temporary nature when you would expect that in the longer-term and it would be more bedded down you probably wouldn't get as many complaints on a daily basis, would you?

**MS SOMERSET:** Well, that's right, and I'm in a fortunate position of having (indistinct) pick up a mobile, so if mine goes out I can go and check with another device

for an update on the internet, but for people who have only got Sky Muster and a landline, all they can do is ring a help desk and log a call.

**MR LINDWALL:** Yes, yes. So that comes to one other question in our report, and of course we were talking about baselines, and we have been promoting technological neutrality, about whether you think - or that if you have a sufficiently reliable mobile phone connection as well as Sky Muster, would that be sufficient itself, or not?

**MS SOMERSET:** I think what we'd like to see is that there are people who are choosing to have only mobiles instead of landline. The challenge with mobile broadband is the cost of the data package, and (indistinct) and we'll continue to advocate for some more effective business mobile broadband plans.

For example, I was spending around about \$365 a month for about 60 gigs of mobile broadband to run our business before I went onto Sky Muster. So the ability to actually get enough data is very challenging through mobile broadband, and so even to have the coverage, the affordability of that. And I have to say that sometimes the speed there is - can be better than Sky Muster, but the cost of it is much more. So I do believe if people are choosing to use mobile phones, that there should be some guarantee around that one, which is a different issue again.

**MR LINDWALL:** It is. Now, you did mention some concerns about the voice over the fixed wireless, which surprised me because I haven't heard any concerns about fixed wireless and its voice quality. Would you elaborate on that?

**MS SOMERSET:** So what I've been hearing, and you may hear more about this from others today, is that in regional areas there's been challenges around fixed wireless' reliability, and I think it's particularly at the edges, and ensuring that better impact, climate impact, and dropouts in that and reliability in that fixed wireless. I think we need to make sure that the testing that is done for reliability for these sorts of voice services is actually done in a regional location at different - in different climatic conditions as well.

So I guess I'm thinking about the storming, the extreme heat, those sorts of things, seem to be what's been impacting on both fixed wireless and Sky Muster.

**MR LINDWALL:** I see. I haven't heard of the weather related issues for fixed wireless, so we'll have to check that. Maybe it's, as you say, people who haven't had their system set up properly to be properly aligned to the wireless transmission.

Now, do you see any - do you have any comments on the recently announced regional broadband scheme that the government's announced?

**MS SOMERSET:** Look, we're - we're supportive of ensuring that regional broadband is - has a framework of funding, that it is supported and ensured. We're aware that we are the more difficult and the more expensive, in inverted commas. However, we are also, as I outlined in my introduction, where the economy is actually driven from.

So if you look across regional Australia where we're wanting to deliver these services, it actually is where, you know, much of our resources are drawn from through agriculture and other industries. And so I really believe that guaranteeing regional broadband infrastructure through legislation would be a very positive move.

**MR LINDWALL:** And have you heard also about the statutory infrastructure provider legislation that's out for comment at the moment? Well, I think it might have closed for comment, shortly.

**MS SOMERSET:** Yes, so - it is. So NBN is currently - we believe that there should be an SIP in place and that there should be the capacity for others to be in that space as well as NBN, but obviously at the moment we believe that NBN is the provider that can reach a broadband consumer in Australia regionally.

**MR LINDWALL:** So you think that the SIP needs - the SIP needs to have a bit more of a wholesale guarantee or something? Some service standards? That seems to be your implication.

**MS SOMERSET:** Yes. Sorry, yes, have outlined that we believe - and we believe that it should be aligned with the outcomes of your findings, and this is part of the trying to align what's going on around all of this, which is a bit challenging, because I'm aware that they're trying to introduce legislation probably sooner than your report, but that there should be a guarantee around what that SIP is providing regionally, so that we have some regional broadband guarantees around (indistinct).

We can operate on slightly lower speeds sometimes, but it's actually having the volume of data and the affordability of the data as well.

**MR LINDWALL:** That's true. Now what - can you also comment about our approach, where we said that in areas where there are difficulties in affordability or availability or accessibility that there might be a competitive tender used.

And I just wanted to explore whether you thought that the competitive tender might be a useful approach in those circumstances.

**MS SOMERSET:** I do think that a tender process that's transparent may bring about some innovation as well, some technology neutrality there, and some real solutions, so we think that the tender process, if it's well-managed, could be beneficial for those areas.

**MR LINDWALL:** And you would think there'd be sufficient providers to make a genuine competitive tender, then?

**MS SOMERSET:** I think that this whole market will continue to emerge, and I think that there will be - we've got existing providers, and I think there will be new entrants, and I think that what we're trying to put in place, we've got a lot going on in the space at the moment, but if we are trying to future-proof, I'm really hopeful that either new

providers or new technology will enter the market to actually, you know, further enhance our connectivity regionally.

**MR LINDWALL:** Indeed, yes. Well, we should always hope that there'll be improvements in technology that will improve the range of products available. Now, what else would you like to say about the consumer service guarantee which you mentioned? And of course, that as it applies at the moment is for people who have fixed line voice service to their home via Telstra under that contract. How do you see that changing under a new regime?

**MS SOMERSET:** Well, there's a few things. We'd really like to see some enforcement of the CSG regardless of what the outcomes are, and we think there are - we've certainly got members who - their consumer guarantee has not been met in the last two years.

We do believe that service guarantee needs to apply to those that only have a broadband - sorry, only have a mobile service, and that some sort of service guarantee around broadband as well, because we do have people who've been told that, for instance, they're going off the interim satellite service and it'll be another, you know, five weeks until their Sky Muster is installed.

We've had people whose outages - RSPs have had outages for - you know, with the Sky Muster service for several weeks. It's very difficult to do education or run a business without any internet connection, so we think that there needs to be some service guarantees around those as well.

But I think the really important part about a service guarantee is that it is actually enforceable, and people are very clear on what their rights are and how they go about ensuring that they receive that service guarantee. I'm not sure that that's clearly communicated at the moment, and I think that people find it almost too difficult to go through the hoops for ensuring they receive good service.

**MR LINDWALL:** The people that you have mentioned who have, you know, not had their - as you said, not had their service fully met in the last two years, and the enforcement of the present CSG, have they complained to Telstra, and have they complained to the Telecommunications Industry Ombudsman, for example, if they haven't received satisfaction?

**MS SOMERSET:** Some have gone to the TIO that I'm aware of, and some have claimed the small rebate that's available, but others have just found that that in itself was too time consuming to pursue, and so I think a streamlining of some of those processes. And some certainly weren't aware of that until they were informed by us that they could do that.

**MR LINDWALL:** I just wanted to explore further about the point about a guarantee on mobile service, which of course doesn't exist. I mean, in many areas of life today we don't have government guarantees for things. You know, there's no guarantee that an ambulance will arrive in a particular time. They have an objective time. The mobile

network has grown organically, pretty much, without government regulation. Sometimes at the Commission we've been concerned that guarantees can actually inhibit growth of products, so do you really think that you need to have a guarantee on mobile service when we have a better service in many regions than we have had over many years, just by its own accord? By competition, in other words?

**MS SOMERSET:** I think one of the challenges is that we don't always have competition - so I'll give an example of a local mobile tower outage, which after an upgrade for whatever reason the data connectivity was fine, but the phone usage was so intermittent that it would be 20 or 30 seconds and it would drop out, and you might try and make phone calls to those people. They only have one tower in their vicinity, don't have any competition, and there's really no recourse, because it's a commercial business.

So I guess it's some sort of baseline guarantee, and you mentioned ambulances, but there's some recourse with an ambulance that you have elected members and you have a government department and you have an expectation of quality and service, but with a commercial business provider, there is no - there's no need for them. They're answering to a shareholder. So I think some baseline guarantees that there will be service - a usable service - is a reasonable expectation, because you can't actually - and I'm aware of the roaming discussion, and I guess we support increasing coverage rather than increasing choice. It's just part of why I don't believe our communities will necessarily have choice in the longer term, that there be some baseline that they have to meet around, you know, mobile tower outages for voice services.

**MR LINDWALL:** Okay, so you're - have you mentioned this to - - -

**MS SOMERSET:** I'm well aware that it's - - -

**MR LINDWALL:** Sorry, go on.

**MS SOMERSET:** I'll just say, it is very complex, Paul, but I just think it's whether we can wrangle something around that that would be productive and useful.

**MR LINDWALL:** Yes, no, quite, Georgie. Now, I just want to conclude by asking your views on the Mobile Black Spot Program, of which, you know, we get different views about the range of competition versus, as you say, extension of the service, and I think you made clear just then that you'd prefer to have a broader range of coverage rather than having more competition, necessarily, if one was traded against the other?

**MS SOMERSET:** Yes, and I think that you are right, that it would be one traded against the other. My conversations with our members is that they clearly want more coverage. We've been very supportive of the Mobile Black Spot Program and we actually would advocate for a continued funding of a program similar to that, where communities can actually identify true black spots that have, you know, either very minimal or no coverage, and I would declare that we are due to get one in our community here.

But I think that where communities have effectively planned and researched where they really are, that they've been able to identify that and advocate for those, and I think that that is the sort of program where it's a public-private partnership that's bringing about real investment in regional Australia, and it's bringing about real benefits for agriculture, and it's going to enable us to use tools like telemetry and precision agricultural tools in areas that would not be commercially viable to put a tower.

So for a range of reasons, we're very supportive of a continuation of the Mobile Black Spot Program and effective collaboration between government and public funds, but all levels of government, local, state and federal, and private partners.

**MR LINDWALL:** Okay. Well, that sounds great, Georgie. Did you have any final comments you want to make?

**MS SOMERSET:** Well, I just really welcome that we're reviewing the Universal Service Obligation, we're reviewing how the funds are used and the transparency around those. We haven't touched on the payphone side of things, but they have less relevance, I think, for our members these days, and we're really looking out of this review that we may get some real investment in - yes, and some guidelines around what obligations might be going forward and some support for guaranteeing broadband services, which we think are going to be transformative in regional Australia through a range of technologies.

**MR LINDWALL:** Okay, well, thank you very much Georgie and have a good day, and see you another time.

**MS SOMERSET:** Thank you, Paul, and thanks for taking our submission.

**MR LINDWALL:** No problems at all. Bye.

**MS SOMERSET:** Bye.

*(Call concluded. Call commenced.)*

**MR LINDWALL:** Hello. Is that Kristy?

**MS SPARROW:** Yes, it is. How are you going, Paul?

**MR LINDWALL:** I'm very well. And yourself?

**MS SPARROW:** Good, thank you.

**MR LINDWALL:** Excellent. Now - and thank you very much for your comprehensive submission.

**MS SPARROW:** That's okay. It took quite a bit of work.

**MR LINDWALL:** I imagine it would have. Now, would you for the record - and you know that a transcript is being made here - say your name and talk a bit about your organisation, and then give a bit of a statement as you see fit?

**MS SPARROW:** Yes. My name is Kristy Sparrow, from Better Internet For Rural, Regional and Remote Australia, and I do have a bit of a statement here.

**MR LINDWALL:** Please.

**MS SPARROW:** My name is Kristy Sparrow and I am a grazier, a wife, a mother, a business owner, a community volunteer, a friend, a sister and a daughter. I am not, nor should I have to be, a technical expert, a submission writer, a telecommunications problem solver, a legislation reviewer or a customer service specialist, yet every day the team at Better Internet For Rural, Regional And Remote Australia do these jobs as the telecommunications industry and Australian Government has forgotten us.

Thank you to the Productivity Commission for the opportunity to present to the hearing into the Universal Service Obligation review. BIRRR is an entirely volunteer group. Our submission, which no one paid us to do or funded us to complete, comes from the heart and extensive research and surveys of those using telecommunications in regional areas.

It tells the real story of what it is like to have no landline phone for six weeks and no working internet for four months. Our submission extensively highlights why NBN Sky Muster, a service designed to deliver fast broadband, will simply not work as a voice service.

Yesterday 26,000 Activ8 and Clear network Sky Muster users had no internet connection due to a backhaul failure, no connection for over four hours. Affected customers tried to call their providers via their landline, but due to high demand, they were unable to get through. Providers then SMSed messages to customers, but the majority of these were not received, as most Sky Muster users did not have mobile coverage. Some are still not back online.

Imagine the effect this would have on your business, over 24 hours with no connectivity. BIRRR is extremely concerned about the prospects of removing Telstra USO obligations. We warn of the serious, potentially tragic repercussions faced by regional users if this were to occur.

NBN specifically states that you should keep your existing landline, because the Sky Muster satellite was not designed for voice. There are several limitations of supply of VOIP service using this network. Our submission details these limitations.

Sky Muster is not a reliable technology. It has a significant amount of downtime due to countless issues such as rain fade, power outages, backhaul issues, NBN network issues, software upgrade issues, ground station weather events, CVC congestion and

more. There are a huge amount of ways an end user's connection can fail. Even during the writing of this submission, the Sky Muster network has been incredibly unreliable.

Additionally, we urge the PC to consider that the removal of the copper continuity program will see large numbers of residences that are mapped for NBN Sky Muster lose their ADSL connection, and be forced to use in theory a broadband technology.

If copper lines are discontinued, this will significantly increase the load on Sky Muster and also mobile broadband towers, which are already suffering from supply and congestion issues in regional areas. Regional areas have been left for so long without reliable and sufficient telecommunications that we now have whole generations who cannot send a text, let alone set up a VOIP compatible phone.

There is an assumption that all users have the technical expertise to know how to get and stay connected for VOIP and broadband requirements. This digital and communications divide is ongoing and ever-growing, and has been created as a direct lack of telecommunications support to Australia.

The removal of USO obligations on existing landlines would be a death sentence for the bush, not only leaving people with no reliable means of running their businesses and educating their children, but also placing residents in potentially perilous situations and unable to raise help in times of emergency.

Bush people are understandably justifiably angry and outraged about the thought of removing the only reliable communication tool they have. These people have seen no effective plan or legislation that will deliver a reliable and equitable voice and broadband services.

BIRRR is astounded that there is no uniform scheme proposed to deliver reliable and equitable VOIP and broadband services to all Australians. Our submission is written as a direct result of on the ground experience, and clearly illustrates that Sky Muster cannot meet the demands of a voice service. It is struggling to meet broadband requirements.

The suggestion that Sky Muster can be used as an alternative phone lines puts all of the bush connections into one very fragile and easily broken basket. We encourage the Productivity Commission to listen and engage proactively with those in regional and remote Australia who have historically been at a telecommunications disadvantage. The pitiful state of telecommunications infrastructure in the bush is entirely due to the privatisation and competition mindset that has resulted in a massive divide in telecommunications investment that is partly focused on maximum return on investment in the major capital cities at the expense of regional productivity.

There have been countless submissions, reviews, regulation and study, but very limited action and funding. There has been a focus on costs and broadband speeds, but not on productivity, human life and livelihood. Regional Australian contribute a large proportion of Australia's GDP and live across the extent of Australia's land mass.

They do this in some of the most hostile and hazardous locations, making their need for reliable telecommunications paramount. We urge the PC not to recommend removing proven communications system. The essential role played by landlines is far too vital to be cut with these budget requirements. The consequences of removing generally reliable landlines and forcing an already shaky service to take over that role would be immense and immeasurable. Regional Australia could never recover from the direct and flow-on effects of such a move, which would economically destroy bush business, and frankly we should not have to constantly do battle to simply remain connected. Thank you.

**MR LINDWALL:** Thank you, Kristy, for that. Could I ask firstly, I mean, you mentioned the digital divide. The government has invested tens of billions of dollars through the NBN, including in the satellite, and some people would say - NBN would say that the satellite Sky Muster service are teething problems, but it's not necessarily - you shouldn't say that it's a bad system overall.

You know, in the area covered by the satellite I think there is an estimated 400,000 premises or so under the Sky Muster. About 8,000, maybe 16,000 of those may have had ADSL coverage availability. That means the vast bulk of those people had no service whatsoever before the satellite service. They had no broadband whatsoever. So surely that has addressed some of the divide that you mentioned?

**MS SPARROW:** I think people over the last few years have been using combinations of satellite services, so there's been Telstra satellites, Optus satellites, AVD satellites. So we're not really serving people that have had no connection. Of course there are people that have had - have chosen not to take any connection. But I do think that the demand has outweighed the expense.

**MR LINDWALL:** Sorry, did I miss that point? The demand - sorry?

**MS SPARROW:** But so the demand for broadband and reliable telecommunications has outweighed the expenditure put into that program. Sky Muster is - and I understand that there's been a significant expenditure on it, and I think the satellite that's actually up in the sky is fantastic, but there's been cost cutting on the ground, and that has led to a very poor experience for users.

I have heard time and time again that people would be happy to have their interim satellite back because it was reliable. It's not all about speed. They just want a reliable service that meets their needs.

**MR LINDWALL:** Okay. It's interesting. Other people have told me they had a very poor experience with the interim satellite, so maybe it depends where you are in Australia in terms of the coverage.

**MS SPARROW:** I think they - people definitely did have a poor experience with the interim satellite, especially when the fair use policy was introduced and their data caps were reduced significantly, but in terms of reliability if they wanted to use the internet and turned it on, it worked, and that's not what's happening currently.

**MR LINDWALL:** I see, yes. So have you - - -

**MS SPARROW:** And as demonstrated today with the 25,000 people offline.

**MR LINDWALL:** Indeed. Has BIRRR been in contact with NBN?

**MS SPARROW:** Yes, we're regularly in contact with NBN, and we do a lot of their customer service work for them. There's no parameters for them to supply a reliable service. They were tasked to supply fast broadband to Australia, and that's what they've done.

**MR LINDWALL:** But when you've spoken to them about the reliability of the Sky Muster service, have you been getting the response that might give you confidence that over time you'll get a better service and a more reliable service?

**MS SPARROW:** I think in terms of broadband, yes. They aren't keen to supply voice services. They know the limitations themselves. They know that the service wasn't designed to supply voice. VOIP is extremely complex. It takes quite a bit to set up over Sky Muster and unless customer service can be supplied I just don't think that that's feasible.

**MR LINDWALL:** What about the people that have mobile phone coverage that are in the satellite zone?

**MS SPARROW:** So I'm one of those people. For the last three months we haven't had reliable mobile phone coverage. There's an issue with our tower. There's no guarantee that Telstra will come and fix that issue, so I don't think that looking at the mobile footprint and saying that those people have mobile coverage is really an adequate response, because it's not - also not a reliable technology.

**MR LINDWALL:** So you - but it is the - - -

**MS SPARROW:** In fact - - -

**MR LINDWALL:** Sorry, please.

**MS SPARROW:** Sorry, what was that?

**MR LINDWALL:** No, no, no. I said continue. I shouldn't have interrupted.

**MS SPARROW:** You're right. I just think that to get mobile service a lot of these people have had to spend excessive amounts of money to get antennae and boosters. The illegal boosters that are currently on the market are causing huge issues in regional Australia. There's tower issues, congestion issues. It's just not a reliable enough form of technology to rely on for voice. And also data plans are far more expensive and limited

than other forms of internet and therefore people are going onto Sky Muster which is going to lead to congestion issues.

**MR LINDWALL:** So would you say that you're basically buying three or four different services? Your landline, your mobile phone contract, your NBN satellite service, and perhaps a satellite phone service?

**MS SPARROW:** We don't have a satellite phone. We have a NGWL, next-generation wireless loop. So with our mobile tower, which is a mini repeater tower, I think there's seven of them in Australia, if something happens to it, it's extremely difficult to get someone to come and fix it, so we have a mobile broadband plan on the NGWL, plus a landline plan. Telstra are not really sure where we fit in terms of their plan, so we can't get accurate information on plans.

We then have mobile phone plans, but the phones don't generally work here very well at all, in the house, and we have a satellite, a Sky Muster satellite plan.

**MR LINDWALL:** Now, I think you mentioned - well, you did mention in the submission some concerns about fixed wireless, which is not something I've heard much in this inquiry to date. Usually people have been - on the satellite are have been clamouring to get a fixed wireless service, and people who have fixed wireless tend to report very good - you know, the rates are the same as you can get in the cities under fixed line, the voice quality is exceptionally good. What problems have you got with fixed wireless?

**MS SPARROW:** Well, we've got a couple of our admin that use a fixed wireless service, and while the data is fantastic and the pricing, it also goes down if there's a power failure and there are lots of reports of congestion on certain towers with fixed wireless, which is causing lots of issues with certain areas that, you know, there's quite a few people that have been put onto a tower.

NBN haven't been very accountable for that congestion as yet, and as you can see in the submission, we've got several providers trying to lodge faults with towers because of congestion issues but they're not getting much response. So that's really leading to a poor experience for those people on fixed wireless.

**MR LINDWALL:** But in - you know, if you have a good service, it shouldn't be congested and you should be able to get 50 megabits a second on fixed wireless.

**MS SPARROW:** Yes, that's right, you should be able to , but that's not the experience people are getting. And they're also not getting the support in setting up these VOIP phones because there's no set VOIP parameters for the Australian industry to abide by, and it really does come down to which provider you've picked and how supportive they are.

**MR LINDWALL:** Yes, that's a retail issue. Do you want to talk about retailers and concerns about retailers or whether they're providing the type of information that the customer should expect?

**MS SPARROW:** No, I don't think any of them are providing accurate enough information. It's very difficult to get hold of them to start with. It would be even more difficult if he didn't have a landline and a non-working Sky Muster connection. It would nearly be impossible to get your service fixed, I think. And wait times for Sky Muster providers are just ridiculous, over an hour long to get through to talk to somebody, and often they don't know how to troubleshoot your issue, so you have to wait for a call back.

The customer service state of the telecommunications industry is in a huge mess at the moment, and that's why BIRRR I think has formed, and why we continually get, you know, 30 to 40 cases every day of people that can't troubleshoot their own connections.

**MR LINDWALL:** There are all these concerns, but I'm just wondering whether you have any sympathy for the rollout of the NBN, given it's one of the largest infrastructure projects in Australia's history, and all infrastructure projects by nature have difficult problems, and the government has spent vast amounts of money in different things, including the Mobile Black Spot Program, including in the Universal Service Obligation which you spoke of, as well as the NBN and other programs.

I mean, I'm not sure that it's a lack of investment that you could really argue is causing a problem, and maybe it's just the fact it's a large program and it takes a while to get it right. In other words, would more money - - -

**MS SPARROW:** I think NBN have had plenty of opportunities to - like, we've spoke with them at length. There's some things that could be done that wouldn't take a huge amount of money, for example the outage yesterday, if NBN had the facilities to maybe place up on their website an outage notification, because it's that unknown of what has happened to my service, and we've spoken (indistinct) about that.

But it's just this lack of accountability by providers and by NBN that is really the crux of the issue, I think, because nobody has set consumer standards for any of these services, and that's where we're really going wrong.

**MR LINDWALL:** So communication is failing?

**MS SPARROW:** In term of Mobile Black Spot funding.

**MR LINDWALL:** I was saying there, basically it's communication?

**MS SPARROW:** Yes, in terms of Mobile Black Spot funding, we do really appreciate that funding. However, I know our area was one of the first - in the first rollout to get that funding. We still don't have that tower.

**MR LINDWALL:** Have you been informed about when it's likely - - -

**MS SPARROW:** So it's all good for an ounce of funding, but it has to follow through the actual on the ground services and customer service.

**MR LINDWALL:** Yes. So effectively you're saying that there have been poor communication amongst the various providers to people living in the rural and remote area. That should be improved, obviously, and that that would go some way to address your concerns.

But are there any other cost-effective means that could be used to improve services?

**MS SPARROW:** Well, we've got lots of - in Australia at the moment, lots of these alternate fixed wireless providers that are providing services in regional areas, so that is a concern if NBN was to become the universal infrastructure provider, then they will have to choose between maybe a service such as South-Western Wireless. It just seems to be such an ad hoc approach to delivering communications in regional Australia.

If you look at the town of Alca, for example, it's quite a small town. It has quite good ADSL2, which most people use. It has a mobile broadband tower, 4G, with Optus. Another 4G one with Telstra. It's matched for Sky Muster satellite, and South-Western Wireless is about to set up alternate fixed wireless in the town. So you've got all of those services, yet you travel eight kilometres out of town and you can't access those.

**MR LINDWALL:** Well, you could access the Sky Muster, presumably. Because I mean, the NBN mandate is to provide universal broadband to all premises in Australia on request, either as fixed line, fixed wireless or satellite, so I don't think there's any coverage mix in there that's not - any area that's not covered, so - but you're right. I mean, ADSL has a natural limitation in the length of the copper run it works on, and it degrades rapidly after a certain length. Mobile phone coverage is limited, obviously.

In the end, it's a form of concentric circles, one could argue, and coverage will vary, depending where you are. And I do hear, of course, of concerns of people being on, you know, fixed line, and another person being on fixed wireless not so far away, and someone else being on a satellite not so far away from that, and I'm not sure what else the NBN could do to move people from one to the other without large blowouts in cost, which are - I mean, in all of these solutions there has to be - it has to be within a reasonable budget, otherwise it just becomes unaffordable, doesn't it?

**MS SPARROW:** Yes, and I completely understand that, but we get cases and cases every single day where NBN really haven't tried to get that customer the best option for their broadband service, so you can see in our submission there where we've mapped somebody that was right on the edge of fixed wireless.

It's almost like you have to fight your own battle to get the best connection for your needs, and even yesterday we had a case where the lady lived in the middle of Sandbox, she was an 80 year old lady, and the installer had come out and said, no, he couldn't get fixed wireless signal, which was just ridiculous, because she was completely covered in

the purple shading, she lived in the middle of town, and he told this 80 year old lady that she could get Sky Muster satellite.

**MR LINDWALL:** I've got a couple more questions - sorry? Sorry, go on, yes.

**MS SPARROW:** Yes. No, you're right.

**MR LINDWALL:** Okay. I half feel like we should be using it like radio conversation where I say "over" or something like that. But on the reliability of the current Universal Service Obligation service, what could you comment about it, given that, you know, I've heard anecdotes about large gaps of people having coverage and, sorry, their landline going out for some period of time?

**MS SPARROW:** Well, as I mentioned, I'm on an NGWL, so it's not covered under the Universal Service Guarantee. In saying that, though, Telstra are pretty good at getting out here if they have a technician that is familiar with the setup, which there's only two in Queensland, so we do have to wait, but it is actually quite a reliable landline. It's not a great voice quality, there is a little bit of a delay, but we don't really have times where it goes out. We had a short period yesterday, but we haven't had a time where it's gone out for a long time before that.

But yes, definitely in terms of other situations I've heard of, there has been lengthy times, six weeks or longer, without a working landline, and I think that's why it's imperative to have either one or the other service, and not have all your eggs in one basket.

**MR LINDWALL:** That's good. Now, finally, do you have any comments on the regional broadband scheme the government's announced or the statutory infrastructure provider legislation that is also out for comment?

**MS SPARROW:** Yes, we have put a submission in to that, and we don't feel that that has adequately covered consumer guarantees. It's basically saying that NBN can be self-regulated, and that hasn't worked successfully in the past.

**MR LINDWALL:** Okay. Did you have any final comments at all, Kristy, that you'd like to make before we finish?

**MS SPARROW:** I just think that there really is a drastic need to do something about service guarantees for not just regional Australia, but all of Australia, and I don't know what - you know, we've only come into this in the last few years because there has been a huge need, and I understand that there's been significant funding put out, but I just think that there's no overall comprehensive scheme or package or design on how we're going to fix it, and even though we keep batting on about it, nothing seems to get done, so I really encourage a recommendation that the government not just focus on speed of broadband services, but also look at the reliability of voice and broadband and how it meets people's needs.

**MR LINDWALL:** Okay. Well, thank you very much for that, Kristy, and have a great day.

**MS SPARROW:** Okay, thanks, Paul.

**MR LINDWALL:** Bye.

*(Call concluded. Call commenced.)*

**MR LINDWALL:** Good morning. Is that Claire?

**MS BUTLER:** Yes, it is.

**MR LINDWALL:** How are you today?

**MS BUTLER:** I'm good thank you. So I'm Claire Butler - - -

**MR LINDWALL:** That's good. Sorry, I'm Paul Lindwall. Sorry, I should have introduced myself.

**MS BUTLER:** Hi Paul. Claire Butler, ICPA New South Wales, Isolated Children's Parents' Association.

**MR LINDWALL:** Excellent. Claire, would you mind - - -

**MS BUTLER:** So (indistinct).

**MR LINDWALL:** Yes, please, go ahead.

**MS BUTLER:** Okay. Well, thank you for giving us the time today to speak at the hearing. ICPA New South Wales members live, work and educate their children in isolated areas of New South Wales which quite often do not have mobile phone service. Our families rely heavily on either copper, digital radio concentrator systems, or Next G wireless link as the only form of voice communication.

It should be noted the latter, Next G wireless, is not covered under the current USO. Consideration must be given to the anomalies associated with all aspects of life working, living, and educating children in these areas. One of those considerations must be that in the event of an emergency or natural disaster, access to more, not less, voice communication is paramount.

ICPA New South Wales strongly recommends against removing the USO in areas that have NBN Sky Muster satellite, because the satellite is simply not reliable enough for VOIP. ICPA New South Wales supports a measured approach to (indistinct) the geographic areas that will require a continued guarantee of support.

Consideration must be given to all users of NBN Sky Muster due to the combined reliability, environmental, electrical, latency and emergency issues currently experienced on Sky Muster. VOIP as a proposed main telephone would provide a much less functional service than that already provided by the current standard telephone service on our landlines.

ICPA New South Wales believe that any funding reductions and cost savings under a reformed USO should be diverted to the Mobile Black Spot Program to further extend the mobile communications footprint. And just to give an example, Paul, Clare Public School in far south-west New South Wales in (indistinct) shire sits in the middle of a 15,000 square kilometre black spot. That is an area bigger than Sydney and the Blue Mountains combined.

It is totally unacceptable that a school in such a remote area, a place where children gather to be educated, is still unable to secure as priority with Telstra to apply for this area under the Mobile Black Spot Program. This is despite the new remote incentive criteria. There is a strong feeling in the bush that the Mobile Black Spot Program continues to look after the big telcos and forgets about the very people it was meant to help.

Telco applications for funding under the Mobile Black Spot Program tend to favour more densely populated areas for profitability. This does not mitigate the desperate need of those living in isolated and remote areas. Despite a strong and consistent lobby, the Clare School community has missed out on both round 1 and round 2, yet just recently in round a tower has been approved in the same shire on a major highway that nobody lobbied for.

So in this case, the telcos ticked the new remote criteria box under the program, but a major highway with a ten minute black spot hardly compares to the remoteness of the Clare community and the significant benefits to that community if it had access to mobile phone service.

ICPA New South Wales therefore supports the recommendation to prioritise areas with community input. However, these areas still have to overcome the hurdle of whether a telco deems them profitable enough to actually apply under the program.

Just quickly, the Next G wireless link, most of our members are reliant on fixed copper or radio links for standard telephone. However, when Telstra rolled out their Next G wireless links further for some rural and remote customers 10 years ago, they didn't consider that it met the Universal Service Obligation, which meant customers weren't covered by the consumer service guarantee.

So as it stands now, customers in these areas with Next G wireless link who log a fault aren't allocated a technician until such time as there are no outstanding repair jobs for the regular customers. So in some cases this can be weeks or even months, and it's their only form of communication, so ICPA New South Wales is concerned about those premises reliant on Next G wireless link for standard telephone service, and we would like to see those premises included in a USO.

So I would like to thank the Commission for including ICPA New South Wales in today's hearings. Thank you.

**MR LINDWALL:** Thank you very much, Claire. I've spoken to some of your other people in the ICPA in the past, and the amount of work that is being done to improve education is quite impressive, and I remember one anecdote where a person was - a child was learning a violin over the landline, which I thought was quite amazing how you could do that, but technology is obviously being used in a different way through the Sky Muster to improve education outcomes. Can you comment about your experience with the use of Sky Muster for your children?

**MS BUTLER:** Well, my children actually attend Clare Public School, which I spoke about, but they have - the 21 schools in New South Wales that are currently not - they're still on the old satellite - you know, some - - -

**MR LINDWALL:** The interim satellite, yes.

**MS BUTLER:** - - - (indistinct) the New South Wales Department of Education. So my children don't actually - they can't access the NBN Sky Muster, so they haven't been able to tap into what it can offer. We have it at home. We have found it faster. They can - my daughter was learning Chinese at school and couldn't - the school - it was very slow trying to do the video conferencing, for obvious reasons, with the satellite.

So she came home, and she could log into YouTube, and she did her own little lesson on the Chinese that she was trying to learn at school, and it was fine. So Sky Muster is faster, but the reliability of it - you know, we have a period there where, for about a month, it was dropping out quite a bit. So we didn't know whether we had internet or not.

But I will say, it is faster. So she got to achieve that that day. She got to achieve what she couldn't do at school, because they're not on faster satellite. They're getting download speeds of less than 4 megabytes per second at the school, so she could come home, and luckily Sky Muster was working that day, and it worked great for what she needed.

So we'd love to be able to get these 21 schools tapping into Sky Muster as well, once the reliability issues are sorted out.

**MR LINDWALL:** Exactly. So what you're - just to clarify, your daughter doesn't have - well, you have no education allowance, obviously, under Sky Muster, because she goes to the school at Clare?

**MS BUTLER:** That's right. That's right. And there's 270 children in New South Wales studying via distance education. The majority of those children are supplied with the technology and the equipment by the Department of Education. So they are all tapping into the Optus satellite. They are not going over to NBN Sky Muster yet. They are still

waiting to hear when that will happen. We're told that it's because of security issues. So when they can go over, you know, it will be great to see how that all pans out.

**MR LINDWALL:** Do you understand how the system will work for students at remote schools when there's the 50 gigabyte a month allowance? Would that be run through the school then if Sky Muster's provided at the school?

**MS BUTLER:** Look, I'm not sure. I would like to look into that further. I was actually having a conversation with our principal about this before, how that would work, or whether or not there would be some sort of - whether or not NBN Co would be able to give some sort of - similar to what they're doing with the education ports. You know, I know they're running them in Queensland. Each child at the school - you know, if there's seven children at the school then the allocation could be, you know, 50 gig times seven, and that could probably be their allocation.

**MR LINDWALL:** Yes, yes. Could you also say a bit how education is now provided over satellite in - what you've heard in the actual association? If it's - rather than, as I've mentioned earlier about the traditional landline that was used for many isolated children, what type of services do you get over the NBN satellite, as opposed to obviously YouTube and that, but could you explain a bit about the services that the states are providing?

**MS BUTLER:** So in terms of education, or health, or - - -

**MR LINDWALL:** Yes, education in particular.

**MS BUTLER:** Yes, so the distance - a lot of what our distance education children are doing - and I haven't experienced distance education, but obviously we have a lot of members who are doing distance education, is they have - they access - it's all via satellite. It's a lot more face to face, so there's programs similar to, I guess, you know, to - explaining one way, similar to Skype, so they're having face to face conversations with their teacher, as opposed to years gone by, over the radio and over the telephone.

They're communicating more with other students, so they can, you know, have a group session with students all across the state. They're also accessing lots of different programs like Noodles and all sorts of educational programs that they log into. They're receiving all of their - you know, the years of receiving correspondence in the mail - those days are gone. Everything is received via the internet.

So there's a heavy, heavy reliance on internet for the distance education students, and there is a fear that, you know, these - the data allowance - the data capping that we do have under NBN Co, you know, once - I mean, New South Wales is a little bit different. We haven't transferred over to Sky Muster, but if and when that happens the data allowance is - you know, there is that concern that obviously it will just be - there will be more and more things being done over the internet, so whether or not the data capping is going to be enough for those students is a bit of a concern to ICPA as well.

**MR LINDWALL:** How do the students manage with the inevitable latency that comes with a satellite service?

**MS BUTLER:** I think - I think that with the Optus satellite that they're tuned into at the moment, it's not - you know, our DE families seem to accept that, okay, it is a bit slower, but they've sort of accepted that that's how it is. If they were to go onto something faster, I'm sure they would realise they would be able to have quicker lessons for children - you know, the frustration sort of not there of waiting.

Speaking from the point of view of getting back to the small schools that have got the sound - you know, they've recorded download speeds of less than 4 megabytes a second, there have been times where they have just given up, so, you know, for example tapping in to learn Chinese with a Chinese tutor in China, the latency was - it was too hard, because they just couldn't do it, so they stopped the lesson. So there are times where, yes, they have to stop the lesson, and they're interrupted, yes.

**MR LINDWALL:** And what - to what level do students in isolated areas tend to get to before they move to, you know, a regional or city school? I mean, do they get to year 10 or even year 12 through that way of teaching?

**MS BUTLER:** Most of the children will finish in year 6 in New South Wales, and most of them - some do stay on and complete their high school education. Most of them are going away to boarding school, so when they get down to boarding school these children are 11, 12 years old, and they have - you know, obviously they've got to cope with being away from mum and dad and a whole new environment, but they're handed a laptop. That's what the first thing they're handed is, and they've all got a laptop, and they - you know, some of their peers are, you know, behind, because they're not up with the technology. They've been using it, but I just know from my own personal experience with my children at a public school with limited satellite internet they've gone away and - they've obviously got them, but they've struggled (indistinct) at the same time, getting used to the technology. And of course, they love having reliable fast access to internet.

**MR LINDWALL:** Yes, of course. Yes. And now, we did also ask about the areas that are covered under the Sky Muster system who have premises which have reasonable mobile phone services. I just wanted your thoughts about whether you thought that was sufficient and you would do away with a landline under such circumstances?

**MS BUTLER:** No. I think any premises that is on the NBN Sky Muster, regardless of whether they have mobile phone service or not, if they're - the anomalies of where you're living in the bush or even on the rural fringes are that at any given time you might need a different form of communication.

You know, in a bushfire the mobile tower might be out but the electricity might still be on and you might be able to use a satellite Sky Muster VOIP, or the Optus, it might be happening, or nothing might be working and you might need to use the UHF radio. But the one constant is that if - and especially in - you know, you're getting into the more remote areas, even if they do have mobile phone service, it's - sometimes it can have that

unreliability - you know, if you're travelling it's not going to be - you know, you might - yes, sorry, I'm just trying to sort of work out what I'm trying to say.

**MR LINDWALL:** That's all right.

**MS BUTLER:** We have lots of - yes, I just think that when you're living in rural and especially remote environments, even if you do have mobile phone service, you still need to have that access to that landline. Those landlines - you know, they've saved lives over the years, so they're pretty important. They're a pretty important resource.

A lot of the homesteads - you know, one in three homesteads are empty now because people are buying up, you know, the neighbour's property, and people are moving away, but you can guarantee that in any one of those remote homesteads the landline is still plugged in and still working. So you can (indistinct) if you need to and use that phone if you haven't got access to mobile phone service.

**MR LINDWALL:** Have you got any comments about payphones? It's something that we've explored a bit in our report too.

**MS BUTLER:** Payphones - we've got a - there's a payphone - so I'll just say one that I know of. There's a 200 kilometre stretch of road between Balrenols and Ivanhoe - this is in far south-west New South Wales. There's nothing in between. There's no towns, there's no nothing.

There is a payphone at 100 kilometres north of Balrenols, so about halfway, and it is located - you know, it's an old hotel that has closed down. So that's a really important resource to still have, considering that there's no mobile phone service along that full stretch of road.

There's been car accidents there where somebody actually lost their life, a member of the community, but the way that the emergency services were raised was at that payphone, by ringing triple O. So I think there's still merit having them in areas, especially if there's no other form of communication.

**MR LINDWALL:** What about an alternative to a payphone like a Wi-Fi service, a community phone service like that? Would that - - -

**MS BUTLER:** Yes, I think I'd probably say yes. ICPA New South Wales would probably support that.

**MR LINDWALL:** All right. What else - I think I've asked pretty much everything I can think of. Is there anything you'd like to say finally, before we finish?

**MS BUTLER:** Look, thank you for giving us the opportunity to speak, and we look forward to seeing the outcomes of the final report.

**MR LINDWALL:** Well, thank you, Claire. Yes, the final report will go to the government in late April, and then it's up to the government to put it into the parliament, and I think it has to be tabled within 25 sitting days. So whenever that might be.

**MS BUTLER:** Okay.

**MR LINDWALL:** But that gives you a bit of a handle about when it would be.

**MS BUTLER:** All right.

**MR LINDWALL:** So thank you very much for speaking with us today - - -

**MS BUTLER:** Okay, thank you.

**MR LINDWALL:** - - - and take care. Bye.

**MS BUTLER:** Thank you, Paul. Thank you, bye.

*(Call concluded.)*

**ADJOURNED** [10.11 am]

**RESUMED** [10.27 am]

*(Call commenced.)*

**MR LINDWALL:** Hello, Reg?

**MR COUTTS:** Yes, yes, Reg Coutts speaking.

**MR LINDWALL:** Hi, it's Paul here. Thanks for speaking with us.

**MR COUTTS:** Hi, Paul.

**MR LINDWALL:** Hope you're well.

**MR COUTTS:** I am. It's hot here in Adelaide today.

**MR LINDWALL:** Yes, I'm going - I'll be there this afternoon, and then driving to Port Augusta, which I think is 45 degrees. Now - - -

**MR COUTTS:** Yes, yes.

**MR LINDWALL:** Well, as long as the electricity is still operating. Now, Reg - - -

**MR COUTTS:** Well, (indistinct).

**MR LINDWALL:** Reg, would you mind, just for the record, because a transcript is being made, to introduce yourself, talk about - and then give a bit of a statement as you see fit?

**MR COUTTS:** Yes, I'm Emeritus Professor Reg Coutts, Emeritus Professor of Telecommunications, University of Adelaide, and I've been running my own (indistinct), and the subject of the USO I have been following for something like 20 or 30 years.

A crucial issue, I think in my mind, is the (indistinct) - - -

**MR LINDWALL:** I'm sorry, Reg, could you just repeat that bit? It got lost. So just go back and start again a little bit, sorry?

**MR COUTTS:** That's all right, I'll take you off loudspeaker.

**MR LINDWALL:** That's better.

**MR COUTTS:** Yes, this is Emeritus Professor Reginald Coutts, Emeritus Professor of Telecommunications, University of Adelaide. I left the employ of the university at the end of 2003, and have been operating my consultancy through Coutts Communications, and provide consultancy to the industry and government, et cetera.

The USO is a topic, having been involved in the industry for 40 years, is one I've followed with interest for at least 25 of those years, and it's my observation that there's been a reticence, particularly in the last 10 years, to reform the USO because it is so complex.

However, my recommendation, as I've said before, is you have to start the journey but have the long term in mind, in view. The crucial issue is the role of the USO particularly for remote users who currently receive a voice service on copper with battery backup. In my view, either with NBN Sky Muster or other satellite solutions, it can't be matched in terms of the current service they receive.

However, telcos around the world in developed countries want to retire the copper network and increasingly the costs for a copper provided voice service will continue to escalate. In the case of my Australia it is my argument that that cost is still below what Telstra receives in USO subsidy, but at some point a decision will need to be made.

So I have focused on the possibility of satellite replacing remote users, which I think should be considered again in the 2020 review, but certainly there don't seem to be options at the moment, and remote customers, those you identify in the report as those outside - particularly those outside mobile coverage would understandably be very - object strongly to removal of that service.

Secondly, I think it is useful to consider the confluence of the Universal Service Obligation and the need to reform emergency services, because there is a confluence in the user's mind between a sustainable communication service, and there a number of options, but what happens in the case of emergency? And therefore the copper takes on a special significance above and beyond what we normally consider as a communications service.

**MR LINDWALL:** Is that it, Reg?

**MR COUTTS:** Yes, I'm afraid that's it.

**MR LINDWALL:** Okay, no, that's all right, I was just wondering whether the phone had stopped or something. Yes, thank you for your submissions, by the way, too. Now, as you say, the cost of copper maintenance would rise over time, and over time countries have been introducing fibre optic and other services and mobile and satellite. Let me investigate firstly the satellite service, Sky Muster.

We've been getting a lot of feedback of concern about its reliability and things, including latency, but particularly about reliability, and I was wondering whether you think - and NBN would say - have been saying that it's partly - it's teething issues in terms of the Sky Muster being introduced properly, but I'm also wondering whether it's an installation issue at the user site. For example, are the installers using the right size of dish at the right locations? And are they pointing it accurately at the satellites?

Because I was speaking to someone in Cairns, and he was telling me outside the session that they were paying very low rates for installing the satellite services at users' premises, and it was so low that these people who had been providing Telstra's services for many, many years don't even bother contracting because they thought the rates were too low, and they were claiming that NBN is using some contractors that pretty much are not qualified to deliver the service. Would you be able to comment on that, or does that sound credible?

**MR COUTTS:** Well, I can't obviously confirm or deny.

**MR LINDWALL:** Of course, yes.

**MR COUTTS:** It did - it is consistent with some of the feedback I have been seeing on the blogs, that for some reason there certainly have been teething problems with the Sky Muster, (indistinct) - they seem to be getting past those problems.

There also seem to be some installation problems in another aspect. A number of users have been saying the service drops out with rain. So it's not just - so whether the satellite dish is not pointed accurately, whether there's water ingress at the installation, I don't know, but it does sound consistent with, shall we say, low cost provision.

**MR LINDWALL:** So you would normally expect that a geostationary satellite service would not be affected by light rain if the dish was appropriately sized and accurately pointed, I would expect?

**MR COUTTS:** No, and I understand the rain fade margin that is - the system has been designed to by NBN Co should certainly be adequate, so that it would only be in high intensity rain. Normally northern Australia would from time to time present a problem, and of course that's what the availability figure is worked out on. That's the 99.7 per cent.

**MR LINDWALL:** All right. Well, that's obviously an issue for the rollout of the service. Now, what is your view about a person who is receiving, as we asked in our draft report, a person who is receiving at his or her premises a Sky Muster service and has a reasonably reliable mobile phone service? Would that be, in your view, a sufficient, shall we say, baseline? In other words, the mobile phone is complementing the Sky Muster service for both voice and for data?

**MR COUTTS:** I think that the problem hinges on the statement "reasonable mobile service".

**MR LINDWALL:** Yes, yes.

**MR COUTTS:** Because the expectations of a mobile service are increasing over time, not decreasing, so that's in terms of just the mobile service is used not only as a voice service, of course, but also access to a whole number of services using broadband access. Particularly the mobile, because they can do that quite separately from their home.

It does have - the other issue I mentioned was the - what I call the conflating of the emergency service - so if, for example, you were to - in case of emergency, a mobile has a special significance, in effect distinct from a normal telecommunications service, and that's where particularly people outside mobile coverage are distinctly disadvantaged.

**MR LINDWALL:** Exactly, and the data's pretty clear that mobiles are now the number one form of communications to call emergency services, obviously mainly in cities. The other question I wanted to ask about, some of the services provided under the USO are from a digital radio concentrator, which of course is old technology and will become increasingly expensive to maintain.

Are there any other technologies you would highlight? And I know we need to be technologically neutral, but other than the satellite services, that can be used in more remote areas that you see have promise over the years ahead?

**MR COUTTS:** Well, having been involved in the original digital radio concentrator, I'm aware, as I understand, they're actually having to poach spares off other equipment to keep it - and the high capacity radio system that followed it, to keep it on the air.

I understand the expectation was that the mobile service would substitute for that, but I don't think that's - that hasn't been realised. No, I'm not aware of essentially a - although I haven't recently looked at the digital concentrator systems, and even then, that still doesn't address the remote users. It addresses the - certainly regional coverage in, from my memory for example, states like particularly Queensland and parts of the Northern Territory, the digital radio concentrator was invaluable for its time.

**MR LINDWALL:** Exactly, yes. In your submission, you recommended that the NBN be designated as both a universal infrastructure provider and a standard communications service provider. How do you distinguish the - you know, the standard communications service provider role from the universal infrastructure provider role?

**MR COUTTS:** Well, to me - it was then consistent with the model of NBN being the wholesaler allowing a layer for competitive service providers. But then potentially there be a service provider of last resort.

**MR LINDWALL:** If there's insufficient retail capacity in a zone, is that what you're saying there?

**MR COUTTS:** Well, that's right. Every effort, from a policy of point of view, should be to extend the infrastructure to enable competition at some level. Like, once you get into more remote areas infrastructure competition is not realistic. But where you've got infrastructure - like, in my original report I said that even NBN Co with its fixed wireless infrastructure could actually be used a lot more to provide wholesale mobile service, and in fact that's slowly happening.

**MR LINDWALL:** Okay, yes, yes. The government has also released exposure drafts on the statutory infrastructure provider legislation. Do you have any thoughts on it that you'd like to share?

**MR COUTTS:** Sorry, could you repeat that?

**MR LINDWALL:** I was going to say, the government has also released draft legislation on the statutory infrastructure provider legislation, and did you have any thoughts on it that you'd like to share?

**MR COUTTS:** No, I don't, no. I haven't looked at that matter.

**MR LINDWALL:** Okay. What about the regional broadband scheme levy that's been introduced to - you know, the competition for NBN in cherry-picked areas, I suppose?

**MR COUTTS:** Wanting to be sensitive to my professional economist colleagues, I'd have to say I think it's half-baked. Firstly because it seems to operate in isolation of the reform of the USO, and to me the two things are connected, so I could understand their brief would make sure they weren't connected.

Secondly, the carve out of wireless I think is an interesting thought experiment, given that I think it's quite clear as we look forward to 5G et cetera that fixed and wireless are converging, and therefore you can't look at broadband - fixed broadband and mobile broadband in isolation of each other.

**MR LINDWALL:** Yes, yes. So you see mobile phones as a form of a complement, I suppose, or rather a substitute for - - -

**MR COUTTS:** Well, it's both, it's both. It's certainly a complement for particular market segments. Sorry, it's a substitute for particular market segments, but in many ways fundamentally it's a complement. But it's only a complement where you've actually got fixed infrastructure.

**MR LINDWALL:** Yes, yes. What do you expect - I think we spoke when we met about 5G, the introduction of that. How do you think that will affect people's take-up of fixed line services?

**MR COUTTS:** I think it will be a couple of things. It will more affect the telco strategies and the marketing than necessarily - I mean, there will be particularly - you're starting to see them now where - in fact, a recent service offered by Optus so that essentially users are unaware, but they've got their mobile, and when they're near Wi-Fi it automatically switches to using Wi-Fi.

Now, this has been happening over the last five or so years, but increasingly that's being made seamless. So I think the point is that 5G will see the opening up of other bands, but from a customer's point of view it will make essentially, where possible, a seamless mobile service / fixed service, so that if you've got a mobile and you move into a Wi-Fi area then you're effectively exploiting the Wi-Fi infrastructure - - -

**MR LINDWALL:** Yes.

**MR COUTTS:** - - - rather than the mobile infrastructure.

**MR LINDWALL:** Yes, yes, so there'd be a more seamless experience wandering around, in a way.

**MR COUTTS:** Yes.

**MR LINDWALL:** Now, I think you agreed with us that for the fixed wireless service that the quality of voice over that, using Voice Over Internet Protocol, is very high. So I'm just wondering what you think the implications might be for the NBN.

If - hypothetically, if the TUSO was to be removed, do you - what type of implications for the NBN would be in the fixed wireless footprint in terms of costs and revenues, could you imagine?

**MR COUTTS:** Well, that would obviously open up - from a technical point of view, as I said, I couldn't see the reason why fixed wireless would not be able to provide a quality voice service. Obviously - in fact, with the sort of bandwidth we're talking about, you might not even need what you term "managed VOIP".

So it really depends on how NBN Co approaches and what the customer expectations are. But I wouldn't have thought the cost implications on NBN Co would have been major to enable that.

**MR LINDWALL:** Is that because the bandwidth required for voice is quite low?

**MR COUTTS:** It is quite low, and unlike in the satellite situation, or at least the Sky Muster satellite, you do have, shall we say, a managed contention in terms of who - to see - by "managed contention" I mean in the sense that right now, the contention and the caps are something - they're imposed, rather than a limit of the current satellite system, given the lack of what I'd call price signals to the marketplace that allows people to potentially have greater caps if they pay for it.

**MR LINDWALL:** Now, of course, there are - - -

**MR COUTTS:** So there's another policy conundrum.

**MR LINDWALL:** Yes, yes, it is in that satellite area, yes, indeed. What about the - the number of people who use voice only services today - of course, there are some - and it's a demographic thing as much as anything in terms of age ranges, I suppose, but - - -

**MR COUTTS:** Yes.

**MR LINDWALL:** - - - how do you see that? I mean, if you were making predictions about the growth of broadband usage versus voice only type of services, even if the voice service is via an internet protocol, how do you see that changing over time over the next 10 or 20 years?

**MR COUTTS:** Well, actually I have looked at that issue in a research context, but the problem is that people often say that, well, people are going mobile and, well, the older people are going to die, but they've never obviously worked out the numbers, because a significant number of people live a lot longer than they used to, and so I'd be very, very careful about assuming that fixed services are not going to hold their solid supporters, shall we say.

**MR LINDWALL:** Yes.

**MR COUTTS:** And my observation is that - well, we're speaking on a fixed phone at the moment, for example - is that the fixed phone service and the mobile service are still complementary. The question is, what price are you willing to pay for it?

**MR LINDWALL:** Yes, yes. If you're willing to pay for both, exactly. Now - - -

**MR COUTTS:** Yes, if you're willing to pay for both, (indistinct) if the price was acceptable. And that again gets back to the 5G scenario, that essentially you'll be looking increasingly - in fact now, but increasingly the marketing of fixed and mobile services and the fixed service will have - can potentially have different quality levels, as you know now, your naked DSL, or you can have your fixed service quality managed, you know, from using - either on the mobile network or on the fixed network.

**MR LINDWALL:** Now, I understand you received a bit of a backlash from a post on BIRRR's Facebook page in December where you said something like Sky Muster could be used to provide a quality telephone service in remote Australia, let Telstra's copper retire.

**MR COUTTS:** Yes, I must admit I was being deliberately controversial.

**MR LINDWALL:** Yes.

**MR COUTTS:** But I found the feedback immensely useful, and I think it confirmed my view that really - yes, at some point the copper is going to be retired. Now, Telstra, if they weren't being paid the USO, I would say would be more enthused to retire it than they are at the moment, but I was in Telstra in the 1980s we were talking about the retirement of copper, so - and I would be fascinated what modelling has been done in Telstra about the costs - the rising costs of providing a voice service via copper, particularly in remote areas, because certainly the experience in the cities is the copper-delivered service is increasingly become more unreliable than it used to be.

**MR LINDWALL:** And you would imagine that would be the case in the rural and remote and would become increasingly the case over time?

**MR COUTTS:** That's what I'd imagine, but of course I can't - I've got no evidence of that, because the impact on the copper network involves many factors. In fact, I thought it was interesting that one of the points - I think it was the Victorian Farmers' Federation didn't want to lose copper because of bushfires, and that it provided emergency backup, but I think if you were to enquire in other states, the copper network often doesn't fare as well as the mobile network when you get a fire coming through.

**MR LINDWALL:** Yes.

**MR COUTTS:** And that's what's unfortunate, that a lot of the - what is offered as evidence is only what I'd call anecdotal evidence, which I've contributed to a little bit as well.

**MR LINDWALL:** Yes. That's true. Often life is about anecdotal evidence. Now, you mentioned that low earth orbit satellite constellations are not suited to replacing copper infrastructure, I think because the terminal equipment is unsuited and expensive for individual premises.

May they be suitable for - as a solution for premises currently receiving a USO satellite connection or other premises in remote and hard to reach - expensive to reach areas?

**MR COUTTS:** Well, I haven't done a - and this is an example of where I think some review needs to be made, that the problem with the current LEO systems, because they need to track satellites, unlike geo services, you don't just set up the installation and walk away.

It means that the installation on the ground is more complex and more expensive, so for example, applications that envisage a group of houses or a village, as is the case in the south-east islands, right, South Pacific islands, is it makes a lot of sense. You have a low earth orbit - essentially a V-sat, but skewable antenna, but then the cost is distributed over a larger base.

But certainly I understand the current available product, LEO product, would not be suitable for essentially individual premises.

**MR LINDWALL:** I can see what you mean. It's more for a community - it might be a small community, but not just an individual one.

**MR COUTTS:** Right. But also, that dovetails into the 2020 review, is that there's a whole number of things for example like potentially on-board processing on satellites, changes - the LEO systems may change in terms of what they potentially offer. We're talking three years away, whereas just in technology development is - but I think there really has to be some active research into the way the satellite industry is evolving, and it's currently in the stage of what they call stage 2.0. It's starting to evolve very quickly, because other countries such as, say, the African continent for example, and even parts of Canada and the US, there is a demand out there for satellite solutions, and if it was AT&T or Verizon I'd be encouraging such solutions - - -

**MR LINDWALL:** Yes, yes.

**MR COUTTS:** - - - if you take my point.

**MR LINDWALL:** I do. All right. Well, given the time, Reg, I mean, I was going to ask you quickly about payphones, if you had a final comment on that, and if you could just - - -

**MR COUTTS:** Yes, yes.

**MR LINDWALL:** - - - make any final comments you'd like, and then we'd better finish up, I suppose.

**MR COUTTS:** Right. I think the issue - I think that payphones in the old style are an anachronism, but I think some form of community access phone, as I think demonstrated

with the Indigenous phone system, is invaluable. But that should be more based on public Wi-Fi, for example.

And again, it's another example where if a bit more innovation were to happen, we'd come up with some options, but actually regulating provision of payphones is just one part of the anachronism of the USO.

And just if I can make a final point, to start the journey, which I keep saying, the current USO is an example of just complete over-regulation in terms of the FTS, as it's known, requires carrier selection, right? Which is a hangover from the early 1990s, and the current waiver system, right, for CSG, gets connected with that.

So it's a regulatory nightmare at the moment where - I mean, I hadn't realised until recently that customers are provided, for example, a fixed cellular system from Telstra but they have to sign a waiver because that doesn't actually satisfy the requirements for the FTS, and therefore doesn't attract the same CSG protections.

**MR LINDWALL:** Exactly. Well, thank you very much, Reg, for your time today, and have a good day.

**MR COUTTS:** Thank you. And you're doing an excellent job, thank you.

**MR LINDWALL:** I appreciate that. Bye then.

**MR COUTTS:** Bye.

*(Call concluded. Call commenced.)*

**MR LINDWALL:** Hey, Daniel?

**MR FEATHERSTONE:** Hi Paul, how are you going?

**MR LINDWALL:** I'm very well. How are you?

**MR FEATHERSTONE:** Yes, good, thank you.

**MR LINDWALL:** Yes. Where are you at the moment? Up in Alice or somewhere else?

**MR FEATHERSTONE:** Yes, in Alice Springs.

**MR LINDWALL:** Yes.

**MR FEATHERSTONE:** So in our office at IRCA, Indigenous Remote Communications Association.

**MR LINDWALL:** Yes, so - and I'm off to Port Augusta tomorrow - this afternoon, which apparently is 45 degrees, so I suppose Alice Springs would be pretty warm today?

**MR FEATHERSTONE:** I don't know if it's quite that hot, but it's certainly been warm lately, yes.

**MR LINDWALL:** Yes. Now, Daniel, and I think Ruth is there too - well, anyway, could you introduce - just because you know a transcript is being made - introduce yourselves and then give a statement as you see fit?

**MR FEATHERSTONE:** Okay, great. Yes, so I'm Daniel Featherstone, the general manager of Indigenous Remote Communications Association, and I'll let Ruth and Lauren introduce themselves, from Desert Knowledge Australia.

**MS ELVIN:** Yes, thank you. Ruth Elvin. I am the senior programs manager with Desert Knowledge Australia, based in Alice Springs.

**MR LINDWALL:** Hello, Ruth.

**MS GANLEY:** And hi, Lauren Ganley. I've just started as the CEO of Desert Knowledge Australia, based in Alice.

**MR LINDWALL:** thank you.

**MR FEATHERSTONE:** So it'll be primarily myself speaking, you know, to that response that we've submitted, but yes, Lauren and Ruth might pitch in where needed.

**MS ELVIN:** We will.

**MR LINDWALL:** Okay, well, so if you'd like to make a statement, thanks, Daniel, Ruth and Lauren, that'd be great.

**MR FEATHERSTONE:** All right, great. So yes, look, thanks very much for the opportunity to speak to the (indistinct) Telecommunications USO. As you know, this was an area that we, you know, had a lot of interest in, both through our work at BIRRR and also through Broadband For The Bush Alliance.

I think, you know, this is an important piece of work that the Productivity Commission have taken on, and one that is very, you know, much needed to review and update the USO, notwithstanding the long-term contractual arrangements that are in place.

We - I'll just go basically from some of the points that I've made in the response submitted, but yes, happy to answer questions and go to more detail after that.

**MR LINDWALL:** Okay.

**MR FEATHERSTONE:** So as you're maybe aware, IRCA is the national peak body for Indigenous media and communications. We have a strong history of representing the interests of Indigenous communities and people, particularly in remote Australia, and particularly in those areas within the NBN satellite footprint, and similarly our work with Broadband For The Bush Alliance and our annual forums and Indigenous focus, they help to give us a good insight into what those needs and challenges.

We have got a strong focus on digital inclusion of remote people, and deliver projects to that effect, and I will just put in that we have a conflict of interest, but I'll declare that we have Telstra sponsorship for an IT training program that we deliver called IndigiMob. But I'm quite happy to speak very openly about our position on all companies, so we're not affected by that.

IRCA does agree with the Productivity Commission that the current USO is a blunt instrument with a one size fits all approach, and it does need a lot more consideration as to particularly how to include broadband and digital inclusion generally, but also mobile services. You know, the primary service that a lot of Aboriginal people identify that they want in remote Australia.

As you may well understand, the current model for mobile is with terrestrial backhaul, so that is sort of a key starting point with our concerns with an NBN transition model. While we agree - we agree with the targeted - you know, the idea of targeted programs to be a more efficient approach, we're also aware that unravelling the current USO arrangement and potentially restructuring the whole ownership of terrestrial infrastructure in remote Australia isn't a simple exercise, and needs to be carefully managed so as not to leave people with services that are worse-off than what they currently have.

It's critical that that impact is thoroughly assessed before going forward, and so I think our position is that, you know, we would like to see more detailed analysis of what that impact might be and what a transition arrangement might look like before we could really support going towards NBN as a primary backhaul for delivery of voice services. We'd see that that's very problematic in that NBN is designed both in a structure and in its business case to be a data service delivery rather than a voice service delivery.

Our main concern is that Telstra currently own almost all of the infrastructure in remote Australia in that same satellite delivery footprint, and that is the requirement for the delivery of voice services currently, is terrestrial infrastructure both backhaul network and exchange and last mile copper, and that without a consideration of how all of that is going to be used for delivery of voice services I don't think there's a simple solution of moving to a VOIP service. I think VOIP will be able to fill some gaps, but certainly in remote Australia that's likely to be highly problematic.

So we urge that there's a holistic approach to the USO consideration to ensure the potential for improvement of services and avoidance of services going backwards, and also, you know, we're obviously aware that new technology may well be a part of the mix, including microwave backhaul in remote Australia.

The six points that we've put - so information request 6.1, we've raised the concern about the draft recommendation 5.1 due to the current planned privatisation of NBN, which poses a potential risk to it being the deliverer for the universal services in the future. Our concern is that, once privatised (indistinct) commercial imperatives that will (indistinct) effectively (indistinct) service as compared with government ownership, where it can actually be a safety net for all Australians. But I can speak to that more later.

We're also concerned about the high cost of logistics, and logistics of maintaining infrastructure in remote Australia, and I'm very surprised to hear that there's been so little transparency in the current USO, and that the cost of getting technicians out into remote Australia is incredibly high, and that expecting another service provider to replicate all of that human infrastructure that Telstra currently have would be a vast exercise, and that that will need significant work to make sure that that doesn't lead to a withdrawal of services, and therefore longer delay times in getting services set up or maintained.

You've noted in draft finding 6.2, dot point 2, the issues of latency and service repair timeframe for those satellite services if voice were to be delivered via NBN. Latency is an issue, but also there are a whole range of other services such as tele-health, tele-education, you know, video conferencing type services, as well as server-based services where low latency is needed in remote Australia.

So while the USO is dealing with one aspect of the telecommunications environment, we're aware that there's a whole lot of other holistic thinking that needs to go on to ensure that the wholesale communications needs are considered in one hit, to ensure that we're not taking away business and service delivery opportunities as part of seeing this as one part of the system.

We endorse the proposal of targeted Indigenous telecommunications programs, and particularly to meet the digital inclusion challenges in Indigenous communities, but this needs a very holistic approach. Obviously we've got a range of challenges, and we know this firsthand through our own program delivery around not only availability and accessibility to services, but digital literacy, relevant content, appropriate training and support, and that requires a well-funded program which is currently very different to what is being set up, or what is on offer through the remote Indigenous IT activity within the government under Department of Prime Minister and Cabinet.

The implicit assumption that all people - all premises have availability of NBN services equates to all people having access I think needs to be really teased out, particularly because of a lot of people in remote Australia who don't live inside premises, they live outside of premises, or they are mobile and move between communities and household a lot. A lot of people prefer to have mobile or Wi-Fi services than a fixed household service, and in remote Australia mobility is a part of life. People are always on the road, moving about, not fixed to premises, so I think that has need to be really thought through.

And lastly payphones are still a very important form of telecommunications in remote Australia, in remote Indigenous communities particularly, and the withdrawal of payphones needs to be carefully analysed to ensure we're not leaving people without an essential service.

So if there is mobile, that's been used as a reason for withdrawing payphones, but it assumes that everybody has a mobile, and similarly with Wi-Fi, that doesn't preclude the need for a payphone. So I'll leave it there, Paul, and let you have a chance to ask some questions.

**MR LINDWALL:** All right, Daniel, thank you. I was wondering if Ruth and Lauren would like to tell me briefly about Desert Knowledge Australia, perhaps?

**MS ELVIN:** Yes, well, it's Ruth here. Desert Knowledge Australia is a statutory authority of the Northern Territory with a remit for contributing to social and economic development in desert Australia, which equates pretty much just to all of remote Australia. Desert Knowledge Australia has been a very active member of the Broadband For The Bush Alliance over the last few years, and in that context particularly we're concerned very much about what appears to be the lack of research, the lack of consideration of the impact of the transition from the USO (indistinct) in this report, and so it's (indistinct) shared position with IRCA and everything that Daniel has just spoken to. But there is a far greater need for analysis of the guarantee of service before we can really support the proposal being put forward.

**MR LINDWALL:** Okay. Well, thanks for that, Ruth.

**MS ELVIN:** (indistinct)

**MR LINDWALL:** Sorry?

**MS GANLEY:** And yes, I'll just add that - just for the record, because (indistinct) at Desert Knowledge Australia, however, look, our concern is for the people who live on (indistinct) or, you know, (indistinct), like anyone living in regional remote areas, fair - you know, fair access to communication, and that our - you know, if we look at the number, it's, you know, for us, not about the number of premises, it's about the number of people, because there is, you know, a big, you know, contrast between the two.

Daniel (indistinct) around the fact that people do have a preference for mobile technology. Now, that's (indistinct) younger people. There are older people who don't, you know, accept mobile technology, so therefore it's critical that payphones are maintained, and (indistinct). And then, you know, with the mobile technology - it is around mainly accessing voice and then data would be, you know, used mainly for social media, and then things like they send emails and so on.

So yes, you know, we're (indistinct) concerned about the people (indistinct) part of Australia which is regional and remote, and endorse everything that Daniel has talked about.

**MR LINDWALL:** Thank you for that, then, Lauren. Now, might I ask firstly, perhaps Daniel might speak to this, but it's up to you three how you decide, in relation to one of our information requests, which was to provide comment on the advantages and disadvantages of Indigenous-specific telecommunications solutions, and particularly the last mile network infrastructure, perhaps in light of that, and also what do you see as the specific telco needs and challenges of remote Indigenous communities compared to other remote communities, I guess?

**MR FEATHERSTONE:** Yes, I think we've sort of raised this in some of those early hearings, but one of the challenges is that we don't think that Indigenous households in remote Indigenous communities will see the model of having a satellite dish on the roof and paying a monthly bill as a viable option. For a vast majority of people in remote Indigenous communities there is a preference for pre-paid services under mobile currently, and similarly with, you know, the current model with telephony.

So we see other models of last mile delivery as more realistic and they are, you know, mobile where you can get pre-paid services or Wi-Fi delivery where people can basically pay per use or, you know, pay what they can afford for use, or where possible having free Wi-Fi services, and we certainly advocated that as much - you know, wherever possible, that - to enable a digital inclusion model, and to get people accessing essential services that everyone else has access to, but free Wi-Fi would be a way of achieving that.

Now, that doesn't mean you pick up everyone, but it certainly is a way that people can connect using the devices that they have.

**MR LINDWALL:** Yes.

**MR FEATHERSTONE:** The other aspect is that, you know, there is a current telecommunications program, Indigenous communications program, called RIITA, the Remote Indigenous IT Activity, and they are expanding Wi-Fi coverage in remote communities.

Wi-Fi is both a, you know, an easy solution, but it also has, you know, very limited - it only reaches within the range of a - you know, a short range, where devices can basically transmit back to the receiver, and it also breaks down very quickly through metal buildings and so forth, re: coverage. And so that means that you end up with a patchy service. So it's one solution but not the solution.

I think a nuanced telecommunications model does need to include the current network infrastructure, and particularly there's still a lot of businesses and service delivery going on in communities that require high bandwidth terrestrial services such as health clinics, education, police stations, you know, justice hearings and so forth.

So you know, all of that requires video conferencing capability nowadays, and generally the quality that is required is for high speed reliable low-latency services, as

well as a lot of those services also have their service in capital cities, and so there is a reliance on low latency connectivity to access databases and, you know, server systems.

So I think we - you know, there's one aspect of being able to improve digital literacy, which goes much more to getting people on the ground delivering services, promoting additional mentors and employment models, providing culturally appropriate framing of particularly language, and relevant content so people actually see the point in going online, because it reflects their life, their story.

So it's quite a nuanced type of activity. It's not a single strand at all.

**MR LINDWALL:** Exactly, yes.

**MR FEATHERSTONE:** So in principle we certainly endorse the idea of an Indigenous telecommunications program.

**MR LINDWALL:** That's good. May I - you mentioned pre-paid services, and ACOSS called some of those like a poverty premium, since the prices are higher. Do you - - -

**MR FEATHERSTONE:** Absolutely.

**MR LINDWALL:** So what's the best way to address that issue? And I've heard of - I think in our previous conversations, Daniel, you've mentioned issues around a common phone which is, say, someone has an account with or runs - it's shared, in other words, and the account gets run up pretty quickly in terms of costs. What are some of the ways to address those types of issues?

**MR FEATHERSTONE:** Look, you know, that issue I've seen first-hand, and it is difficult when there's a single phone that's shared. One of the things that we've put up, and I think was mentioned to you, is the idea of a white list of essential services, such as the My Gov and e-health and, you know, employment services, banking services and so forth, to make sure, so they're unmetered services.

Also - so that would be via mobile delivery or via Wi-Fi delivery. The other thing is, too, you know, maintain the extended zone service so that we ensure that people can still communicate effectively between - you know, with family and service providers within their region, which are obviously large regions.

In terms of how to manage shared billing, that - you know, there's obviously an education component to that, awareness around the costs of data and how to manage data. So the training component will help in that regard, because a lot of people, you know, are using data without realising it just through having apps and things turned on.

**MR LINDWALL:** Yes, yes.

**MR FEATHERSTONE:** And that can very quickly drain their pre-paid account. So you know, it's not a simple solution, but there are a range of different strategies that could be put in place to address the affordability issues.

In general, we just want to make sure that there is a sort of an affordable model that Indigenous people can access as a baseline service. I agree mobile pre-paid services are a premium cost service, and that again, education around the times of day to use those and how to reduce those costs is one component, but that is something that needs to be addressed.

Trying to put people onto a monthly billed service requires a level of financial management, and that's something that is sort of beyond our remit, but it is an ongoing education and change of behaviour that will take some time.

**MR LINDWALL:** Yes, that's true. Now, you did mention a preference for mobile devices, of course, but you also said that you saw a role for the traditional payphones. Now, in our draft report we thought that the usage of payphones has dropped quite a lot, and they're of decreasing relevance and probably recommended that they should be phased out.

I mean, they do cost the - it's \$44 million per annum for payphone service, so I know sometimes you would have a preference for both things, but surely there's a better way of spending the \$44 million, that as well as your mobile service you could get the type of result from payphones that you would traditionally have wanted?

I mean, is it - what would you say to that, I guess?

**MR FEATHERSTONE:** Look, the - I understand that. I understand that there's been a whole lot of expansion of mobile coverage, and that that has taken up a lot of the use of payphones. There are actually more affordable payphone models, such as the CAT phone, which was basically made for (indistinct) service.

**MR LINDWALL:** Sorry, could you repeat that? It dropped out for a second.

**MR FEATHERSTONE:** I was just saying, there have been quite a number of innovative solutions put forward for payphones, include the CAT robust payphone that was designed under a government subsidised program a number of years back, and that was a robust phone that basically had a normal phone sitting underneath a hard case and could be connected onto the side of a community office and operated as a free phone service for local calls only.

Now - or you know, there are - I think a part of the issue here is just, you know, maintaining the infrastructure around collecting cash for them and then, you know, maintaining them when they get jammed up with different things poked into holes. So if you can reduce some of that, you'll reduce a large amount of your maintenance.

The other thing is, too, there's a community payphone program in small communities of under 50 people, and that's been quite a successful program, again with a robust phone with a satellite backhaul, and that's for satellite and terrestrial backhaul, but that has now been Wi-Fi enabled and given people access to both a phone and Wi-Fi delivery. They're currently doing programs to look at how to do some sort of cost - you know, some return on the cost of the ongoing backhaul through a pay usage.

So there are some systems in place that would probably move away - be more targeted strategies, as you've suggested, rather than a big USO contract, for the payphones that might be more targeted to the needs of a particular community.

**MR LINDWALL:** Okay, yes.

**MR FEATHERSTONE:** And I think, you know, that can be teased out. But a lot of people still do rely on a fixed payphone, particularly older people.

**MR LINDWALL:** But as you say, the - - -

**MR FEATHERSTONE:** And - - -

**MR LINDWALL:** Sorry, go on.

**MR FEATHERSTONE:** No, I was just going to say, you know, the mobile phones, where they - where an older person does have them, they can get very quickly grabbed by children and grandchildren and they don't end up getting to use it very often themselves, so the payphone becomes the backup.

**MR LINDWALL:** I can understand that, yes.

**MR FEATHERSTONE:** And also where - you know, where they don't have a pre-paid card or, you know, on the weekends where they can't access a pre-paid card, then they - you know, they (indistinct).

**MR LINDWALL:** Hello?

**MR FEATHERSTONE:** Yes, so it - - -

**MR LINDWALL:** Sorry, that dropped out for about 10 seconds then, so just that last 10 seconds, could you repeat?

**MR FEATHERSTONE:** Sure. I was just saying that, you know, the payphone is still an important backup for people when they don't have, like, a pre-paid card, when their services aren't working. You know, mobile services do go off, and so you still need an emergency backup type service.

When there's domestic violence activities, or when there's something going on, people need to be able to make a call urgently. There still needs to be some sort of

emergency service, particularly outside of business hours when there isn't any community offices open.

**MR LINDWALL:** Fair enough. Daniel, could you tell us perhaps about, in remote Indigenous communities, the availability of mobile phones, how they are charged, for example, or kept, you know, the charge up in them, replaced when they're broken or damaged et cetera.

**MR FEATHERSTONE:** Yes, look, you know, in most parts of remote Australia now, I think, you know, the coverage in remote Indigenous communities we've estimated as about 25 per cent of communities have mobile coverage, so there's still a long way to go before Indigenous communities are going to have blanket coverage.

But the - you know, charging is generally not a major issue. Most households have power even though they are on metered power card systems in a lot of states. The issue of getting pre-paid cards, generally they're available through the community store, and most community support stores provide the phones. Generally they provide the cheaper ones around the \$100 to \$200 range, and the default when people's phones break is buy another one. There is no maintenance of phones, so it's basically, you know, an obsolescence, which means that people are regularly changing their numbers, so you don't - you know, people can change their numbers any - you know, anywhere up to 10 times a year.

**MR LINDWALL:** I see.

**MR FEATHERSTONE:** So you know, that's - you know, there's a cycling of mobile numbers, so there's probably millions of numbers that are obsolete without having been taken off the system.

But the - yes, sorry, what was the rest of that question? I'm just trying to - - -

**MR LINDWALL:** I think that pretty much answered it. I mean, these Wi-Fi or community payphones, do they have charging points attached to them or not?

**MR FEATHERSTONE:** Not that I'm aware of. I haven't heard of any that do. Some communities have, like, a community access learning centre or telecentre, but that's again, you know, generally the bigger communities, not the smaller ones, and sometimes it might be in a school, for instance, where it's not necessarily available to everyone.

You know, in general charging isn't a major issue. People will go and, you know, find a family member's house if they're not living in a house and charge up somewhere.

**MR LINDWALL:** Fair enough. Now, that's a - - -

**MR FEATHERSTONE:** But people do rely on phones for more than just making phone calls. They use it as a storage device for their - you know, for photos, for, you know, the

- as, like, a USB type thing, for a lot of their information, so phones have become, like, a commodity of choice where people use it for a whole range of things.

**MR LINDWALL:** I can imagine so, yes.

**MR FEATHERSTONE:** Obviously also connecting into Wi-Fi where there isn't mobile coverage, so people, you know, will have a phone, even though they live in a community that doesn't have mobile coverage.

**MR LINDWALL:** Exactly, but since you were saying that phones get replaced when they're damaged or broken, are they - what type of backups are they - people in remote Indigenous communities using to back up their photos, for example? Or are they using services which upload it to the cloud via the Wi-Fi?

**MR FEATHERSTONE:** Look, it's completely hit and miss at the moment. You know, there are no - there's no real infrastructure in place unless they, you know, happen to have a learning centre where someone understands that backup is important, so for the most part, yes, there isn't a backup system in place that I'm aware of that is across the board.

**MR LINDWALL:** Now, some of these Wi-Fi telephones - I understand there's something like - they're free, some of them, and they're 20 gigabytes a month limit or something. Is that right, or am I mistaken on that?

**MR FEATHERSTONE:** Different in (indistinct).

**MR LINDWALL:** Sorry, you'll have to repeat yourself again, sorry, Daniel. The communications are not perfect, as you know, so - - -

**MR FEATHERSTONE:** I think you've just summed up my presentation there, Paul. The - sorry - - -

**MR LINDWALL:** This is about the 20 gigabyte monthly limit or something like that, yes.

**MR FEATHERSTONE:** Yes, so each instance of the Wi-Fi is set up by different organisations according - you know, some of them have set up where they've got a daily limit on how much people can download per device. Some have, you know, where they turn off at a particular time of the day so that, you know, people aren't using all night, so kids go to school, for instance.

Some have a monthly limit. Some are on pre-paid cards, so you basically buy a card that gives you a certain amount of data, and then once that runs out you buy another pre-paid card. So it's sort of different in different instances, and the pre-paid card model is probably one of the simpler ones, but again, you know, what we've got an issue of is that some people are heavy users, they want to sit and download YouTube all day or (indistinct) and that's not the use for a Wi-Fi (indistinct).

You do need to in some way keep those Wi-Fi set up (indistinct) they are going to be available to, you know, a large number of people for basic use, and then work out a sort of a transition model for people who are heavy users to more of a billed service or an alternate service.

So that is an issue once people start to use, their usage of data goes up very significantly, and we do need to work out transitions that are affordable and manageable.

**MR LINDWALL:** Yes, that's exactly right. Now, given the time, I've just got a quick question about if we have flexible funding pools for remote Indigenous communities, how would you imagine them being best managed to get a good outcome for the people living there?

**MR FEATHERSTONE:** I'm not quite clear what you mean by flexible funding - - -

**MR LINDWALL:** Well, we've been saying that a more targeted approach, and allowing innovations in the way in which services are provided into remote Indigenous communities, might be a good way of improving services, and I was just wondering if you had any thoughts about how to encourage the innovation, which I think is already evident to some extent, and there have certainly been changes, but what more could be done, I suppose, sensibly, I guess?

**MR FEATHERSTONE:** Sure. Look, we encourage that type of thinking. Obviously every region in Australia has different types of needs, different usage patterns, and needs local on the ground organisations to play a significant role in the best way of delivering services, but without putting added pressure on them to become telcos, local telcos.

So I think it is trying to get the balance right there of some coordination of services, including, you know, roll outs of Wi-Fi and so forth, but also localised ownership and delivery of training and awareness campaigns, content development and so forth.

So I don't think there's a simple answer to that except to say that this isn't a new idea. It's been delivered under Networking The Nation (indistinct) Indigenous ability as a model, and we will - you know, there's some good learning from that as to what worked and what didn't work, but I think, you know, being able to localise the solution is a really important part of ensuring that Indigenous communities do get something that is going to work for them and that is not a one size fits all model again.

**MR LINDWALL:** No, thanks. Now, Daniel, Ruth and Lauren, do you have any final comments you'd like to make before we finish?

**MS ELVIN:** No, not (indistinct) what Daniel was just saying about the effect (indistinct) place-based, it would be essential that any funding model would require a very long-term outline rather than being subject to - you know, to - - -

**MR FEATHERSTONE:** The three-year cycle.

**MS ELVIN:** - - - the three-year cycle, electoral problem, which is one of the many problems of federal funding regimes (indistinct) one of the concerns about the loss of the USO (indistinct). So that is the only thing I wanted to add to that, other than thanks very much.

**MR LINDWALL:** Yes, please, yes, Daniel.

**MR FEATHERSTONE:** Yes, thanks, Commissioner, I agree with that entirely. You know, we've delivered some of these services in the different organisations I've done, and that three-year cycle, by the time you get three years into a project you're starting to get some traction and get it working, and then you've got to cut it and tell people they've got to start looking for their next job, and work out how to start looking for funding to deliver something to replace it, so it is a problem for us.

But you know, getting people into employment for us is a really important part of our work, and we see effective delivery of communication as being about empowering and building the capability of people on the ground so that they know how to educate and support people in their own community with, you know, both technical support, training, introduction to - or showing people how to access services using their devices and so on.

So I think an employment program is a really critical part of a flexible funding model that builds capability on the ground, and that's long-term investment in those people and ensuring that that work can continue to grow.

**MR LINDWALL:** No, that's exactly right, and both of those points are spot on, and in fact the Productivity Commission's mentioned it a few times, about programs being arbitrarily changed without properly evaluating their efficacy or just cutting them arbitrarily like that, so you're quite right, and thank you very much for your contributions today.

**MR FEATHERSTONE:** Thank you, Paul.

**MR LINDWALL:** Okay, bye then.

**MS ELVIN:** Thanks.

**MR FEATHERSTONE:** Okay, bye now.

*(Call concluded. Call commenced.)*

**MR LINDWALL:** Hello, Greg, hi, it's Paul Lindwall, how are you?

**DR OGLE:** Thanks, and Ross Womersley, the CEO, is here with me as well.

**MR LINDWALL:** Hello, Ross, how are you too?

**MR WOMERSLEY:** Hello, Paul. I'm good, thank you.

**MR LINDWALL:** That's good. That's the first time in my life that I've ever had a telecommunications problem. Now - - -

**MR WOMERSLEY:** Well, you've lived a very blessed life, Paul.

**MR LINDWALL:** I must have, yes, exactly. Now, could I ask you both to introduce yourself, because a transcript is being made, and I think you were told about that, and introduce yourself and then just make a bit of a statement as you see fit?

**MR WOMERSLEY:** So it's Ross Womersley. That's W-o-m-e-r-s-l-e-y, and I'm the CEO of SACOSS, and I'm joined by - - -

**DR OGLE:** Greg Ogle. I'm senior policy officer at SACOSS, and the policy area includes telecommunication affordability.

**MR WOMERSLEY:** So by way of introduction, first and foremost can we just say thanks for the chance to follow up with a conversation with you. You'd be aware that we welcome the draft report, and particularly its acknowledgement that access to broadband is a baseline for universal service, although we know other people might well talk to you about concerns for voice services in that paradigm.

We were particularly keen to talk to you directly because of our concern for vulnerable and disadvantaged people, and additionally work and insight that we developed through some work that we were commissioned to do by our friends at ACANN on telecommunications affordability. It wasn't published in time for consideration of the draft report, but we think that many of the insights that, you know, come from that are very important to the Commission and its inquiry at this stage.

In particular, I suppose under the broader heading of affordability concerns, our research led us to different conclusions about affordability issues. Essentially we don't think the USO discussion can just be about access and broadband with affordability being seen as an issue for welfare systems.

Our submissions put a number of qualifications on the affordability data in the draft report, and given our time I'm not going to go to those, but I am going to invite Greg to sort of take the conversation into a bit more of the detail, because he was the senior person in pulling together the more technical research that was undertaken and the process.

**MR LINDWALL:** Good.

**DR OGLE:** Thanks, Ross. Yes, look, the qualifications and queries we had are in our submission. They go to questions of affordability broadly. One of the key findings from our survey was that two thirds of the survey recipients - and these are largely Centrelink recipients - two thirds of those people said that telecommunications expenditure was one

of the top five factors in their household budgets, so we think that in itself flags the importance of affordability.

And I mean, the other - one of the other key things that came out of that survey was just that the telephone allowance really (indistinct). Clearly it's poorly targeted, it's inadequate, and it's not providing for affordable communications, and that gives rise to our concerns about, leaving the USO separate and the affordability issues (indistinct) system and the welfare system's clearly not delivering that affordability.

So we think that's why affordability needs to be more front and centre in the draft report. But even if you were going to continue the (indistinct) better dealt with outside of the USO, we would still looking for a much stronger commentary in the report, the final report (indistinct) supported a review of the telephone allowance, but I think we'd be looking for much stronger commentary about, based on our data at least, you know, these concerns that the welfare system is not providing for (indistinct) and that definitely needs to be a key outcome of (indistinct) system.

The other part from our connectivity culture report that we published that wasn't available to you at the time was market barriers that we heard when we did focus group work with low-income consumers. They were particularly concerned about the lack of affordability of mobile data, which really teased the use patterns, particularly as we know that a lot of low income people don't - mobile is their whole way of engaging online.

So there's a range of inappropriate billing (indistinct) hidden costs, lock-in contracts (indistinct) it all takes place through the minimum retail market, and my reading of the draft report was that it saw those as retail regulations rather than about universal service provision, but from the consumer's point of view, for low income consumers, they're all just other barriers before people access telecommunications.

And we accept that it may be (indistinct). You might still decide that those sort of retail issues are best dealt with through the Telecommunications Consumer Protection Code, and that was certainly where we went to in the connectivity culture report. We'd encourage you to leave in the final report a more exclusive consideration of some of those issues and the explicit naming of those sort of retail problems that need to be addressed in the code before you can say, "Well, that's retail, it's not about Universal Service Obligation." We need to be (indistinct) it will be taken up in the Code (indistinct) are actually a barrier to universal access.

Now, a final note by way of intro is, following from that, the sort of (indistinct) billing arrangement stuff may well best sit in the (indistinct). Not sure the same is true about the affordable data. It may well be in a slightly different category, and might well be looked at under (indistinct). But yes, that's by way of intro. I'll leave it there.

**MR LINDWALL:** Thank you for that, Ross and Greg. Now, I guess I'd start by saying that it's my understanding that the USO doesn't really have an affordability objective to it. It was always about availability of voice services. The affordability has been addressed through other methods, other policies, but I guess I'm asking, if you said that

the telephone allowance is not providing a fair and equitable form of support for affordability, what would you do with the \$600 million that currently goes to that? Is there a better way of allocating it that would improve affordability for people that you're talking to that are low income and disadvantaged?

**DR OGLE:** At a minimum we'd say that that \$600 is poorly targeted, because it's going to groups that - to some groups who have the least issues with affordability, and some groups who are having the most difficulties with - struggling with telecommunication costs (indistinct) the telephone allowance or are only entitled to (indistinct).

So at a minimum, it's poorly targeted, but I think we can also see from our research (indistinct) probably fits in with a much broader question about the adequacy of (indistinct) in order to - inadequacy of income support payments to allow people to afford basic services like telecommunications.

**MR WOMERSLEY:** And I guess - it's Ross here. I guess, Paul, that the interesting thing about the availability question is that availability is impacted direct by affordability, and I think that that's a - that's part of our worry about the way that we construct this discussion. There's a whole bunch of people for whom they are increasingly services that are unavailable simply because they're unaffordable, and we agree that there are different places where you might need to - and different policy areas where you might need to take that issue up, but in fact in this context it seems that it's front and centre to considerations because of the, you know, inevitability (indistinct) that availability is denied if you simply no - if it's unaffordable.

**MR LINDWALL:** So for a number of consumers of mobile phone contracts today are able to buy contracts, you know, monthly contracts which allow unlimited phone calls or unlimited text messages and so on. I would say - you'd probably say that many of the disadvantaged people are unable to afford those monthly contracts, and they're relying on pre-paid services, would that be a fair assessment?

**MR WOMERSLEY:** Some of them don't - so the interesting assumption is that everybody has the technology, full stop, so part of - so Ross here, sorry. Part of the issue - one of the issues for us is that there is - we tend to think that in fact everybody has access to all of these technologies, when in fact the reality is that that's not so.

But then you're quite right that there is a poverty premium, that in fact people who haven't got the means and resources will inevitably pay - and that's the stuff that Greg identified in the report. He might want to speak more about that.

**DR OGLE:** Yes, I mean, people will - there's one class of people who sort of, you know, for credit reasons might not be able to get pre-paid phones, so they're - they don't have that choice on pre-paid phones - sorry, they can't post-paid phones, so there's like the pre-paid phones that are more expensive.

Most of those sort of unlimited data things are actually post-paid. Yes. People - from our focus group work, people are using pre-paid as a way of impulse management,

so they're not being hit with bill shocks and data overruns and excess (indistinct) in doing that (indistinct) the data. Yes, so the feedback we got was clearly there's a whole range of different strategies and different technologies being used but a lot of the poor people that were in our focus groups were clearly on pre-paid phones.

**MR LINDWALL:** I read a study which said that about 90 per cent of the homeless people in Sydney had access to a mobile phone, which sounded very high. I mean, did you have any comment on that? Is that an outlier, or would you say it's credible?

**DR OGLE:** I think that's credible from - I think there's been a couple of studies from Anglicare, I think, off the top of my head, that suggest that that's the case, and that's partly because - and they'd be mostly pre-paid phones, because they're the ones you can get if you're homeless, or it's easier to get if you're homeless. It's the only way they get to stay in touch, because they haven't got a fixed line, so you know, family can contact them or whatever. So that certainly seems to be the experience of the frontline services.

**MR WOMERSLEY:** But there are some cautions in interpreting that data from my perspective, Paul. One is that people are standardly homeless for as long as they're homeless, and in a number of instances we know that there are now a number of programs that deliberately target that small group of people in the population who are rough sleepers and homeless to provide them with some of that technology for as long as they're in those circumstances.

We're not at all convinced that that translates to a wide range of other populations of people who might be experiencing some sort of hardship or disadvantage, and we don't think that, for example, the same level of penetration exists in poor people who might have found their way out of homelessness services into housing but in fact may still be unemployed and may still have major issues around their access to income along the way.

So I think we need to be very cautious about how we treat some of those specific populations, and how we interpret what that then means for what we can say about the more general population, if that makes some sense.

**MR LINDWALL:** Yes, no, no, that's fair enough. I was wondering if - you know, I'd imagine that a lot of households today have mobile phones in perfectly good working order that are sitting in cupboards unused because they've upgraded to newer ones. Are you aware of any programs or projects in community groups to try and get these unused mobile phones out to low income people who can't afford a mobile phone, for example.

**DR OGLE:** I think we know that (indistinct). I'm not so convinced about the - so we know that there are a number of charities that are doing work where they're gathering mobiles and recycling them into places like Africa, and we know that there are some examples of where there might be groups at a local level who do those collections of other people's unwanted, but there are some constraints around that stuff. There's a lot of anxiety generally about handing some of those things on, second-hand electronics and second-hand electrical equipment, because of worries and fears about risks that might

give rise if they go haywire. So there's kind of mixed cautions about that stuff at the moment.

**MR LINDWALL:** You mean about things like a battery blowing up or things like that?

**DR OGLE:** Yes, or the, you know, electrical cord breaks but (indistinct) - you know, any of those processes. So there's some of that risk management stuff that means that a number of organisations may very deliberately veer away from recycling those kinds of things, because they don't have the resources, necessarily, to be sure that they're providing a really good piece of equipment to somebody, so - right.

**MR LINDWALL:** Yes. Now, one of the things that I would have thought would be, particularly in urban areas, that would be helping affordability, I would have thought, are the rollout of free Wi-Fi hotspots that a lot of city councils are now doing. Surely that's not a bad way of addressing some of the affordability issues which you mention.

**MR WOMERSLEY:** Yes, we think that's absolutely useful, particularly - and it's essential in terms of enabling people to access some of those basic services, and I suppose we've argued pretty strongly that most of the government services ought to enable that kind of access on a regular basis in order to ensure that people can interact with them freely and cheaply.

**DR OGLE:** The other thing, I guess, is those sort of, you know, public free Wi-Fis are great for affordability, but we haven't actually done the mapping, but we suspect they're probably also clustered in inner city areas. You know, Adelaide, where we live, is - the CBD should have free Wi-Fi access everywhere, but those who are unemployed are clustered in the northern suburbs and the far south suburbs, and that sort of free Wi-Fi access is probably less in regional areas as well. So that free Wi-Fi is part of the affordability and access, but it's limited.

**MR LINDWALL:** I mean, as you say, what you said earlier and also in your submission, you said that the market lacks suitable product offerings for those on the lowest incomes. What type of policy intervention do you think would make those type of offerings available? We're talking here obviously of pre-paid services versus post-paid services, I guess, amongst other things.

**DR OGLE:** The short answer is we don't know. You know, I think if you went back to when we did the service obligation was there because there were some - look, there were people who couldn't, you know - sorry, where am I going? If you go back to what the Universal Service Obligation was doing, it was going to - we're going to pay the company to provide services which would otherwise not be economically or commercially viable, and if you use that same logic in this space, it might be that you use the bucket of money from the Universal Service Obligation to subsidise the offering of data for particular plans.

Now, I don't know whether that's the answer, but it just - I guess we know what - we know it's a problem, and it sort of fits the logic of the Universal Service Obligation that

there might be, you know - which is about recognition of the need to fund things that aren't commercially viable in the market.

So yes, beyond that, though, the detail of how that would work, I (indistinct).

**MR WOMERSLEY:** And I suspect there are better brains available who might be able to provide that kind of insight, knowing the telecommunications business a bit better than we do in that context. Part of the worry that we have about making some of those recommendations, Paul, is that (indistinct) negative outcome about (indistinct).

**MR LINDWALL:** Sorry, could you repeat yourself? That last 10 seconds or so has been a bit garbled thanks to the quality of our telecommunications.

**MR WOMERSLEY:** Maybe it was the quality coming out of my mouth.

**MR LINDWALL:** No.

**MR WOMERSLEY:** All I was really saying is that we are cautious in coming to the recommendations about what might (indistinct) because we don't know the market really well, enough to be able to protect from making recommendations that would have unexpected dramatic negative effects on the arrangement.

**MR LINDWALL:** Yes, fair enough, yes. I think in our - one of - your submission also was slightly critical of our draft report's focus on the affordability of telecommunications because of the distinction between essential and non-essential services not being clearly drawn, and I think you said that it accentuates the digital divide. How would you - what type of services or hardware would you consider in respect of affordability for essential services?

**DR OGLE:** That's another really good and deep question, I suppose. It's interesting when we begin that discussion about how the world is evolving and issues of inclusion and exclusion, what we're increasingly aware of is the digital world which is creating, you know, another point of division between those who access and have access to the good things in life and those who don't.

So I suppose we just continue to particularly worry about the growth - so when it comes to things like the rollout of NBN, you know, we know that in lots of instances we may now have the NBN rolling past people's houses, but there's a whole bunch of people who will simply not be able to afford to access that facility, and they won't access it, and that may go on for many years to come, just because it's out of their price range. And so as a result of that, the convenience and ease with which they're going to be able to interact with the world and to benefit (indistinct) substantially reduced in contrast to the neighbour that has the means by which to access those things.

And so what we see is this kind of growing chasm, and we're still not quite sure how it belongs in the (indistinct). I would say that the (indistinct) in our submission was just around the discussion around the (indistinct) inclusion index, the Australian inclusion

index, which we read thoroughly, and yes, to sort of critique those - I think the draft report was a bit critical of it on the basis of not making that distinction, and as you can see from our submission, you know, where to draw the line is, as Ross said, that very, you know, (indistinct) and constantly changing.

One of the pointers we would take would be the sort of work from (indistinct) where they've done I think six yearly surveys of people about what are the sorts of things that are essential, and you know, pretty clearly it's about mobile phones rapidly going up the list in terms of how (indistinct) they are, so you know, that might be (indistinct) because clearly mobile (indistinct) you know, actually a form of (indistinct) whether it's a laptop or a computer might be - you know, as I said in the (indistinct) you know, we're probably not there, because (indistinct) probably not as essential, but you know, it's not the same - it's not the category and approach we use to defining other essential services either, so I'm just not sure that it's that crucial to define, you know - - -

**MR LINDWALL:** Okay, yes. Could I ask about - because we're running out of time, and so - about your view on payphones? And you saw in our report we said that - in our draft report, we should phase them out because they're being replaced - not being used very much and becoming redundant with other technologies. Would you like to comment on that for the record?

**DR OGLE:** Look, it's not something that came up in our research, so I'm not sure that we're particularly well qualified to comment on that.

**MR LINDWALL:** That's all right.

**MR WOMERSLEY:** I guess the interesting thing for - Ross here again - is to go back to that assumption that everybody has access to these things, and so as we move - as the world evolves, we do increasingly believe that everybody has a means of telecommunications available to them, and often multiple means of telecommunications, and I'm sure that that's true for a large number of people, but in our experience (indistinct) that simply aren't engaged in that way, and so the question about things like technologies like payphones then becomes a really - you know, as we remove them, particularly in areas where there might be people with limited means to access those new other technologies, it places them in a position where they have reduced opportunities to stay connected to the world in that context, and to raise alarms and, you know, be able to keep connected to family and not be socially isolated and all of those (indistinct).

**MR LINDWALL:** Thank you, Ross and Greg. Do you have any final comments before we conclude?

**MR WOMERSLEY:** I don't think so. Good luck with the next bit, I think. And you know, I think from our perspective, I think you've captured the essence of the things that we were particularly concerned to ensure you understood and, yes, we'd be pleased to have further conversations should you want to come back to us with ideas or questions at any point in the future.

**MR LINDWALL:** All right, well, I much appreciate - - -

**DR OGLE:** And my final - - -

**MR LINDWALL:** Yes, please, yes.

**DR OGLE:** And my final note would be to congratulate you to actually venturing to Port Augusta to do consultation, and good luck in the 45 degrees.

**MR LINDWALL:** Thank you very much. Okay. Hopefully the electricity won't fail. Bye then.

*(Call concluded. Call commenced.)*

**MR LINDWALL:** Hi, is Kylie there?

**MS CAMP:** Speaking, thank you very much, Commissioner.

**MR LINDWALL:** No, no, it's Paul here. Yes, how are you?

**MS CAMP:** Good thank you. Yourself?

**MR LINDWALL:** Quite well, thank you, yes. Now, would you like to, for the - this is - obviously a transcript is made, so if you could just introduce yourself and then make a statement as you see fit?

**MS CAMP:** Thank you very much. First I'd like to say thank you for the opportunity for us both to submit and to speak to you online. My name is Kylie Camp, and my husband Ernie and I live on a cattle property 71 kilometres from Burketown in the Gulf of Carpentaria in north-west Queensland. Our property is 240,000 acres in size and employ three to five employee type contractors depending on work and time of year.

We have seven phone lines and three internet connections, with another two pending. We have intermittent mobile coverage at night at the station complex, but none on the rest of the property. We spent approximately \$12,000 just to secure that intermittent coverage, including starter tower, illegal boosters, antennae, et cetera.

Two of the land lines are located at mustering camps located 20 and 35 kilometres respectively from the homestead. We have also invested several thousand putting a UHF repeater and have a sat phone for backup as well. So we have taken this multi-layer communication strategy approach given the size of our property and our need to ensure as best as possible health and safety of ourselves, our family, our staff, and we also need to provide services to meet the communications of our staff.

We have four children and they all undertook their primary education via School of the Air before heading to boarding school. One of our children is autistic and has other

additional learning difficulties that require greater support, and for several years when all four were in the classroom we were doing 35 phone lessons a week just for school.

Landlines are vital to our everyday life. We use the telephone for business, marketing, selling our cattle, goods and services, enquiries, purchases, health and safety all over our property, contact when out at the mustering camps, because they'll go out there for a week, 10 days at a time, and I'm left at the homestead by myself, so that's really important. Health. The RFDS. And just not for emergency, but every day - well, not every day illnesses, but for non-emergency calls. Health centres at both boarding schools my children attend, I also interact with those.

Social connectedness. The children are at boarding school, boarding school contact. Our children, one is at uni, one is working, supporting them. Friends, extended family. And community involvement. My husband and I are involved in the community in several organisations locally, regionally, further afield.

My husband is mayor of our local shire, and he has additional responsibilities as the chair also of the local disaster management group and chair of Gulf Land Development, a regional development body for the southern Gulf region. He's also chairman of a national agri-political body, and involved in the national implementation committee convened as a result of an ARAT inquiry into the grass-fed beef industry.

I've been on ICPA Queensland state council for the last four years, and I was the president of our local branch for six years and am currently president - vice president. I'm chair of our local RADF committee and was vice president for the north-west division of QCWA for a period as well.

Many of the meetings, including local government, when the wet season impedes our road access, are all held by teleconferences. We only have access to satellite internet. The Sky Muster satellite, which is offering the most data, is the most problematic of all the satellite offerings we've had to date. Frequent outages, cloud shading, happens more often and lasts longer.

History is littered with examples of what happens when eggs are put in one basket. By moving reliance onto one method, as mooted potentially in the draft report into rural telecommunications, we are concerned that we place at risk our ability to successfully meet business, health, education, community and individual connectedness expectations now, and, given the limited capacity of satellite and the growing hunger for data and information, going forward.

Now, we accept that there's consequences associated with choosing to live and work here in remote Australia, and we do not accept having to put our health and safety at risk by having inadequate and reliable access to a suite of telecommunications services, nor do we believe that most Australians would think that that would be acceptable.

So in summary, we believe that quality telecommunications services in regional, rural and remote areas must be comparable to those available in urban areas; similar reliability,

economy, features, voice quality and data; access to fast, reliable and affordable two-way voice and data communications available to all communities and households for education and health services; that mobile phone service coverage increases throughout rural and remote Australia; for those who have no mobile coverage, a mandated right to a fixed telephone service and a reliability guarantee is essential; that there is assurance that investment in the NBN fixed wireless network will continue to ensure that capacity of the NBN satellites is best managed; and that TUSO be expanded to include data, be regularly revised to reflect increasing needs and demands in usage, that penalties for not meeting the TUSO and CSG be increased, and that they be more vigorously enforced.

The primary objective of the USO should remain the protection of those most vulnerable, including Australians already struggling with inadequate telecommunications in regional or remote areas. Services which are proven reliable and affordable must be maintained until alternative and improved services are established and methodically tested. The government has a fundamental obligation to ensure telecommunications standards are constantly improved in line with the increasing social and economic importance of these services locally, nationally and globally. Thank you very much.

**MR LINDWALL:** Okay. Thank you, Kylie. Now, could I ask you - I grew up on a farm, but it was only about 2,000 acres, not 240,000 acres, but a lot closer to a large city too. Could I ask you, before Sky Muster - and we'll talk about Sky Muster a little bit - but before Sky Muster, how did you get broadband?

**MS CAMP:** We were on previous satellite offerings, so we had ISS service put on that was in our (indistinct) tower, and at the homestead for our use we had, and we still have, an ABG service.

**MR LINDWALL:** Okay. And before the ISS, you wouldn't have had any satellite service, I suppose. Was that when it was first introduced?

**MS CAMP:** Well, we had the ABG, which was the one before that, and then we had the - we've been on satellite since that original Telstra rollout where you could get one gig a month.

**MR LINDWALL:** Okay, yes, yes, yes. But what are your views on Sky Muster? I mean, the NBN would say that there are some teething problems because it's being rolled out and, maybe there are issues with the quality of the satellite installation at your premises, but what do you think about that?

**MS CAMP:** I think there's certainly teething problems, but not just - I think more - not just requiring general dentistry work. I think we go on to say that it needs specialist orthodontic work at the very least. It just - I don't have a day when I don't have at least half an hour - and sometimes I've been up to eight hours with nothing. And that happens to me every day.

**MR LINDWALL:** Does it?

**MS CAMP:** And in the three services we've got here currently, in three different buildings, it is the same on each of the connections. There's separate connections, and the same, and it has to be - I reset mine twice yesterday. Our head stockman sometimes has to reset it two or three times a day, and in the other one, yes, it was also a regular occurrence to have to constantly reset, to try and re-establish a connection, and sometimes you couldn't.

And certainly in rain - like, I live in the north of Australia. The wet season is thankfully upon me. The slightest inclination of rain - not even here, but somewhere, because it could be blocking the spot beam - and my internet goes out, and we have satellite TV as well, which is also affected by cloud shading, but the internet will go out before the TV and it will stay out after the TV resumes, so it's certainly much more sensitive to cloud shading.

**MR LINDWALL:** Did you have the same issues with - okay. Did you have the same issues with the other satellite services, ABG and ISS?

**MS CAMP:** I mean, yes, they would go out, but they weren't as sensitive, no.

**MR LINDWALL:** Okay, yes, all right. Now, as to your phone lines, how are they provided? Via digital radio concentrator, or some other form of - how - - -

**MS CAMP:** Yes, digital radio concentrators. So with the seven phone lines they're all - yes, got their own little stand-alone - you know, powered by a stand-alone battery and solar panels with their own individual antenna.

**MR LINDWALL:** And how reliable have they been? I mean, do they go out at once or do they individually go out?

**MS CAMP:** Well, on - well, it just depends on what causes the outage. So it could be something as simple as - like, for example, we've had ants in the system, so they touch the connections and it shorts it out. It could be - so that's just one particular tower. So at the station here, they all feed off one tower, but at the two mustering camps they each have their own tower, so sometimes one of those can be out but the rest can be in, or it could be a blanket, particularly with extended cloud cover, because they don't get enough sun to charge the batteries.

So I mean - and that's - you know, that's - and that's normal, and I accept that that goes out, but it's also, I think, things potentially getting worse because Telstra has reduced the amount of people that are capable of servicing these, you know, the amount of equipment available to repair and replace. I mean, they're not making new. They have to - you know, commercially available. They have to either make something themselves or upcycle or whatever, or come up with something themselves to replace, but we are seeing more things, because - and that's why I'm saying the TUSO needs to be strengthened and enforced more vigorously, because we are seeing more outages.

And we also expect them in the north because when the - you know, the nature of the dry, the black soil, it moves, the wet comes, the ground swells, those towers move, they get out of alignment, there are lightning strikes. Those things aren't uncommon.

**MR LINDWALL:** So what's the long - sorry, go on.

**MS CAMP:** But you know, then we've got - sorry?

**MR LINDWALL:** No, please, go on.

**MS CAMP:** No, you're right, sorry.

**MR LINDWALL:** I was just going to ask, what do you think would be the longest period you've been without a telephone service, in your memory?

**MS CAMP:** Three months.

**MR LINDWALL:** Three months?

**MS CAMP:** Three months.

**MR LINDWALL:** And so, in that period, and presumably - did you have any internet coverage during that three month period?

**MS CAMP:** No, because that was in the days pre-internet.

**MR LINDWALL:** Okay, yes, yes. And so what did you use, HF radio or something? I mean, what was the alternative?

**MS CAMP:** UHFing the neighbours, and that was about it. It was an interesting time, because we were getting married at the time, and my husband - or my husband-to-be was back in town, and I never knew if my groom was going to turn up on the appointed day at the appointed hour.

**MR LINDWALL:** Yes, well, that would have been frustrating indeed. So did you get a compensation under the USO, the consumer service guarantee, for that outage?

**MS CAMP:** No. But one of the reasons that outage was so extended at the time was that there was no one in Queensland authorised to get a helicopter - to authorise the use of a helicopter to get a technician in, because it was the wet season.

**MR LINDWALL:** Yes, okay. Yes.

**MS CAMP:** And so, you know, that's a problematic, as well, aspect of things, and thankfully I think they have fixed that, but what you also have now is a paucity of local service repairers who are qualified to work on these. We've got two technicians in a

town 165 kilometres from me, and they service an area nearly the size of Victoria. Two people.

**MR LINDWALL:** Yes. I can - I've heard that type of story before. Now, Kylie, have you got any final comments you'd like to make?

**MS CAMP:** Just - more or less I just think that, you know, a lot of - like, I read the overview et cetera et cetera, and a lot - I notice a lot was made of fixed and - you know, and the NBN, and a lot of the options, but I think we never - you know, in all realism, we are never going to have a full suite of telecommunications to be truly metro comparable.

But what we do need to run our businesses, educate, et cetera, is just reliability. Now, it's always going to be problematic with our landlines because, again, the nature of where I live, but what I need therefore is to have a suite. I need to have internet, I need to have voice, but I need to have them separate. I need a separation so that I have - most times - because I have had occasions where both have gone out, but then you rely on UHF and neighbours, in case it's not a blanket outage, and we also have the sat phone for emergencies.

But you know, we need a full suite of telecommunications in order to have a multi-layered response and to have that safety margin. And that's really important, I think, and I just think, you know, more and more, you know, it's a much used adage, but closing the gap, for all kinds of reasons.

Technology is the real key to doing that, and there's - you know, we've got to have multiple ways to deliver that technology in order to close that gap and let everyone reach their potential personally, professionally, and let our businesses also reach their potential, I think.

**MR LINDWALL:** Well, thank you very much for that, Kylie, and have a good day.

**MS CAMP:** Thank you very much. Once again, I appreciate the time, and I look forward to seeing the findings in the end.

**MR LINDWALL:** Great. Bye, then.

**MS CAMP:** Thank you, bye.

*(Call concluded. Call commenced.)*

**MR LINDWALL:** Hi Bruce. This is Paul Lindwall. How are you?

**MR WILLIAMS:** G'day, Paul, I'm well, thank you. How are you?

**MR LINDWALL:** I'm fine, thank you, yes. How's Launceston today?

**MR WILLIAMS:** Actually it's a fine sunny day, even a little bit warm, for us.

**MR LINDWALL:** I was there earlier in the year. It's a nice place.

**MR WILLIAMS:** Yes, yes.

**MR LINDWALL:** Now, Bruce, would you - because it's being recorded for a transcript - is Leanne there as well?

**MR WILLIAMS:** Yes.

**MR LINDWALL:** Okay. If you could both introduce yourselves - - -

**MR WILLIAMS:** No, look - - -

**MR LINDWALL:** Sorry?

**MR WILLIAMS:** Hello, Paul?

**MR LINDWALL:** Yes.

**MR WILLIAMS:** Hello, Paul? You dropped out there for a second, but unfortunately Leanne can't be at the hearing today, but my name is Bruce Williams, I'm the economic development officer for the City of Launceston.

**MR LINDWALL:** Great, all right, thanks, Bruce. Could you make a bit of a statement as you see fit now?

**MR WILLIAMS:** Okay, so this is a submission?

**MR LINDWALL:** Yes.

**MR WILLIAMS:** The statement from council is largely about just trying to describe for the Commission and provide some understanding of our municipality and some of the challenges that we face here, and opportunities.

So I wanted to provide a little bit of a context about Launceston City. The city is composed of a rather large rural area to the north-east of it which is about 78 per cent of the municipality in area. This area of the city has a total population of 2,745, and it comprises Lilydale, Nunamara and Upper Blessington, so basically it's a rural landscape, very, very hilly, and the population is relatively dispersed.

So the population of 2,745 people is 4 per cent of our city, and a bit of demographic information, we have - in the City of Launceston we have a larger proportion of aged population, so the population for the rural sector that I've just described is about 38 per cent of the population is above 50 years, and 7 per cent greater than 70 years.

So I just wanted to provide a little bit of demographic background. The other one that's important in relation to that is that it's a relatively disadvantaged area. It has a SIPA index of 989, which puts it in the more disadvantaged areas of Australia in terms of economic and social disadvantage context.

The other things around the people that live in this area are that 50 per cent have no qualifications, 53 per cent have a schooling year of year 10 or below, 4 per cent of the population require assistance with care activities, and 40 per cent of households have children.

One of the other issues in relation to NBN and internet connections and use of landline phones is that 70 per cent of households in this area have internet connection, but 95 per cent have either broadband or dialup, because there are not alternative services.

So the main point of us appearing today was really to just point out that in this area, which is the largest proportion of our city, we have quite poor mobile phone coverage, and there aren't alternative connectivity for other mechanisms, so we have some challenges in terms of black spots. We have a number of black spots, and we also have challenges in the actual reception that you do receive. So in many cases the mobile phone will be only on one or two bars and can drop out.

So to put a context on that, just a personal context, I drive 25 kilometres from the City of Launceston to my home in Karoola, and on that journey, which is the main road out to Lilydale and to the north, there are at least two places in that - along that drive where the mobile phone reception completely drops out. So you get used to that, but it is a significant problem in issues where you have emergencies, emergency services for fire or flood or in crisis situations. You've got large parts of the municipality that are not connected.

And recently just on the weekend I went to purchase hay from a neighbour in the area, and on two occasions he had mobile reception but it dropped out.

So the point of the appearance of today is that we just are concerned that some consideration is given to what the impact might be if there was to be a cessation of landline services to a rural area like the north-east of the Launceston City, and the impact that may have on the residents, both in terms of their ability to communicate, to do business, to be able to respond to emergency situations, and also the other issue in terms of the fact that the economic status of the people is relatively disadvantaged and the education standards are low. It actually can make it more difficult for people in that area to access education, development and training.

So that is largely the case we want the Commission to consider and recognise and deliberate on in whatever finding that you end up reaching at the termination of these processes of interacting with the community.

**MR LINDWALL:** Well, thanks, Bruce. Could I ask the extent to which the NBN is used in the City of Launceston and the surrounding area that you mentioned, with the 2,745 residents?

**MR WILLIAMS:** The NBN use?

**MR LINDWALL:** Yes, the NBN.

**MR WILLIAMS:** The NBN use - I don't have exact figures, but the NBN in Launceston is now fully connected to the urban centre of the city, so NBN connections for the area that I'm talking about in the rural east is 70 per cent, but that's via landline connection.

So the whole of the urban centre of the urban centre of the Launceston City, which would be around about 60-odd thousand people, 40,000 households is fully connected to fibre. So we're very well serviced in that section of the city, but the rural area is certainly not.

**MR LINDWALL:** Is the rural area getting covered by fixed wireless or satellite? Which is the type of coverage that they're getting in the rural area from the NBN?

**MR WILLIAMS:** Well, there's a little bit of both, but the area is so hilly that it's not - you know, it's not effective. That is the problem.

**MR LINDWALL:** I mean, I'm not sure I understand. Isn't it the case that the NBN's supposed to be provided to the premise, and by whatever means that is cost effective, and I would have thought once you have an NBN connection, if it's satellite, well, the hilliness doesn't really affect it, I wouldn't have thought, and as for fixed wireless, wouldn't it be designed to provide a reliable service to the premises?

**MR WILLIAMS:** Look, I honestly don't have the data on the effectiveness of the satellite. It may be the issue that the city area of rural east of Lilydale, that it's just that - they've only got 70 per cent of households having net connection, so part of the issue may be that people haven't looked at their options for connecting up.

**MR LINDWALL:** Fair enough, yes, exactly.

**MR WILLIAMS:** So it would seem to me that either way, the majority, 95 per cent, are using broadband or dialup, that there's not, from what I can understand, a significant connection to the satellite service at this point in time.

**MR LINDWALL:** So when you talk about broadband and dialup, I assume you're talking here about ADSL services over the traditional copper line?

**MR WILLIAMS:** Correct.

**MR LINDWALL:** Yes.

**MR WILLIAMS:** Yes. Yes. Sorry.

**MR LINDWALL:** Okay. But you would expect that if someone's moved from the copper line to fixed wireless that they're getting a service better than the ADSL?

**MR WILLIAMS:** Look, I'm not sure. I couldn't comment on that.

**MR LINDWALL:** Yes, no, fair enough, all right. Could you perhaps comment on, Bruce, the Mobile Black Spot Program, and how it's being used by the city and its surrounding area?

**MR WILLIAMS:** Look, my understanding is that our biggest challenge is we still have existing black spots, and that there hasn't been a significant, you know, impact on those. What I understand from the emergency services area is that they have to do work around for the black spots, and the other issue is, see, I have two mobile phones out where I live. The G4 mobile phone doesn't work or drops out, whereas the more modern ones will actually work, so there's - yes, it's still a major issue, just in terms of the fact that the technology doesn't work particularly well.

**MR LINDWALL:** Okay, and given the number of elderly people in the area, which I think you said was quite a lot - well, it was - did I write it down somewhere? Anyway, a fairly high percentage of - 7 per cent of people over 70 and 38 per cent of people over 50, but particularly those over 70 - - -

**MR WILLIAMS:** yes.

**MR LINDWALL:** Do you have any knowledge about how much they're taking up mobile phone usage when they've got coverage?

**MR WILLIAMS:** No, I don't have any data on that, I'm sorry.

**MR LINDWALL:** No, that's all right, that's all right. Is there anything - - -

**MR WILLIAMS:** I guess our assumption is - which might be incorrect, but our assumption is generally that whilst there are - you know, there's a proportion of elderly people who take this up as fast as young kids, there's a general view that the take-up by the elderly is less than the general population.

**MR LINDWALL:** Yes, I think that's absolutely right. Yes, you're quite right. There are some elderly people who love it, and others who - like my mother, who refuse to use it. So - and Bruce, have you got any final comments you'd like to make for us?

**MR WILLIAMS:** No, not really. I think, look, the main point is we just want to point out that in our situation there are some significant black spots or poor reception areas, and that I think there's a heavy reliance, especially in that rural area, in regards to fixed lines and, you know, that that could impact them if that impacted the service for fixed lines.

**MR LINDWALL:** Okay, well, thank you - - -

**MR WILLIAMS:** Which could be quite detrimental. That's the main point for consideration, I think, by the Commission.

**MR LINDWALL:** All right, well, I appreciate that, Bruce, and thank you very much, and have a great day for the rest of the day.

**MR WILLIAMS:** Okay. Thank you. Thank you. Thank you for your time and your consideration, Paul.

**MR LINDWALL:** Bye then.

**MR WILLIAMS:** Okay, bye bye for now.

*(Call concluded. Call commenced.)*

**MR LINDWALL:** Hello, Lachlan? It's Paul Lindwall.

**MR GALL:** Hello, Paul, how are you.

**MR LINDWALL:** I'm very well. And yourself?

**MR GALL:** Here near Broken Hill, in a word, hot.

**MR LINDWALL:** Yes, I'm looking up the forecast now. It says winds north to north-easterly, 20 to 30 kilometres per hour, 43 degrees.

**MR GALL:** That's pretty much what we've got.

**MR LINDWALL:** Yes. I'm going to Port Augusta later today, which is apparently going to be 45 degrees tomorrow, so - - -

**MR GALL:** Yes. I understand that to be the case, so that should be fun for you.

**MR LINDWALL:** Yes. Well, that's life. Lachlan, would you like to - - -

**MR GALL:** Yes, it is summertime in Australia.

**MR LINDWALL:** Exactly. Now, Lachlan, I think Ish might have mentioned to you that we have a transcript being made, and it will be on our website.

**MR GALL:** Yes.

**MR LINDWALL:** So if you'd like to just state your name and just say what you wish to say, and then I can ask a couple of questions and that will be perfect.

**MR GALL:** Okay. My name is Lachlan Gall. I live at Languera Station, 120 kilometres north-east of Broken Hill, and I am the President of the Pastoralists Association of West Darling. That is an agricultural group that represents members drawn from remote locations in far-west New South Wales.

Now, in this region our members are currently serviced by the Next G wireless link system for telephone and, in the majority of cases, internet as well, and our members are well aware of the rollout of the NBN and the potential to connect to the NBN via satellite for internet services.

But by the same token, we are extremely concerned that this review of the Telecommunications Universal Service Obligation may see our standard telephone service removed in the fullness of time. This is on the basis of the fact that we understand that the NBN satellite service is not reliable and we require a reliable telephone service to conduct our businesses and for contacting emergency services when required.

**MR LINDWALL:** Okay, is that - did you want - that's what you wanted to say, obviously. Could I ask a bit about the Next G wireless link? The people that you deal with around Broken Hill, would they also be on a digital radio concentrator, or even copper? I assume Broken Hill itself might have some services such as that?

**MR GALL:** Well, within the City of Broken Hill I understand that blocks would most probably be connected by copper, but that the digital radio concentrator to which you referred was a predecessor of the Next G wireless link system.

**MR LINDWALL:** Yes.

**MR GALL:** We started out with a DRCS around about 1990, and then we migrated over to CDMA, and then we've been migrated over to the Next G wireless link system, which for purposes of telephone calls is quite a reliable system, and much more reliable than my own Telstra BigPond satellite internet connection.

**MR LINDWALL:** So is that what you're speaking to us now on? The Next G wireless -  
- -

**MR GALL:** On the Next G wireless link system? Yes.

**MR LINDWALL:** Okay, yes, and so it's quite reliable and you've been quite happy with it. How does the pricing of it work?

**MR GALL:** The pricing in regard to the monthly billing?

**MR LINDWALL:** Yes, well, I mean, Next G wireless provides internet as well as telephone, so is it a bit like a mobile phone contract, or how does it - I'm just curious, that's all.

**MR GALL:** Yes, yes, that's the case, as I understand it. The monthly bill comes in with a breakdown to the standard telephone service component of the bill, and also an internet component and also, for example, the fixed line component and so forth.

**MR LINDWALL:** Okay, yes, yes. And your - the handset for that is a fixed line, is it?

**MR GALL:** Yes, it's pretty much got the appearance of a standard fixed telephone that you would find anywhere in a house in Australia.

**MR LINDWALL:** Yes, yes, and you said I think you're about 120 kilometres north of Broken Hill?

**MR GALL:** North-east, yes, that's correct.

**MR LINDWALL:** North-east. And what's the - well, how far do you have to - I assume you don't get mobile phone coverage there. Maybe you do. But what's the nearest area that you'd get mobile phone coverage?

**MR GALL:** We actually do. That's one of the features of the Next G wireless link system, that it does provide a degree of mobile service, and some of the individual towers on property that communicate back to the backbone towers throughout the region have in themselves a little antenna that provides good mobile service in the general vicinity of station homestead.

Away from that, the service is patchy. It's a lot better with car kits, which is good for people like truck drivers and stock and station agents, and it is certainly much, much better than the old party line system that we had prior to 1990, and many properties in this area didn't even have a party line to contact the outside world with, so they were limited to a Royal Flying Doctor Service HF radio connection.

**MR LINDWALL:** Yes, yes.

**MR GALL:** So what we've got now is a lot better than what was being used in this region only 30 years ago.

**MR LINDWALL:** And for the record, for the people who are sitting in here who are too young to realise what "party line" means, that means that your neighbours can listen in to your phone conversations, if I'm not mistaken?

**MR GALL:** That's correct, yes, yes, so - - -

**MR LINDWALL:** There are no secrets.

**MR GALL:** Yes, that was one of the things that was talked about in regards to party line, was that people tend to know each other's business if they were so inclined.

**MR LINDWALL:** Yes, yes, yes.

**MR GALL:** But we don't have that now.

**MR LINDWALL:** Now, finally I just wanted to ask about - it sounds like you haven't taken up the opportunity to - or maybe you haven't got round to it - the NBN satellite service. Is that - given that you're getting the internet through this Next G wireless link, would you also consider getting a satellite service or not?

**MR GALL:** Yes. Yes, I would. Here on the station there are two houses. There is one house that is serviced by Next G wireless link data, and my house has an internet service which is through the Telstra BigPond satellite.

Now, the Next G wireless link system has a precedent for voice calls over data, so especially in recent years with the advent of smart phones that are extremely data hungry and travellers up and down the highways are using these devices, the internet service that is available through the Next G wireless link system is fairly patchy.

So I would imagine that on that basis there will be a lot of Next G wireless link internet subscribers in this region that will eventually migrate to NBN Sky Muster once NBN Sky Muster is reliable and, yes, we're well aware of the list of reasons as to why the NBN Sky Muster satellite service is not reliable, and no doubt you're aware of those. I can go through them if you like.

**MR LINDWALL:** Yes, no, I've - yes, I'm aware of some of the issues about teething problems and rain fade and all sorts of things like that, so if you haven't got the NBN satellite - so you really haven't experienced it, I suppose. Now - - -

**MR GALL:** I do understand the problem of rain fade, because I get that in my house with my Telstra BigPond satellite internet connection, so yes, it's important to me that we have a standard telephone service, because that is our lifeline to the outside world over and above the main tool we use for running our business, to be able to make contact with emergency services when we need to, and the NBN satellite service has got one or two problems that I don't think it's possible to totally solve in regards to providing a reliable telephone service.

**MR LINDWALL:** Now, Ish has just passed me something saying that you tried to put in a submission but your computer crashed, so did you want to - - -

**MR GALL:** Actually, yes.

**MR LINDWALL:** If you still wish to proceed with putting in a submission or statement, whichever you wish to, once your computer's back in action, I would be quite happy to take it, of course.

**MR GALL:** Yes, yes, thank you. I've been speaking to your staff member in Canberra, and she is expecting a submission from me early next week.

**MR LINDWALL:** Well, good luck with getting your computer fixed. Lachlan, did you have any final comments you'd like to make before we conclude?

**MR GALL:** Just reviewing my notes here. The Next G wireless link system is not subject to a customer service guarantee, so when there are problems that do happen with that Next G wireless link system, sometimes they do take a fair period of time to be fixed. Now, I'm concerned that the NBN will not be subject to a customer service guarantee either, so I think it most important to retain the telecommunications universal service obligation in regards to providing a standard telephone service to people in remote and rural and regional locations, and there also has to be some mechanism by which both standard telephone services and the NBN services are fixed in a reasonable timeframe in the event of a breakdown.

**MR LINDWALL:** Well, Lachlan, that reminds me - - -

**MR GALL:** After all - - -

**MR LINDWALL:** Yes, please?

**MR GALL:** I was just going on to say that in the region is where the powerhouse of the Australian economy operates, agriculture, mining and tourism, and to operate safely and effectively, we do absolutely need a reliable telephone system, and secondary to that, we do need a reasonably acceptable level of service in regard to internet data provision.

**MR LINDWALL:** Lachlan, that reminds me that you were originally on the DRCS, and then you moved to CDMA.

**MR GALL:** Correct.

**MR LINDWALL:** Both of which I think are covered by the consumer service guarantee, and then you were moved to Next G wireless.

**MR GALL:** Yes.

**MR LINDWALL:** So how - just - do you remember the transition from CDMA to Next G, why the former had the CSG and the latter didn't? Did you have to sign something to  
- - -

**MR GALL:** I beg your pardon, I missed that. Beg your pardon.

**MR LINDWALL:** So your earlier systems, the DRCS and the CDMA, would have had a consumer service guarantee, and then you must have - - -

**MR GALL:** Yes.

**MR LINDWALL:** Telstra presumably came by and said, “We’ve got this new system called Next G wireless, would you like it? But you won’t get a consumer service guarantee.” How did they manage that interaction with you, do you recall?

**MR GALL:** I wasn’t here at the time. Indeed, my father would have handled that transfer to Next G wireless link. But it wasn’t a case of Telstra offering these in terms of “would you like”. It was a case of Telstra saying, “We are now upgrading or migrating to this new system, Next G wireless link, whether you like it or not, and if you want it you have to sign away your customer service guarantee.”

**MR LINDWALL:** I see, all right.

**MR GALL:** And of course, we wanted a standard telephone service, so we had no choice, as I understand it, to sign away our customer service guarantee, otherwise we wouldn’t have a standard telephone service at all.

**MR LINDWALL:** That’s very interesting. Thank you very much, Lachlan. Have a great day.

**MR GALL:** Thank you, Commissioner.

**MR LINDWALL:** No, that’s all right.

**MR GALL:** You too.

**MR LINDWALL:** Bye.

**MR GALL:** Hooroo.

*(Call concluded.)*

**MATTER ADJOURNED AT 1.18 PM UNTIL  
THURSDAY, 9 FEBRURY 2017 AT 9 AM**



**Australian Government**  
**Productivity Commission**

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**PRODUCTIVITY COMMISSION**

**INQUIRY INTO THE TELECOMMUNICATIONS  
UNIVERSAL SERVICE OBLIGATION**

**MR P LINDWALL, Presiding Commissioner**

**TRANSCRIPT OF PROCEEDINGS**

**AT PORT AUGUSTA  
ON THURSDAY, 9 FEBRUARY 2017 AT 8.58 AM**

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**MR LINDWALL:** Good morning, welcome to the public hearings for the Productivity Commission Inquiry into the Telecommunications Universal Service Obligation. I'm Paul Lindwall, the Commissioner for the Inquiry. I'd like to start up with a few housekeeping matters. In the event of an emergency, Standpipe Gold Motor Inn staff will direct and assist everyone in evacuating and moving to the assembly point outside of this building. We'll be breaking for morning tea around 10.30, I think. I think there'll be some treats provided. We look like we'll be concluding at lunchtime or around noon, depending upon whether other people wish to present. If you have any particular questions or wish to present at the hearing, please see Meredith at the back here.

The inquiry started with a reference from the Australian Government in April last year that has asked us to examine to what extent are government policies required to support universal access to a minimum level of retail telecommunication services. This includes recommendations on the objective for a Universal Service Obligation or equivalent, the scope of services to achieve objectives, specific user needs and funding and transitional arrangements. We released an issues paper in June and have received about 60 submissions since its release.

We've talked to a range of organisations and individuals since with an interest in the issues in the topic. We released a draft report in December and have received further submissions, which I understand are still coming in. We are grateful to all of the organisations and individuals who have taken the time to meet with us, prepare submissions and appear at our public hearings.

The purpose of the public hearings is to facilitate public scrutiny of the Commission's work and to get comment and feedback on the draft report. Hearings have also been held in Dubbo, Sydney, Cairns and Melbourne and final hearings will be held in Perth early next week. We'll then be working towards completing a final report to be provided to the Australian Government in April. Participants and those who have registered their interest in the inquiry will automatically be advised of the final report's release by government, which may be up to 25 parliamentary sitting days after completion.

We like to conduct all public hearings in a reasonably informal manner, but I remind you that a full transcript is being taken. For this reason, comments from the floor cannot be taken, but at the end of the proceedings you will be provided an opportunity to make a statement brief presentation. You are not required to take an oath, but should be truthful in your remarks, and you're welcome to comment on the issues raised in other submissions or by other people. The transcript will be in on our website within about one to two weeks and submissions, of course, are also on our website. I invite participants to make opening remarks and then we just have questions and answers. Claire Wiseman, welcome. If you could just state your name, for the record, and give an opening presentation, that'd be perfect.

**MS WISEMAN:** Yes, certainly. Thank you for inviting us to provide a representation today. My name is Claire Wiseman and I'm the CEO of Regional Development Australia Far North. Regional Development, RDA, Far North is part of a network of 55 RDA

committees across Australia. We're not-for-profit incorporated associations and we're governed by a volunteer board and supported by Commonwealth, state and local government.

The region we cover has a population of around 28,000 people, which is approximately 2 per cent of South Australia's population. However, the area that we cover is approximately 800,000 square kilometres, making it by far the largest in South Australia by land mass; and we're the third largest Australian RDA. The region that we cover takes from the APY Lands, Port Augusta, Flinders Ranges, Roxby Downs and Coober Pedy councils. It also covers the Outback Communities' Authority region. We facilitate a range of government and non-government support programs and provide direct services offering business, economic, tourism and workforce development assistance to businesses and individuals within the Far North region.

We commend the Commission on the inquiry. Like any program or service, review is important to keep it relevant to ensure that it's meeting the outcomes it was designed for; and we appreciate the opportunity to provide input into this. I've provided a copy of our submission to you today which supports the view that total removal of the TUSO without a system or program in place which meets and addresses the current and future needs of regional remote challenges would be a major disadvantage to our region.

We recognise that the telecommunications landscape has changed over time and for the majority of the Australian population. However, there are areas in our region where current services remain substandard and are substandard to quite a high level. Planned mobile coverage programs and the NBN rollout will still fall far short of meeting these current and future needs. Telephone service provision differs across the region. They are fit-for-purpose and reliable in major centres. However, some of our more regional remote areas have unreliable services.

Mobile phones and ADSL broadband are limited to major towns and spot mobile coverage along the major highways whilst most towns have dial-up internet access and major mines have comprehensive networks for their operational needs. Within our region there are 74 identified mobile blackspots, which is significant when you look at it from a geographical perspective. Approximately 90 per cent of our region has no mobile coverage. If you consider our region covers 800,000 square kilometres, that's a significant amount of land mass.

Round 2 of the Mobile Black Spot Program will see new towers erected in one regional and seven remote locations in our region. Whilst this is positive, it will have minimal impact on the region from a geographical coverage perspective as the coverage will be local, so only covering the town, the boundaries within it. In terms of NBN, the majority of our region will be covered by the Sky Muster satellite. However, there are many existing challenges with this service.

The draft report clearly states that this service will fall short of the quality of those offered under the current TUSO. A substandard service such as this will have a major impact on residents and businesses in regional and remote Australia. The region currently

lacks high speed broadband infrastructure, limiting the capacity of local businesses and individuals to interact with the global economy. For businesses in the region to remain competitive and for the communities of the region to remain connected, rollout of a high speed broadband must be extended to all communities as a priority.

The current communications system and coverage in the area pose many challenges for business operators with the biggest being reliability. It also places challenges for regional education via School of the Air and other virtual classroom based systems. People who live in remote and regional areas are aware that they may not have access to exactly the same level of service as their urban counterparts. However, they do expect to have a reasonable and fit-for-purpose level of service. For business families and communities in our region, the removal of the TUSO immediately following the NBN rollout will leave them without an adequate service and they'll be worse off than what they currently are.

A full and independent review should be undertaken of the existing level of information and communications technology services in regional and remote Australia. Following this, a regional and remote areas information and communications technology program should be designed that concentrates on providing an adequate and fit-for-purpose and equivalent level of service to all remote and regional Australia.

Thank you for the opportunity to provide input into the inquiry and I hope that our submission and the brief overview that I've provided today has broadened the understanding of the challenges our regions experience, and that serious consideration is given to the disadvantage our region will be placed in with removal of the TUSO without a program in place addressing the needs of our regional businesses, students, families and communities.

**MR LINDWALL:** Thank you, Claire. The NBN satellite, Sky Muster, both of them, I've heard in a number of hearings to date that there have been a lot of problems with the installations and the quality of the service. NBN, of course, says that this is part of a teething problem and that once it's properly established it should be satisfactory for broadband purposes. I take it that your constituents are a bit mistrustful of that assurance?

**MS WISEMAN:** Yes, and particularly if that's being utilised for voice services as well if they don't have the landline. For example, from an education point of view, children that we've got in our region undertaking School of the Air, the challenges that they are having with the service to even interact in their classroom, not only is it disrupting for the student, for the teacher, but it's disruptive for all of the other students who are participating in that virtual classroom, because they are trying to have a conversation or learn and the system is clicking in and out, you've got the interference noise, dropouts, delays, et cetera. It's very challenging.

**MR LINDWALL:** As you know, the NBN is structured on a wholesaler/retailer split.

**MS WISEMAN:** Yes.

**MR LINDWALL:** People who are on Sky Muster or, for that matter, any other NBN service go through a retailer. I understand there's about 12 retailers for satellite services. Have you had comments from your constituents or yourself about the quality of the retailers, the amount of information being provided, when there's a problem, how quickly does it get resolved?

**MS WISEMAN:** Not directly, but anecdotally I certainly have. There is challenges there. Then, of course, because remote areas trying to - the time and et cetera - that it's probably considered somewhat unreasonable. I think people understand distance, there is a bit of time. But it is considered somewhat unreasonable.

**MR LINDWALL:** The ISS, the Interim Satellite Service, was one that came before Sky Muster. Do you have any comments about the relative service of Sky Muster's broadband compared to the ISS?

**MS WISEMAN:** I can provide further comment on that, but I'm sure it would be far more valuable from someone actually experiencing that could provide that.

**MR LINDWALL:** The other thing about the satellite service we mentioned in our draft report is that maybe if you had the satellite service and the mobile service, that would be sufficient to not have the landline. Would you agree with that?

**MS WISEMAN:** No, I wouldn't agree from a - certainly from the perspective emergency services. Landline whilst in some areas is unreliable, it is still the most reliable form of connection. From a business perspective, landline is required as well for daily operations, particularly in the tourism industry for communication about what facilities businesses have, et cetera. So, no, I wouldn't support that.

**MR LINDWALL:** We got testimony yesterday in Melbourne that it's going to become increasingly expensive for Telstra to maintain the copper network over time because it's degrading, a lot of the technology is old. I'm paraphrasing here, but the view seemed to be that ultimately it was not feasible to continue the landline and that at some stage in the future, whether it be in 2020 or 2032 or somewhere in between, it will be not viable to keep it and some alternative will be needed. What would you like? It has to be cost-effective, of course.

**MS WISEMAN:** Yes. As long as whatever is provided is fit for purpose. I've touched on it more in our submission. But some of the landline services in our region are not fit for purpose as they are now. I understand that things degrade and quite expensive to replace. But there needs to be whatever form of technology or equipment that it replaces - needs to be replaced.

**MR LINDWALL:** Of course, broadband is becoming, as you mentioned, increasingly important to day-to-day life, interacting with the government, interacting with private sector, of course, communicating with your neighbours and so forth. Obviously we are urging the NBN to try to improve its services through the Sky Muster and other services

such as fixed wireless. Fixed wireless, as a matter of interest, in your region, has that been - is there much fixed wireless at all, do you know?

**MS WISEMAN:** We've been rolled out in Port Augusta. Roxby is soon to be, Roxby Downs, and Quorn I think they are due in August.

**MR LINDWALL:** The people that had fixed wireless, in your experience, have they been satisfied with that service?

**MS WISEMAN:** I would only be able to provide anecdotal evidence, but I'm sure you'll

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**MR LINDWALL:** From what I heard, it is very good. But I'm just curious, that's all. As for the Mobile Black Spot Program, of course, that's being rolled out around Australia, there's been a couple of rounds, they're talking about more. What would you say have been the positives of the Mobile Black Spot Program, what are its weaknesses, how would you improve it? I take it that the RDA supports the Mobile Black Spot Program?

**MS WISEMAN:** Absolutely.

**MR LINDWALL:** But where do you think its flaws might lie? How could you improve it?

**MS WISEMAN:** I think part of the challenge in - I'm not sure quite how you could improve this. But, like I said before, I think it's 96 per cent of our region from a geographical coverage point doesn't have mobile coverage.

**MR LINDWALL:** It's quite a large amount, as you say.

**MS WISEMAN:** It is a large region. I certainly understand that from a commercial viability perspective, providing a quite costly service to a small population doesn't necessarily stack up in that sense. That's why I think something like that should be publicly supported in those areas where it is not commercially viable. From a South Australian perspective, the first round of the Mobile Black Spot Program, I think there were five in the region that we cover. Part of the challenge that we had was the lack of funding from the state government.

The second round that we had that - now, with both rounds, all of the South Australian RDAs have provided submissions and have worked with the state government in order to identify blackspots and needs within the region. In the second round the state government did provide funding, some matching funding in there, and we got, I think it was, eight spots up specific to our region. I go into a little bit more detail in that in my submission.

But as I briefly said, whilst that is positive and it is a good move forward, from a geographical perspective, it's not going to make a lot of difference in the region.

**MR LINDWALL:** Earlier comments I've received in this inquiry are that the South Australian Government has not been as active in supporting the program as some of the other state governments. Would you agree with that comment?

**MS WISEMAN:** Certainly having a look at the outcomes and seeing the matching funding, I've certainly noticed that other state governments have put in significant funding and have got significant mobile programs up within their regions.

**MR LINDWALL:** As you say, the mobile phone is a critical tool for modern society.

**MS WISEMAN:** Absolutely.

**MR LINDWALL:** Have you looked at any of these projects for enhancing payphone with Wi-Fi coverage like community payphones and the like? Have you seen any of those types of projects here in the region?

**MS WISEMAN:** There are two payphones with Wi-Fi in our region. One is in Port Augusta, the other one, I think off the top of my head, is in Coober Pedy. The rest are card payphone. That's what I'm aware of.

**MR LINDWALL:** It seems obvious to me, but maybe I'm wrong, but having a Wi-Fi enabled one is preferred to not having one.

**MS WISEMAN:** Absolutely, yes, definitely.

**MR LINDWALL:** Can you comment generally on the payphones usage in the region? Because, as you know, in our draft report we said that payphone have been less and less used over time. We did say that was the one that could be moved most quickly, rolling back the payphone service, provided there's alternative targeted services.

**MS WISEMAN:** I think in areas where there is access to mobile phones and other forms of communications, that that's relevant. However, in regional areas where there is not, there still needs to be some form of communication for those that don't have a landline to their house for whatever reason and also for visitors coming to our region. I comment more about this in our submission as well. But often when people are travelling to remote areas if they are not used to the long distance driving conditions of outback roads, it's quite important that they are keeping in touch with their families and updating them where they are.

If there's not mobile coverage, there needs to be some form of communication. In areas where there is not another form of communication and payphones - - -

**MR LINDWALL:** When I visited Marree and Blinman last year, I was told that a lot of people who arrive, tourists for example, have an expectation that their mobile phone will work and they get suddenly surprised and they're underprepared for, in fact, quite dangerous journeys in some cases.

**MS WISEMAN:** Yes, absolutely. And that's included in my submission as well. The other side of that, I mean, there is the emergency services aspect as well. There is the communications and the regional visitors' expectation. The mobile coverage in that sense is also a very good marketing tool in regional areas. With different social media platforms now, people are posting about their holidays and photos and their experience. That is a very good marketing tool for the tourism industry.

**MR LINDWALL:** Also, of course, it must make it, I would imagine that a town that has good Wi-Fi or good mobile coverage will have a competitive advantage over another town of equivalent size that doesn't. Would that be true?

**MS WISEMAN:** In some cases I think it would, yes.

**MR LINDWALL:** Is there anything else you'd like to add, Claire, to what you've said?

**MS WISEMAN:** A couple of things I'd like to add, and this is just more of, I suppose, a case study as such. Part of our role, one of the areas I spoke about was workforce development. Last year Alinta closed its power station in Port Augusta and its coalmine in Leigh Creek. We provided the career services to those 440 employees who were redundant. I had two officers based in Leigh Creek to provide those services. That was very challenging for us from a communications point of view just for them to do daily business and access printing. Because they're working with clients, so they're doing resumes. So even to access a printer or access their drives online was very challenging. Trying to contact them via mobile as well was incredibly challenging.

From an employer's perspective, that is quite a risk to have staff out in a region where they can't contact. With our business adviser and our tourism development manager, they do around 60,000 kilometres a year. They tend to travel together from a safety perspective. Their office is part-desk and part-boot of a vehicle. It is certainly very challenging for them from a connectivity point of view when they are travelling out in the regions. Then even when they get back to the office and they are working with a business, to be able to communicate paperwork and documents with that business is very challenging.

The other example that I have there in that scenario is last year the state government put out a regional development fund and that was for businesses to apply for funding for improvements, et cetera to their business. We provided assistance to a number of businesses that were putting in applications. One of the biggest challenges that we found was that the application form was only available online. So some of our locations (a) could not access it, (b) when they could access it, because they were inputting a raft of data, was continually dropping out on them. So they gave up. In that scenario, we were able to work with the state government department to ensure that there was a hardcopy version of the application. But just even in that sense, that's some of the challenges.

**MR LINDWALL:** But presumably once the NBN Sky Muster is properly rolled out, at least the premises, they should have good internet coverage.

**MS WISEMAN:** Depending on their location.

**MR LINDWALL:** I assume your people, when they're travelling around, would also use CB radio and maybe a satellite phone as a backup?

**MS WISEMAN:** A satellite phone. We don't have a lot of luck with satellite phones. We use it's called a spot device. Very simple, it's like a little handheld radio, but it's a very simple device that you press a button and it sends an arrival text. It also has the opportunity to send an emergency, "had a breakdown but it's okay", or it will actually communicate with emergency services. So all of our staff have - - -

**MR LINDWALL:** So it's good backup. And that relies on the satellite service, I think.

**MS WISEMAN:** Yes, it is good backup, but obviously - - -

**MR LINDWALL:** It's not cheap, I don't think. Is that right? It's not inexpensive.

**MS WISEMAN:** It's not inexpensive. We do that via subscription and that comes from America. It does have a tracking system on it. However, I tend to turn that off. The staff don't tend to like the idea of having their movements tracked within two metres of where they are. But that is a system that we use. For what we have access to at the moment, it is sufficient. But obviously, as an employer and with a duty of care to my employees, I would prefer a much more reliable system.

**MR LINDWALL:** Thank you very much then, Claire.

**MS WISEMAN:** No worries. Thank you.

**MR LINDWALL:** We've got Peter Slattery. Hello, Peter.

**MR SLATTERY:** Good morning and welcome. I'm Peter Slattery. I'm the Mayor of the Flinders Ranges Council and we provided a submission to the Universal Service Obligation process earlier and I am taking this opportunity to expand a little on that while we're here today; so welcome.

**MR LINDWALL:** Please. Thank you.

**MR SLATTERY:** We certainly support the Commission's draft findings around the substantially changed nature of Australia's telecommunications landscape and industry, the decreasing relevance of a fixed phone voice call service as the basis for the TUSO and the need, therefore, to review the place of the TUSO quite broadly. We, nevertheless, consider that the service inequality across the nation and regional areas, the ubiquitous role of telecommunications in modern society there remains the need for a social equity level acknowledgement of the need for intervention to support access when market forces do not make affordable access available to modern telecommunication services.

There are a number of assumptions underlying your other draft findings and arguably much of the content of the proposed future direction for the new TUSOs, which we're much more hesitant about. That the NBN can simply be relied on as a de facto safety net service provision to replace the TUSO and the rollout of NBN will deliver equitable standards of service, even as baseline broadband connections, to all regions and remote areas. We also consider that the baseline broadband connection as referred to in - as a fixed service to a single point doesn't really serve purpose as a new minimum standard, given the role of telecommunications in our society today, and that the TUSO can or should be removed rather than reframed.

We consider the same social equality imperatives which established it in the first place still apply across Australia's large and diverse landmass and complexity is not sufficient reason to eliminate it. Whilst the provision of a minimum basic service to a fixed point is defensibly a more relevant standard now than the fixed voice line, it doesn't recognise the increasingly pervasive nature of telecom as utilised in practice. We contend that improving access to mobile technologies in regional and rural areas for commercial, social and safety benefits of residents, mobile workers and the increasing numbers of travellers and tourists remains a great challenge for Australia.

Setting the minimum standard to what has arguably been quite readily available to most of the population for some time and falls significantly short of what is available to nearly all users at quite low cost by virtue of their location and population density is simply setting the bar at ground level. As recognised in the draft report, the majority of our landmass is very sparsely populated and it's not economic for commercial providers to expand their networks into these areas or, at the very least, they can generate better economic return on augmenting networks elsewhere.

The mobile black spot funding program isn't seen by our regional communities to be as effective in mitigating lack of coverage, as seems to be accepted in your report. Indeed, the competitive tendering process applied can compound and complicate issues for isolated areas, an example of that being recent funding provided for some pocket coverage in the Flinders was awarded to Optus on an old technology format via site share. That means that people in those areas who would, in all probability, already have Telstra 4G handsets because that's what they can use between there and the rest of the world, even if they can't use it at home, will now have to duplicate their services.

For expanding the mobile networks for voice and increasingly data into these regional areas - sorry, though expanding these is arguably quite difficult as baseline service standard, we feel that the fixed baseline broadband service proposed is setting the line well behind current practice. Some mechanism for expansion of mobile technology to enable regional areas to compete more equitably with metro and coastal areas whose residents and visitors don't have to be sitting at a desk at home to make calls or use the internet and who can operate their businesses from wherever they are at the time is required to allow all Australians the benefit of a modern and technologically advanced society.

The Mobile Black Spot Program doesn't fulfil this objective and the economic imperatives mean that commercial operations won't. Some mechanism along the lines of a recognised USO acknowledging the social equity aspects of access to basic utilities is required. Further, an access to mobile as well as fixed satellite data for remote residents and business operators, travellers and workers seems a more appropriate objective if we're aspiring to provide all Australians with equitable access to modern telecommunication services.

If the end is to be assumed to be the safety net provider of last resort, this will have implications for their current programs of using satellite services where compact communities would otherwise probably be better served by fixed wireless or a small investment in copper upgrades. But that's very much a separate argument, I know. And we'd also acknowledge that funding for such a program will probably require a more considered approach than that outlined in the draft report where the new TUSO is much reduced and therefore suggests to be drawn from Commonwealth Budget provisions. What we are suggesting should be undertaken is a much bigger project.

If I might just make a little side about payphones. I run a post office in Quorn. We've really only got Telstra coverage in our area. We have a lot of travellers come through with mobile handsets from other carriers and other networks. They do still rely quite a bit on payphones in those areas and in other areas where mobile coverage hasn't yet permeated. Until such time as mobile coverages are expanded and enhanced, then there is still a role for mobile phones as that safety net which, no doubt, led to their being included in the first instance. Thank you, Paul.

**MR LINDWALL:** You mean payphones, I think.

**MR SLATTERY:** Payphones, yes.

**MR LINDWALL:** Let's start on payphones. I mean, the way we looked at it is that the government has a whole lot of programs. It spends \$300 million a year with Telstra for the Telecommunications Universal Service Obligation, which is fixed voice to the home, plus the payphone (so that's \$44 million, if I'm not mistaken). Then it's got the Mobile Black Spot Program, which sometimes has a contribution from state governments. It's got various affordability measures that are provided and then it's got a whole lot of different little programs for target intervention. Then, of course, it's got the NBN.

Now, we can all say about whether the NBN was the best design or not. That's water under the bridge in a way and we are where we are and how can we improve it from here, obviously. The mobile phone network is expanding. I thought the Mobile Black Spot Program was based upon a mandatory requirement for site sharing, although, as you say, it doesn't necessarily happen in practice. It also requires, as far as my understanding is, that there be a share by the government, plus the provider, Telstra, Optus or Vodafone, if you like, to those mobile phone sites. They are supposed to be viable over a 10-year period, approximately.

How would you change the Mobile Black Spot Program to improve it? I put this all in the context that in the end, yes, the government needs to improve its services, but we have to keep in mind the total cost of all of this and it can't blow out too far, I suppose.

**MR SLATTERY:** It depends, I guess, on what the approach taken to expanding mobiles is. We're contending that expanding mobiles is more than just about mobile phone handsets, it's about the data coverage which comes with that and enabling people that have mobile access to do what they've got to do. The Mobile Black Spot Program as it stands is a competitive process, sites are nominated through a number of forums and then there's an assessment made and it would certainly appear that state level co-funding of sites enhances your opportunity a lot. South Australia seems not to have recognised that yet.

When we've got that process going on where we've got a provider installing what's effectively a stand-alone pocket cell, then I think there's a real complication because it'll provide a service for the residents immediately affected by that because they'll be able to go and access a handset that will work there, but it won't serve - for instance, in our situation it will not serve the tourist or travelling public because they won't all have a 3G Optus handset. I think that providing stand-alone ones, one carrier cells, is counterproductive in effectively expanding a mobile network.

**MR LINDWALL:** You know the ACCC, the Australian Competition and Consumer Commission, is undertaking a study in roaming at the moment?

**MR SLATTERY:** No, I didn't. Right.

**MR LINDWALL:** Yes. I don't know if the submissions are still being invited on that. I think it might be, so it might be worth having a look at that. That's outside our terms of reference, I guess, but it is something that has been a common theme, you're right.

Now, as for the NBN, if you observe what's happening in the cities some households are foregoing all fixed line connections and relying entirely on mobile. That's fair. Of course, mobile data rates are quite a lot more expensive and limited than fixed line data rates. In the cities you can get - some retailers are now offering 500 gigabytes or even unlimited amounts of data at whatever speed that you want, whether it be 100 megabits a second or 50 megabits a second or 25 or 12, download.

Another interesting fact that I heard in this inquiry is that 50 per cent of the data being used in society in the world is YouTube and Netflix. My thesis, if you like, is that for those households who like to download a lot of videos they require a fixed line connection because they can't possibly do it over a mobile connection without running up extraordinarily high data rates. But otherwise, mobile phone data is probably okay. Anyway, that's getting slightly off the point, I suppose.

But the thing about the NBN, of course, as you know, is fixed line comes in different forms; fibre to the premise, fibre to the node and so forth. Then they have the fixed wireless for about 3 or 4 per cent of premises and then the satellite service. In the area for

which you're the mayor in the town, how many people are using fixed wireless, do you know?

**MR SLATTERY:** It's still up in the air. Construction has commenced in Quorn and Quorn will be fibre to the node, then copper from four or five nodes around the town. Hawker is indeterminate. There's good facilities there to provide fixed wireless to that community. It's flat, it's compact and there's an enormous radio tower in the middle. There isn't spare transmission capacity into it; they don't have their own fibres. So that's probably going to mean that Hawker will be provided through a satellite service.

**MR LINDWALL:** But would it be fair to say that those people would prefer a fixed wireless than a satellite service?

**MR SLATTERY:** I think so and I think it would be pragmatic to not increase load unnecessarily on their satellite service because once it's up there, it's up there. It's not something that can be augmented readily.

**MR LINDWALL:** Exactly.

**MR SLATTERY:** And whilst they can probably model loading a fair bit, it does seem to me that there are opportunities being missed to not load the satellite unnecessarily. But that's a separate issue.

**MR LINDWALL:** Every household that you have on fixed wireless is a less household on satellite, of course. Have you got any knowledge of people who are actually using the fixed wireless?

**MR SLATTERY:** No, those services aren't provided in our area yet.

**MR LINDWALL:** What about the Sky Muster, what's your initial comments for those households that do use Sky Muster?

**MR SLATTERY:** For the most part, people found it to be a significant improvement on what they had. There aren't a lot of connections yet. But they are also finding that it doesn't quite meet what they were led to believe was going to be available.

**MR LINDWALL:** Some of that might be a teething issue, I don't know. Have you heard of any problems with the installation of the satellite dish?

**MR SLATTERY:** No, I haven't heard anything about any of that. Anecdotally, it would appear that a number of the concerns about the satellite service do relate to rain; loss of service due to interruption with rain. We don't have a lot of problems with that, so we should have a more reliable service than people much further north.

**MR LINDWALL:** I heard from another person who's an expert yesterday in Melbourne who said that some of the problem was that the satellites might not be the right size for the service, a bit small in other words, or may not be the proper - - -

**MR SLATTERY:** The receiver dishes?

**MR LINDWALL:** Receiver dishes, yes.

**MR SLATTERY:** A number of those issues became apparent with TV installations, the digital TV cutover some years ago.

**MR LINDWALL:** I asked Claire this too. If you have a reasonable mobile phone service - and reasonable means a high quality one - in your premises and you have an NBN satellite service, would that be sufficient to satisfy for both voice and broadband?

**MR SLATTERY:** I think so. We're not going to get the same level service everywhere. That's understood. It's just not cost-effective. I think some flexibility in being able to do some functions remotely, mobile link, but having access to a decent service certainly would mitigate most of those issues.

**MR LINDWALL:** It sounds like a lot of redundancy if something goes wrong.

**MR SLATTERY:** Yes.

**MR LINDWALL:** What about the actual service standard in data - you don't really have any comment about the download rates that are people are getting on satellites or the retailers are using?

**MR SLATTERY:** No, I don't.

**MR LINDWALL:** Anything else you could think of that might be worth mentioning? You've covered quite a lot today.

**MR SLATTERY:** I think most of our concerns are covered, but we do strongly consider that setting the minimum service standard at a fixed service with one fixed premises is really setting the bar exceptionally low and it is going to create a bigger digital divide between regional areas, even if they do get an acceptable service through the NBN, and other areas. We'd very much like that to be considered.

**MR LINDWALL:** There may be exciting technological developments in the future we don't know about. For example, in our Sydney hearings we heard of a person who was proposing the use of tethered balloons. I can't remember what altitude they run. But he said something like 200 would be sufficient to cover the geographic area of Australia. And they'd be \$2.5 million each. I said well, that's really good if we could do it, but I'm a bit sceptical. I suppose you can't rule out - I guess what I'm saying is that when we come up with policies we've got to be sure that whatever we do doesn't lock in a particular technology and doesn't discourage the development of new ones which might be better.

**MR SLATTERY:** Certainly we consider that some more emphasis on mobile satellite technology for remote areas, arguably more remote than most of our region, to be honest, but that does warrant some consideration, because it's important in maintaining a competitive level playing field for the whole country.

**MR LINDWALL:** There's one other question. I don't know, you may have a comment on this. The other thing that's come out of this is the bit about dark fibre. Have you heard of this where fibre optic networks are running past areas to a mining site or to something else and not being tapped into for the use of a small community? Have you thought about this, whether small communities, maybe 20 or 40 families, might be able to get together and arrange to have access to fibre optic in that way, which would give them a very fast internet service?

**MR SLATTERY:** It arguably could, but it would be exceptionally expensive. I did spend 20 years as a transmission install tech with Telstra. It's not a simple matter of running a T into the side of it; you need to install infrastructure to run transmission equipment to break the signal down to a usable capacity and then feed it back up and everything else has to run through. So for instance, all the regen sites from Adelaide to Darwin you can't actually do that sort of thing yet. You'd have to build - - -

**MR LINDWALL:** So yes, it sounds good in theory but not in practice, yes.

**MR SLATTERY:** Yes, yes, whereas we're finding that, you know, in our area, for instance, up through Quorn, Hawker and Leigh Creek, they only ran four fibres. If they're using four of them, there are no spares, and NBN requires its own fibres to run a network to a fixed wireless base, for instance. It's just a lot of things like that. No one is going to come and plant more fibres in - - -

**MR LINDWALL:** It's the usual thing. People see something going past and they think it's a fantastic service and why can't we tap into it.

**MR SLATTERY:** Certainly there's some base infrastructure in the first instance that's much more feasible. But it isn't a simple matter of running a couple of phone lines out of that because stuff goes through it at exceptionally high speed.

**MR LINDWALL:** And it wouldn't be cheaper for NBN in some cases to do that - - -

**MR SLATTERY:** Not then to provide a wireless satellite service, no, I wouldn't think.

**MR LINDWALL:** Anything else, Peter, that you can think of?

**MR SLATTERY:** No.

**MR LINDWALL:** Thank you very much for coming.

**MR SLATTERY:** Thank you very much.

**MR LINDWALL:** Could I invite Joanna Gibson from the Isolated Children's Parents' Association. Good morning, Joanna. If you could introduce yourself and say what you would like to.

**MS GIBSON:** Good morning, everybody. Thank you for having me here to speak. Firstly, I'd like to introduce myself and the Isolated Children's Parents' Association, and give a brief synopsis of our submission. My name is Joanna Gibson. I've lived in the northwest pastoral area of South Australia for the last 20 years with my family and currently reside at Yudnapinna Station, which is just 80 kilometres north of Port Augusta. My three children all attended Port Augusta School of the Air for their primary school education with either myself or a governess supervising them in the schoolroom.

Over the last 18 years I've been involved with ICPA at a local, branch, state and federal level, and I've been on federal council since 2013. I look after the communications portfolio for federal council and liaise closely with state ICPA portfolio leaders, some of whom have presented at the recent Productivity Commission hearings. This portfolio has always held a great interest for me as my children started school with a HF radio and saw the rollout of internet lessons in South Australia with varying degrees of success.

To tell you a little bit more about ICPA, since 1971 the Isolated Children's Parents' Association of Australia has represented families living in rural and remote regions of Australia. Our goal is to achieve equity of educational opportunity for all geographically isolated children and, thus, ensure they have access to a continuing and appropriate education determined by their aspirations and abilities rather than the location of their home.

ICPA Australia represents 96 branches Australia-wide and there are approximately two and half thousand member families. We're a completely voluntary apolitical parent body. Students whose family home is in rural and remote Australia and who are enrolled in schools of distance education rely heavily on telecommunications to access daily lessons via both telephone and internet. The majority would also be in the 3 per cent of the population that will rely on the Sky Muster satellite.

Our member families also attend small rural schools that are dependent on the internet for schoolwork, research, teacher mentoring and specific needs sessions, as well as landlines for contact, for teacher support, emergencies and all the general administration tasks of a school. There are quite a few rural small schools which are not in mobile coverage areas and struggle with receiving adequate internet service.

ICPA Australia has a long history of advocating for better communication services in the bush. Recently we've worked with the federal government during the rollout of the Sky Muster satellite service to address the requirements of families educating children at home while living in isolated locations. Other groups that we work with include the Australian Communications Consumer Action Network, ACCAN, Better Internet for Rural, Regional and Remote Australia, Broadband for the Bush and, more recently, the

Rural, Regional and Remote Communications Coalition, a group of likeminded lobby groups concerned about lack of connectivity in the bush.

Although you state in your draft report that the use of mobile phones has increased and there has been a fall in the number of fixed voice services, the situation is quite different in rural, remote and very remote areas where most of our members reside. Many of our members still rely heavily on landlines and our access to this is made possible by the current Universal Service Obligation. Due to the unavailability of mobile coverage or another reliable service, our landlines are an absolutely essential service for those that live in the bush.

We are pleased that the Productivity Commission has identified that the current arrangement for the USO is in need of reform. We agree that the USO could be modernised and improved. However, we do not want to see it abandoned. We also agree that the USO should be amended to include a baseline broadband service. Our members have long been asking for data to be included under the Universal Service Obligation terms of reference.

Nevertheless, ICPA Australia feels very strongly that NBN satellite voice service will not meet an acceptable baseline standard. The families that we represent live in some of the most remote parts of Australia. With an ageing population, an increase in the number of Australian students living with learning difficulties and the isolation of living in a rural and remote area, the need for the provision of a guaranteed telecommunication service suitable for their needs is paramount.

Issues such as latency, weather, power, reliability and the threat of congestion all affect the actual experiences of our members. ICPA Australia feels that none of the three options offered in the draft report on the Telecommunications Universal Service Obligation meet the needs of those living in rural and remote areas. Continuing with a TUSO is essential to ensure that people living outside city centres have adequate, affordable and reliable communications to a baseline standard. A reliable form of voice communication service, which is independent of internet, needs to be available to all who live in rural and remote areas. While we welcome the satellite service, it must not come at the expense of our landlines.

**MR LINDWALL:** Thank you. I think the ICPA does a fantastic job and I just wonder if you have any statistics that you might be able to either provide now or separately which show trends in the number of students using remote education and the way in which they interact, because, as you say, they originally would have used HF radio and then that would have been quite challenging, I imagine, and then to phones and now the internet to a greater extent. But are people - the age at which students stay in distance education and then move to boarding schools changing or is it pretty much the same the number of students that use distance education? How has that changed over recent years?

**MS GIBSON:** It does fluctuate a little bit and I can get - government has figures on how many students access distance education each year. It really does vary from state to state. I know in South Australia students going through Port Augusta School of the Air

currently are only about 39. That would be sort of to the north and west of the state on stations mainly, whereas in Queensland the number is a lot larger because of the population.

**MR LINDWALL:** I guess I'm just wondering because learning through HF radio would have been very, very difficult. I don't know how one could have done that, but I suppose people manage with what they have. The internet provides a superior form of possibility for distance education. So I was just wondering whether the Sky Muster service might actually encourage some students to stay in their homes rather than go off to say boarding school.

**MS GIBSON:** I think most students will stay in distance education until the end of primary school. If they're fortunate enough - I think my children would count themselves as fortunate - they do go away to boarding school just for the socialisation. You might find that there's one or two children in the family and it's not fair on them for them to learn in that sort of isolation for the whole way through their schooling. Boarding school is a very expensive option. So that's another whole story. And there are people that choose to keep their children at home and teach them all the way through to the end of their schooling. But I think they are in the minority.

**MR LINDWALL:** Now, the Sky Muster service - and you can tell me a bit about your experience so far of it - but it does have an education portal of 50 gigabytes per student per month, if I'm not mistaken, up to three; so 150 if you have three students.

**MS GIBSON:** Correct, yes.

**MR LINDWALL:** What happens if you have four students?

**MS GIBSON:** The NBN said that they will look at it on a case-by-case situation. That's a great benefit for people studying by distance education and also home schooling, people that are in home schooling by choice; they're able to access that education port as well.

**MR LINDWALL:** The typical student using the Sky Muster education portal, could you just describe how it would work? Because they still use the phone, I presume, as you say.

**MS GIBSON:** They do. It depends on which state you're being educated. In Queensland I'm sure that you've heard that Queensland Department of Education has stated that students under grade 3 - so kindergarten till grade 3 - need to use the phone as well, not solely rely on VOIP because of the delay. That is becoming problematic. They feel that the younger students can't really cope with waiting around for the - and that happens also because there is a group of students in a class, obviously, and then if they're all on Sky Muster the delay can be quite long.

**MR LINDWALL:** How does that experience work when you have video connections via Sky Muster to X number of students, plus their teacher, and they speak to each other? How does the teacher manage it so that someone doesn't talk over the other, which I would imagine would happen with latency issues?

**MS GIBSON:** Yes. It's with great difficulty. It's just something that these kids do. I don't think they ever get used to it, but they know that it happens. Because of the different places that everybody lives, the latency is different and so - I know we were on the interim satellite. That was a disaster. It was very hard. The teacher would load a page, ask a question, everyone would answer and then it seemed like five seconds later someone else would talk over the top because they've just seen a page. It can be very disruptive for the students.

**MR LINDWALL:** How have you found the experience with your children of Sky Muster to date then?

**MS GIBSON:** They're all away at boarding school now. From reports that I've had from people, Sky Muster is much improved than the interim satellite was. However, someone else said to me it's off more than it's on and they never had as many dropouts with the interim satellite as they do with Sky Muster.

**MR LINDWALL:** I think that may be a teething problem, but we'll see on that, I guess.

**MS GIBSON:** There's a lot of teething problems.

**MR LINDWALL:** Are there any comments from your constituency about the 50 gigabyte limit? Is that sufficient?

**MS GIBSON:** At the moment that seems to be fine, yes. But, I mean, with the increase in - I don't know how it increases so much. But in five years' time you might find that 50 gigs is nowhere near enough. But at the moment it seems fine.

**MR LINDWALL:** Yes, of course, things like that need to be reviewed over time.

**MS GIBSON:** I think from where they've come with a limit of 25 gigs or 20 gigabytes on the interim satellite to now being given 50 gigabytes or having to pay for 50 gigabytes for your student, it seems a huge amount. So people are very thankful at the moment.

**MR LINDWALL:** Maybe I should explain a little bit about what we've said in the draft report because I think there might be some misunderstanding about a bit of what we said. That is, in particular, we said that (a) the Universal Service Obligation, which, of course, is voice only to the premises, plus payphones, is outdated, that the copper lines are becoming increasingly expensive to maintain and ultimately they won't be viable. I think we made that point.

We've also made the point that for anyone who's on a system which is fixed line, either fixed fibre to the premises, fibre to the node or fixed wireless, that the voice service on that is very, very good and the data is very good too. So we thought that that would be sufficient. We observed that mobile phone networks have been growing organically without too much government intervention, apart from the Mobile Black Spot Program,

which most people seem to be quite supportive of, although we've noted I think today about some of the potential problems with it.

We've said that a Universal Service Obligation probably doesn't work best only because why do you need to have an obligation to provide a service in all of the cities of Australia where they will be provided anyway; they don't really need an obligation. That comes at a cost, which is why we proposed a more targeted solution. Then we narrowed it down and thought where are the problems lying? So we said that in the fixed lines' footprint of NBN and fixed wireless we didn't think there is an issue. Maybe I'm wrong, but that's what we said in our draft report.

We said that the part that might be an issue is the satellite zone, the 400,000 premises that are in the satellite zone, the Sky Muster service. Of that, we made an estimate that about 90,000 premises within that 400,000 do not have a mobile phone coverage. So the remaining 310,000 do have a mobile phone coverage. Then we basically said - and we didn't come to a firm view - but we said that perhaps if a person has a reliable satellite service from NBN, plus a reliable mobile phone service, that should be sufficient, they don't need to have a fixed line to the home.

Then for the other 90,000 premises that don't have a mobile service we thought that well, they needed targeted intervention. Rather than having some grand universal service that covers 22 million people in Australia, that we should just target the 90,000 premises in Australia that don't have the mobile service and that don't have a - on the basis that by the time this all happens the NBN satellite service should be fully bedded down and should be operating well. That's crucial. I mean, we never said that we should roll it out when it's in its infancy and it isn't working very well. But it did require both mobile phone coverage being there and the satellite service being well serviced. Is that reasonable or not?

**MS GIBSON:** Yes, I understood all of that from the draft. I think the fact that you're proposing an NBN service that works perfectly and a mobile phone service, I'm not sure that is going to suit many of those people. For example, Wilgena Station where I used to live, which is 400 kilometres northwest of Port Augusta, does have mobile coverage; it's on the train line. However, it doesn't always work. So then you've got an internet service that goes out. Mine was out yesterday, the Sky Muster service. Then your mobile tower is down. If you had a landline, apart from - like unless you've had a week of cloud, our radio phones, which is what we've got, they still work. I would hate to be left with not a landline, just relying on other forms of technology if there was an emergency.

**MR LINDWALL:** But you do see the point that ultimately the landlines will not exist one day in the future?

**MS GIBSON:** One day in the future when everything else works beautifully I can see that you're going to want to take them away, yes. But I think there will be a lot of discussion from the bush when you try to.

**MR LINDWALL:** I do make the point it has to be a reasonably reliable mobile service. If you're just a patchy mobile service we would classify that as not having a good mobile service.

**MS GIBSON:** But how are you going to determine a patchy mobile service?

**MR LINDWALL:** There's some testing and that type of thing. In the end, there'll be borderline people and they fall in one category and the other. I want to ask also about the concept of an obligation and also the fixed line service is not a hundred per cent reliable by any means. My mother, who lives on a farm by herself - fortunately, my sister and brother-in-law don't live too far away - does not have mobile phone coverage. She just has the landline, the copper based landline. She's had it out for more than a month on at least three occasions. So I know the problems of not having communication. I worry about her all the time because of that.

I just think that the landline is not a system that's a hundred per cent reliable. In many cases it's taken a long time to get people repaired on that. So what would you do for that? I mean, people's consumer service guarantee varies too and their knowledge of their rights under that seem to vary too.

**MS GIBSON:** Yes, and I understand there's going to be an inquiry into that in the future which we'll have input into.

**MR LINDWALL:** Correct, yes.

**MS GIBSON:** Although the landline might be not be completely reliable, currently it is more reliable than the satellite. Until it can be proven that the satellite is going to do the job that everybody says it's going to do, I don't think that our members would be keen to lose their landlines.

**MR LINDWALL:** Have you heard of the statutory infrastructure provider legislation draft that's been put out for comment by the Department of Communications?

**MS GIBSON:** Yes, that was calling for submissions from last week, wasn't it? We had input into that.

**MR LINDWALL:** What do you think of that or have you got any comment about - - -

**MS GIBSON:** Is that the one where there'll be a fund from - - -

**MR LINDWALL:** There's one bit of legislation which is regional broadband which is about having a levy on some providers to cross-subsidise NBN. That's not that. But what I'm talking about is the - it's effectively making, more or less, a wholesale guarantee, although guarantee is probably a bit of stretch on it, but that's what it would be like. It's like the consumer service guarantee is because the USO, of course, as it is, is a link between Telstra as both the wholesaler and the retailer of that service, whereas the NBN model has a split between the wholesaler and the retailer.

Some of the communication we've had in our inquiries are that people deal with their retailer, they don't often know what's happening with the NBN. A lot of the problems I've heard are coming about that type of thing, poor communication, if you like, or the retailer not having sufficient people on their call centre to address a problem. Maybe because there's a lot more problems at the moment because it's been rolled out and hasn't been properly bedded down, it might get better over the future. But at this point in time, people have expressed a lot of frustration about communicating about their NBN problems.

The SIP legislation - and we'll probably comment about it in our final report - is an attempt to give some sort of certainty to people about repair timeframes. But they don't actually have the same type of timeframes for repair and maintenance that are mandatory like in the current USO. I guess that's what I'm just wondering, how far you think that SIP should go that would give you a level of confidence.

**MS GIBSON:** I know that our members asked at our last conference that repair times for NBN satellite systems be more aligned with Telstra repair times for remote areas. It's up to 90 days, I think, the repair times for remote areas, whereas Telstra is only 10 days. Our members' argument is that 90 days is too long to go without being able to attend school.

**MR LINDWALL:** I'll repeat my other question then. If you had a similar type of guarantee for the NBN satellite service for repair and maintenance and you had sufficient mobile phone coverage - and I mean a good quality one - would that be enough to forego your fixed line?

**MS GIBSON:** From me personally, no, and for our members, I don't think that they'd be willing to let their fixed line go.

**MR LINDWALL:** Have you got any comments about the black spot program that's being used? We've spoken about it earlier.

**MS GIBSON:** I think that we were encouraged - in your draft you said that there'd be more community involvement and less political involvement. I think that's a good thing.

**MR LINDWALL:** How would you in practice - I think although we've had some feedback, but I'd like some advice about what you think would be a good way about getting better community engagement on selecting sites for the Mobile Black Spot Program and for prioritising them.

**MS GIBSON:** This would only be like a personal view. I think major transport routes are a given and I think that they should all have mobile coverage the whole way along them. With regard to education, a lot of people that are close into town or have mobile coverage are able to use mobile data for education and it's a much better service than NBN. Also, Telstra have unmetered all of their education sites on their mobile data. So it's a lot more cost-effective to do it that way.

But I'm not sure how you go about getting more community involvement. I mean, a lot of people I know put in their sites for where they think they should be and whatever and then we just wait to see what happens and it all comes out and half of them haven't been chosen anyway.

**MR LINDWALL:** I know it's not always easy. Joanna, have you had any other points you'd like to make?

**MS GIBSON:** No, I think you've probably heard enough from ICPA over the course of your discussions.

**MR LINDWALL:** I think we very much value your contribution and thank you very much.

**MS GIBSON:** Thanks.

**MR LINDWALL:** I think we might as well have a bit of a morning tea.

**ADJOURNED**

**[10.09 am]**

**RESUMED**

**[10.40 am]**

**MR LINDWALL:** Phil, if you just say your name and say what you wish to.

**MR TURNER:** Thank you, Commissioner. My name is Phil Turner. I'm, for all my sins, the publican of the Marree Hotel. First of all, I'm not technically astute in relation to knowing much about the workings behind all those things that we come to expect in communications, particularly at the hotel. I like to think that when I turn on a tap the water is there. I don't think too much about where the water comes from. The same with a light when I turn the light switch on. I know the power is there. I don't necessarily worry too much about where that comes from.

I'd like to think the same thing happens with a phone and I'd like to think the same thing was happening with the internet. The fact of the matter is it just doesn't happen. We are without mobile phone service and we had an internet service operating under the old satellite. The hotel requires 180 gigabyte of data to operate on and the NBN Co, in all of its wisdom two years ago in March, introduced a fair use policy, I might add, without consultation, unilaterally and instantaneously, and cut us back from 180 gigabytes to 20 gigabytes. So we had the internet for about a week.

The Sky Muster system has rolled out and we are connected. Under much hoo-ha from NBN Co and much excitement, they gave us 65 gigabytes; still about 120 gigabytes short of our need. So we start to go slow in about the third week of the month until we run out until the next monthly cycle. We're making do.

The problem is exacerbated by the fact that everyone that we do business with in the cities expect us to have good internet. They have it in the city and that everything we do, “Look, could you go online? Could you purchase online?” They’re moving us to an online or a mobile application of which we aren’t able to do. We have now this year in our business strategy we’ve divided the role between myself and my wife and she goes back east - a good chance, I’ll admit, to catch up with family - but the primary reason is to enable her to get good access to the internet to be able to do some of the accounting and administrative work. It’s disruptive and in this day and age I consider unacceptable.

I just want to make a comment though about communications in general. We’ve been campaigning for some time now for mobile phone service in the region. Marree is the gateway to the Kati Thanda Lake Eyre Basin. It’s at the juncture of the iconic Oodnadatta Track and the infamous Birdsville Track. It has a population of about 60 or 70 people, granted, and this is not necessarily about the people in Marree wanting mobile phone. It’s the fact that we have thousands and thousands of visitors, which is the main state of the economic drive of the region, coming up there and most of them come from the cities of Australia and they expect to have good mobile service and internet.

We have provided Wi-Fi to our guests, however, I got a very heated phone call from the NBN Co to say that it was illegal for me to give Wi-Fi to my guests, that I had to be licensed to do that. That was a retailer’s role and not the role of myself as a subscriber. I was grossly offended and I said, “Well, you try and take it off me,” and we still provide Wi-Fi to our guests. I think it’s an expectation of a guest to be able to access the Wi-Fi, particularly seeing as there’s no mobile service. But, anyway, that’s a little bit of an ongoing issue.

It’s not necessarily about the people of Marree, it’s about the region. Marree is at the gateway of the largest organic beef-growing area in the world. We also have a major responsibility for servicing the flow-on effect from both Moomba and Roxby Downs, as well as the pastoral areas further along the Oodnadatta Track. With that comes the researchers, the environmentalists and all of those doing business in that region. They tend to use Marree as their base and we can’t offer them at least the basic business support functionality in communication terms.

It was announced in late last year under the black spot program that Marree would get mobile phone service. We got sold a pup. In the lead-up to that and campaigning and promises from the member for Grey, Rowan Ramsey, that we would have mobile phone service. We were given every indication that we’d have a full service with a reach well along the Birdsville Track and the Oodnadatta Track. This is needed for emergency services, particularly the Royal Flying Doctor Service, and for those that get into trouble on those two iconic tracks. The roads are actually quite good as far as dirt roads go, but they’re long, they’re hot and they can be dangerous to the unwary.

Then we were told just before the announcement that Optus had weighed into the debate as a competitor. The upshot was that we were told that we were going to get an Optus mobile cell. I understand that it’s about a 3 kilometre range. That’s useless,

absolutely useless. If it's trying to be competitive, then my belief is we should have both Telstra and Optus and let the market dictate which one they want to use. That would be fair and equal, or a shared service between Optus and Telstra, and let the market determine which one they use.

But to think that all of the visitors are now going to either have to get an Optus SIM card or an Optus phone to be able to connect with the outside world is just unthinkable in today's environment. So disappointing, bitterly disappointing, and I have grave concerns about essential services along those two tracks.

I'll give you an example. At Christmastime just gone when there weren't too many visitors around, too many people driving on those tracks and also not too many people in Marree, there was a single person rollover about 55 kilometres south of Marree. The young girl in the vehicle was unconscious. We're not sure how long she lay in the desert. It would probably be for in excess of an hour. She was first discovered by a couple who were driving up to Witchelina to manage Witchelina Station over the Christmas period. They didn't have UHF but they were able to rig up a tarpaulin to give her some shelter as she was moving in and out of consciousness.

The next vehicle that turned up was Cookes Outback Motors. It was a vehicle recovery. So he had a trailer on the back as well. He had UHF and was able to call Witchelina Station. They rang the Royal Flying Doctor Service and with no one else in town the nurse fronted the pub and said, "Hey you, I need you to drive the ambulance," and we took off down the road and provided assistance. Stabilising the girl was traumatic for someone like me who hasn't been around that scene. But we were able to do so.

But what was absolutely confronting for me was the Royal Flying Doctor nurse trying to communicate with the plane on a satellite phone. Here was this girl, she was seriously injured with fractures in back and concussion, lacerations, et cetera. The initial decision was to transport her to Marree and to get the plane to land at Marree until we realised there's no mobile phone service in Marree and then divert the plane to Leigh Creek. However, we couldn't contact the plane. So back on the UHF, back to Witchelina and eventually onto the plane. Then we hotfooted it to Leigh Creek and got her away there.

Now, just as an aside, she's fine. But it could quite easily have gone the other way. I just don't feel that we should have to succumb to those sort of methods and procedures in this day and age when something as simple as mobile phone service to a region, not just a town, is absolutely paramount for areas like Marree. I might add too that just this week alone we have had four very similar incidents, some not as bad as that; in fact, all of them nowhere near as bad. But potentially they are very damaging and we have to make sure that everyone that leaves the Marree Hotel we know where they're going and we promote them to say, "Would you please ring a relative and let them know where you are?" It's usually a flat tyre or they've come off the road or a soft rollover or something like that. But they can be stranded for some time.

The more recent one was an elderly couple in this last rain we had that left William Creek towing a caravan and they jack-knifed in the mud and slid off the road. Then SA Roads closed the road and they didn't know they were on it. They were there for four days. Both of them moved into shock. They had to be flown out and taken to Port Augusta Hospital and their caravan and vehicle recovered. They couldn't make a call and no one knew they were there.

Tragedy has been averted by the communities along or all in that region, including the pastoral properties that spring into action as soon as they hear of a problem. But, once again, it shouldn't happen. Mobile phone service, mobile phone coverage in that area would be a great asset. The other advantage of having a decent mobile phone service is it takes the pressure off our Sky Muster system, particularly from visitors coming to town. I hear what you say, that it's more expensive. But as a visitor, as an interim, as a short stay concern, a very valuable proposition.

The two would take a lot of pressure off the NBN Co if we had a decent mobile phone service. I do know that it's not just about making calls or accessing YouTube and Netflix, as you mentioned earlier. Mobile phone and the internet are intricately entwined in the business with the pastoral leases. Their ability to be able to scan cattle tags now on the fly enables pastoralists not to muster. It has massive implications to improve productivity for the stations. Once again, all of those benefits flow on. I'm not an expert to be able to talk about the pastoral leases side of things. It's just what - I'm in a position at the pub to be able to pick up the community's concerns. I feel their pain and feel it's becoming a really significant issue and, as I said earlier, driven by the fact that everyone, including the pastoralists that we deal with, expect us to have good mobile phone service and good internet.

**MR LINDWALL:** Thank you, Phil. We enjoyed our visit to Marree last year. What do you say about thousands of visitors who maybe 20 years ago would have been better prepared for accidents by having a HF radio or something on board? Would it be fair to say that they're now less prepared than they were in the past for that type of trek across those long and rather dangerous roads?

**MR TURNER:** In-vehicle technology has improved. The vehicle-to-vehicle technology is pretty good. I would say that the majority of those dedicated four-wheel drivers are very well experienced and very capable. We don't have an issue there. But because of the interest around Kati Thanda Lake Eyre and the region as a whole, which is fantastic for tourism, the desert regions of South Australia are the most significant in the whole central desert region of Australia. I mean, we're all campaigning for the fact that north of the Flinders Ranges is a whole new world of adventure and opportunity and intrigue, both from the prehistoric perspective and its fossils, right up to modern day and the river systems of this amazing thing that we've got with Lake Eyre where all the rivers flow inland and don't flow out. With that it attracts tourists and tourists flock there.

The numbers have increased so dramatically over the last 15 to 20 years that that's where the problem has exacerbated. So we're now getting visitors who are not as well prepared to travel the region, let alone having ever driven on a dirt road. During the

summer months and these sort of temperatures we get international visitors. We had 10 backpackers turn up in a Wicked van last night at half past 10 because they had two flat tyres on the Oodnadatta Track. No one knew they were out there. So we fed them and they camped out the back.

But they're the sorts of things we say, "What are you doing? It was 47.2 degrees yesterday. What are you doing driving around in a Wicked van in those sort of temperatures?" They say, "That's what we expect. We're from Europe and it's cold. We wanted to come and see the outback." But they don't understand that grease turns to oil and all the other inherent problems associated with it. And they're the ones we've got to scrape off the road. They've all got mobile phones but they don't understand they don't work.

That's where the problems develop. As caravans have now become off-road - well, there are some off-road and some that aren't - but they still drag them up there anyway, and they're not prepared and they get into trouble as well. It's this thirst for the adventure, but it's that group that's escalated in the numbers and they're not prepared. But they have a - I bet you if I asked every single one of them, "How did you prepare for the trip?" It'd be food, it'd be the esky full. The last thing they would have done was to check whether or not there was mobile phone service or internet coverage because it's an expectation.

**MR LINDWALL:** It's easier today to find about what you would expect and how you should prepare because online there'll be numerous amount of information about good preparation for any part of Australia or any part of the world. It's a paradox, I think. There's no easy solution to that one. People just are underprepared, yes.

**MR TURNER:** It's a little bit of a Catch-22 because you don't want to turn people off because it's so important that we've got the numbers of visitors to the region for an economic reason. So there's a fine balance there at present. But it's something that could be very, very easily addressed. We have fibre optic cable laid right outside the hotel. It's just not connected. It puzzles us as to why, when all the discussions I've had with both the retailer and eventually when I was able to talk one-on-one with NBN Co, they were very reluctant - but we at least had some fairly vibrant discussion - that they still referred to the population of Marree as not being eligible for mobile phone service.

I could not convince them that it might be fine in the suburbs of Adelaide but where we are it's not about the population of Marree that constitutes whether or not you get mobile phone service; it's the fact that our population, our visitors, increases so dramatically for about eight months of the year.

**MR LINDWALL:** You were talking about your Sky Muster service with 65 gigabytes a month, I think is what you said. I understand with Sky Muster you get a peak allocation and an off-peak allocation.

**MR TURNER:** Yes.

**MR LINDWALL:** Do your retailers talk about technics or tools you could use to move some of your peak onto off peak?

**MR TURNER:** No.

**MR LINDWALL:** Like programs that allow you to send your data during the off peak when you're asleep or something?

**MR TURNER:** No. We do that anyway. We load it up and before we shut the pub we set it in process to download of an evening.

**MR LINDWALL:** Having Wi-Fi for your guests, do you know of other pubs in Australia that follows with their NBN satellite service using a similar type of arrangement?

**MR TURNER:** No, I don't. I'm pretty sure they do. I know there's another place in Marree that offers Wi-Fi as well. Yes, I'm sure they all do. It's just that I had the conversation directly with NBN Co and then got a very terse letter to say it's illegal, which absolutely floored me.

**MR LINDWALL:** I take it with your Wi-Fi you have to limit the access because - - -

**MR TURNER:** Yes, we do.

**MR LINDWALL:** You don't want one of your guests using your 65 limit bytes up.

**MR TURNER:** They're limited to an amount of data and they're limited to one hour. It's mainly for those - we give 24 hours to those that fly in for the pilots and things who need to access weather and those sorts of things. But the general public are just interested in email. We have had instances - last year we had a group of German business people through. They travel the world six months of the year. Then they go back to Germany and swap notes with all of their friends who've been travelling all over the world as well. They exchange their travel itineraries and do the trip next year. It's quite a good network.

They've had to take Australia off the list because of the unreliability of being able to maintain contact with their businesses while they're travelling around Australia. They've been to South Africa, Tibet, the mountains and all of these incredibly remote places and they're able to get the internet and continue working and keep in contact with their businesses in Germany. Sadly, they've had to take us off the list, which is unfortunate.

**MR LINDWALL:** My memory from Marree is that you have a payphone out in the main street and you've got a private payphone in your pub. Is that correct?

**MR TURNER:** Yes.

**MR LINDWALL:** What would you like to say about the usage of those? Have you observed - I mean, you'd know your private one, presumably.

**MR TURNER:** It fills a gap. It's not ideal. It's reliable. The payphone outside is not reliable. That's very rarely working. It's either jammed or got a card stuck in it or something is usually wrong with it. It's serviced from a maintenance person at Leigh Creek. But our blue phone hasn't let us down at all. But, once again, we wouldn't need it if we had mobile phone service in town.

**MR LINDWALL:** To be clear, just for the record, the blue phone is not part of the Universal Service Obligation.

**MR TURNER:** No.

**MR LINDWALL:** But the payphone out the front is part of the Universal Service Obligation.

**MR TURNER:** Is, yes, correct. We bought the blue phone and installed it and then had the line configured to the pay system.

**MR LINDWALL:** I just want to ask you a bit more about the Mobile Black Spot Program. When you said that you'd been selected and then led to believe that you'd have a good, quite a wide service, how was that communicated to you? Did you get it in writing?

**MR TURNER:** No, it was initially in discussions with our local member and also our state member. The need for the wider reach was a very clear requirement for Marree. The first inkling I got that wasn't going to transpire was about two months before the announcement. I was just totally shocked, totally shocked. But I can understand areas like William Creek. But places like Marree with that wider reach along the Birdsville and Oodnadatta Tracks I just don't understand the logic behind that at all.

**MR LINDWALL:** The Optus 3 kilometre range, which would be 3 kilometres in radius around - - -

**MR TURNER:** I don't understand - - -

**MR LINDWALL:** I assume that has to do with the height of the tower as much as - - -

**MR TURNER:** I have no idea, I'm afraid. All I could get was what I could pick up from Googling what a mobile cell was. There's a site and that's what I learned.

**MR LINDWALL:** Where's the nearest place at the moment you can get mobile phone coverage from Marree?

**MR TURNER:** Nearest place? Would be Leigh Creek.

**MR LINDWALL:** Which is about 60 - - -

**MR TURNER:** 110, 115.

**MR LINDWALL:** 110, 115 kilometres away, so quite a fair way, isn't it?

**MR TURNER:** Yes. We can actually get some reception at times when the wind is blowing the right way from the first floor balcony of the hotel, but it's certainly not reliable. So it's not far.

**MR LINDWALL:** If you had, as you do, your Sky Muster service and you had a mobile phone service, would you do away with your landline?

**MR TURNER:** Yes. The other thing it would do, we are the only hotel in South Australia that still is landline link for the servicing and monitoring of our poker machines, because - - -

**MR LINDWALL:** The only one?

**MR TURNER:** They introduced a new system to monitor poker machines but it relies on mobile technology. We have all the boxes sitting there waiting to be connected but they can't connect them because we don't have a mobile service. It uses Wi-Fi and mobile. I don't know how it works. So we had to sign a separate contract which is still operating on the old landline for your phones.

**MR LINDWALL:** The EFTPOS machine that you have, does that go through the NBN now?

**MR TURNER:** It does, yes. It used to be a landline, but to ease that we moved it over to an internet-based - - -

**MR LINDWALL:** That must have happened since we visited.

**MR TURNER:** And that's linked to NBN.

**MR LINDWALL:** How much better is that?

**MR TURNER:** It's exceptional, very, very fast and good. The problem is that when we lose the internet we lose our EFTPOS. And the internet was down for half a day yesterday, so we were without our EFTPOS system for half a day yesterday.

**MR LINDWALL:** Do you know why the internet was down yesterday?

**MR TURNER:** No. The whole town was out. We get a lot of wind and that'll usually interfere with it. I don't know why. And it also interferes with our digital television as well.

**MR LINDWALL:** Are your satellite dishes well secured, do you think?

**MR TURNER:** Yes, they're fine. We have about 12 of them.

**MR LINDWALL:** May I ask, finally, about - you don't have to mention the name of the retailer. But you had to choose a retailer for the Sky Muster service. I think there's about 12 of them available. How did you go about choosing your retailer and have you been satisfied with the communications you've had with that retailer?

**MR TURNER:** Pre-Sky Muster, we had a retailer. I'm more than happy to mention it, but it's sort of irrelevant in a lot of ways. And we stayed with them through the introduction of Sky Muster. The communication between them and ourselves was nothing short of bizarre. We had some very, very unusual correspondence that was sent to us from the retailer about possible problems of the NBN Co, even though they hadn't had them. But two to three pages of, "This is likely to be a problem. That's likely to be a problem. This will be a problem. Do not blame us. Call so and so." Not only that, waiting times anything up to an hour and 20 minutes to be able to call our retailer.

So we changed after Sky Muster and we went - and I will mention them - to Activ8me. So far they've been very good. They are totally online. We can get into our account, we can manage our data through their online portal. So far they have been excellent.

**MR LINDWALL:** When you had the outage yesterday, do you notify Activ8me or what's the normal process?

**MR TURNER:** No, the first thing is we go around and see if the little blue ring is sitting on the thing, which it was. We thought, "Ah, it's not an NBN problem," because if it is it usually goes yellow or orange. We then started to shut down everything through the hotel, which we did, turned off the main routers and then turned off computers and we turned off other boosters and goodness knows what. No success. So then we concluded it's an NBN Co problem. Then you get on the phone and you ring around to the Royal Flying Doctor or the roadhouse across the road. "Yeah, ours is out too." Ours is out too." Okay, right, so we just sit and wait and it eventually corrects itself.

**MR LINDWALL:** Anything you'd like to add, Phil, finally?

**MR TURNER:** This is going to sound a little unusual and probably doesn't apply to many people, but it certainly applies to where we are. I've got to mention the road into Marree from the south. You may say that's a road issue. I still believe it's an intricate part of the communication mix and people's accessibility. I know the previous speaker was talking about schooling and education. Maybe some of the reason is the fact that they find it difficult to traverse a dirt road to get services at Leigh Creek.

Now, Leigh Creek is a struggling town at present with a closure of the mine. There's a supermarket there which is struggling. We, as a hotel, rely on that supermarket for a lot of our essential services. It's very difficult to get down an unreliable dirt road to be able to get those services when it's subject to constant road closures with bad weather, et cetera. The second part of that is that if we're talking about communications that are

going to improve the community, allow growth and development and those sort of things, if you seal that road to Marree, then you open up a completely new and diversified tourism market that we don't currently engage with. That's the two-wheel drive and the grey nomad market that we don't get into Marree.

There's a massive growth potential in that market of being able to come up further into the heart of the desert regions of South Australia which would also help Leigh Creek. But, once again, as I say, and the reason I mention it, I don't necessarily look at it as being a road that needs improving; I look at it as being a means of communication because the two are so intrinsically linked.

**MR LINDWALL:** Thank you very much. Mark, if you just state your name and organisation, of course, and then say what you would like to say.

**MR SUTTON:** Thanks, Commissioner. My name is Mark Sutton. I'm the director of the Outback Communities Authority, a state government statutory authority responsible for the administration of local government and like services in the unincorporated areas of South Australia. Thank you for the invitation to appear today before the Commission in relation to responding to the draft report from November last year.

By way of an opening statement, it's really two points, which I've alluded to in a previous piece of correspondence I provided. They are relating to the resilience of the telecommunications networks, in particular the mobile and fixed line services after power outages and extreme weather events, and looking at some of the mitigation measures that have been put in place perhaps in spite of the services that are provided by the big end of town. The second point would be discussion in relation to resilience of the non-mobile telephone service as a tool for community and economic development, along with why the NBN is not the panacea for the lack of resilience in that network.

Firstly, the resilience in the telecommunications network after a power outage and extreme weather event, it's reasonably well documented, in October last year, South Australia had a complete state blackout of power. The main grid extends into the unincorporated areas of South Australia a fair way, bearing in mind the majority of the unincorporated areas is off grid. So they actually were not disadvantaged the same way the rest of the state was at that time. They are for other reasons disadvantaged.

But in the case of the northern Flinders Ranges region as a case in point, the power went out as far up as Leigh Creek and Lyndhurst, Copley, Nepabunna, Beltana, those communities up there. The mobile phone system, which was reliant on the power supply, failed to kick in; or it failed, actually. The problem then occurred from sort of a catastrophic economic point of view as there was no mechanism for people to communicate back to identify the power had gone out.

There is historical backup generators there that are associated with the operation of the now closed mine that were not switched on. Historically, they would have been. The Leigh Creek supermarket, as a case in point, was unable to cancel a truckload of supplies which were ultimately forced to be thrown away. Leigh Creek - and I'll use the Leigh

Creek as a euphemism for that northern Flinders Ranges area - was out longer than the well-publicised and rather well-communicated Eyre peninsula region during that outage. It was out for over four days.

**MR LINDWALL:** How many days, sorry?

**MR SUTTON:** Over four days. That's a specific case in point. The more anecdotal but no less important are I'm saying extreme weather event. That's in the absence of a less descriptive word or a more descriptive word. We do have multiple situations where the ageing radio telephone system is influenced by weather. That is the only mechanism for communications in a majority of these outback communities other than more expensive technologies like satellite phones or other things like that.

When businesses are relying on that telephone service for EFTPOS and data, it goes out quite regularly during these adverse weather conditions. Well, they're not actually necessarily adverse; they're just high rain or high heat or variable conditions. That's affecting the economic sustainability of these communities and, in particular, the businesses within those communities.

In relation to mitigation measures, the Outback Communities Authority and its predecessor, the Outback Areas Community Development Trust, has invested very heavily in a system or a network of UHF radio repeater towers. We believe, and with good reason, with long-time relationship with pastoral community and the travelling community, that that is an alternative to the telephone services that exist. It's not necessarily the best system. But for what it costs and what it provides, it provides some sort of mantle of safety in communication ability.

I was in the foyer during the last presentation and I picked up on your questions in relation to resilience - well, I would argue resilience of the broader community in remote areas as opposed to 20 years ago. I, for my sins, am chair the Far North Zone Emergency Management Committee which is a subcommittee of the State Emergency Management Structure South Australia. It is clear the resilience of the broader community in relation to expectations is lower - well, lower resilience, higher expectation than what it was 20 years ago. I would argue that 20 years ago people were more prepared for remote area travel. It's just an expectation that is fair and reasonable. In this day and age you should be able to pick up your mobile phone and use it because they don't actually prepare the way they would have 20 years ago knowing that those systems exist.

The OCA, Outback Communities Authority, has recently increased its UHF tower coverage, putting one just south of Marree on Wichelina Station and has full support of the pastoral community in that area and it's increased the access for travelling public. The second one we've just installed is in the Gawler Ranges, again at the request of pastoral community; and that has been well supported. I'm not saying it's the solution, but it is a solution that we can have input into and we can fund.

In relation to my second point, the resilience of the non-mobile telephone system as a tool for community and economic development, along with why the NBN is not a

panacea for this lack of resilience, I alluded to it before in relation to the weather conditions where the existing, in most cases DRCS, or the modern version of DRCS radio telephone system, is subject to variabilities in weather conditions. When you've got businesses relying on that as their only data link for EFTPOS and others, it's unacceptable in a modern economic age.

It's been well-touted that the NBN is the solution for all Australians in its rollout. However, the jury is out and I applaud some of your recommendations and I'm happy to touch on those, if you'd like, but they're in the new paper that I've given you. That the NBN, if it works, is it can be quite good. But, again, I heard Mr Turner suggest that the satellite went down yesterday. I was in a meeting the last two days with the natural resource management board for the arid lands and two pastoralists in other parts of the outback had to go out two days ago and they were unable to communicate with the wider world.

It's not necessarily reliable yet. I would argue that we should not accept that as just the baseline for service. We should be encouraging private enterprise or further investment to increase the baseline service. The NBN, again from the research that both we have done and you may well have been touched on by Claire Wiseman this morning from the Region of Australia Far North Board, is that it is a domestic product; it is not a commercial product. Some of these businesses in the outback who rely on high quality broadband and telephony, this is not going to be the solution, especially with the shaped plans.

**MR LINDWALL:** You're talking about the satellite service?

**MR SUTTON:** The satellite service. The jury is out as to whether this is going to be the panacea for the problems that we're experiencing with the fixed line stuff. That's my opening statement, Commissioner. I've provided you with some OCA comment on your draft recommendations. Generally, we are quite supportive of your recommendations, especially in relation to remote areas. I'm happy to go through those if you'd like.

**MR LINDWALL:** Yes, why not.

**MR SUTTON:** I didn't respond to every comment because some of those are not necessarily applicable to our area. But in relation to draft recommendation 5.1, which I'm happy to read out for the benefit of the audience:

*The Australian Government should reframe the objective for universal telecommunications services to provide a baseline broadband (including voice) service to all premises in Australia, having regard to its accessibility and affordability, once NBN infrastructure is fully rolled out.*

The OCA's comment is: Although this is covered within the draft findings of 6.2 - which I'll refer to in a minute - the OCA has concerns based on the anecdotal community information suggesting that the NBN Sky Muster satellite system is often unreliable, generally slow - generally. I won't say I've heard - there is some opportunities where it

has gone - and a shaping of data plans does not provide satisfactory service in the context of the implied promise from the NBN advertising. The OCA would like to see a regional digital strategy developed that forms a blueprint for investment attraction in better than baseline broadband services - again utilising some of the infrastructure and, again, Mr Turner referred to the fibre optic cable that exists between Marree and Leigh Creek. Then there's no fibre optic cable from Leigh Creek to Hawker and then there's fibre optic cable from Hawker to Port Augusta, that there's a gap.

As you know, on the trip last year we've had some preliminary information from Telstra, who own the fibre optic cable to Hawker, that in the vicinity of \$1.5 million may well be the funds required to connect that. That then opens up some wireless opportunities for the surrounding communities, which would be better than the satellite system, from Marree. Then it's a hop, skip and a jump over to Roxby Downs and we can connect back into the national fibre optic system. They're just some of the opportunities we've identified within the - - -

**MR LINDWALL:** Yes, often not exploited.

**MR SUTTON:** I think that developing an independent digital strategy would allow that to look at seeking investment from the private sector and other opportunistic sources as they come to mind. Draft findings in relation to 6.2:

*The quality of broadband service supplied by NBN infrastructure will be superior to the quality of service previously available across all Australian premises.*

*However, as is the case under the existing telecommunications universal service obligation (TUSO), the quality of voice services will vary across technologies.*

- *Voice service offered to premises in the NBN fixed-line and fixed wireless footprints will be of a high quality and equivalent to the standard offered under the TUSO.*
- *Voice services offered to premises in the NBN satellite footprint will be of an adequate quality for most purposes, but will fall short of the quality of those offered under the current TUSO in terms of latency and service repair timeframes. Up to 90,000 premises may be solely dependent on NBN's Sky Muster satellites for voice calls.*

I take that as the outback more remote areas. Dot point 3:

- *Whether further government support for some alternative voice service for these premises is warranted is contingent on whether the quality of NBN's services is below the baseline that the broader community would regard as acceptable for a universal service.*

The OCA fully supports the findings identified in dot points 2 and 3. Then we go on to the information request that you've identified in 6.1.

*Participants are invited to provide evidence on the adequacy of the NBN's satellite voice services in relation to defining an acceptable baseline for a universal service. Information on practical and cost effective alternatives to NBN's satellite voice services in areas that currently have no mobile coverage, and their relative merits and costs is also sought.*

The OCA would like to see the information request to go slightly further to include voice and data services rather than just voice. It remains unclear if the NBN satellite service will adequately support more than basic voice and data services in remote areas.

Draft finding 6.3:

*In terms of the availability and accessibility of telecommunications services, certain groups of people with particular needs may experience difficulties following the full rollout of NBN infrastructure and in the absence of the telecommunications universal service obligation.*

*The costs of providing specialised services to these groups are likely to result in providers not offering the services, or providing them at a high price. Notwithstanding that technological advances could reduce these costs, the particular needs of some people in these groups warrant targeted government intervention.*

*The groups most likely to experience difficulties include: people with disability and life threatening conditions; Indigenous people living in remote settlements; some older people; people with no fixed address; and a small number of users of emergency services within the NBN satellite footprint.*

The OCA's comment: The OCA fully supports this finding, however, would like to see the inclusion of all people living and working in remote settlements.

Draft recommendation 7.4:

*Before proceeding to the next round of funding under the Mobile Black Spot Programme, the Australian Government should implement the Australian National Audit Office's recommendations relating to that program. It should also: target the program only to areas where funding is highly likely to yield significant additional coverage; revise its infrastructure-sharing requirements to be consistent with the Australian Competition and Consumer Commission's findings in the ongoing Domestic Mobile Roaming Declaration Inquiry; and prioritise areas for funding based on community input - rather than nominations from Members of Parliament.*

Rather contentious, Commissioner. However, the OCA's comment is: The OCA fully supports this recommendation, in particular the prioritisation of areas for funding based on community input.

Finally, the draft recommendation 7.5:

*The Australian Government should establish a funding program for a form of community telecommunications service (such as payphones) that targets locations where premises do not currently have a satisfactory alternative voice service, such as a mobile service. This program should target particular needs and be flexible for delivery to such communities. This program should involve a competitive tendering process to allocate funding.*

The OCA's comment: The OCA fully supports this recommendation, however, would like to ensure that this recommendation does not disadvantage those communities as they seek to secure a mobile service.

**MR LINDWALL:** That makes a lot of sense. Thanks, again, for the trip last year. It was very interesting.

**MR SUTTON:** Thank you.

**MR LINDWALL:** Now, could I ask about the blackout that occurred, because I'm curious about - obviously some communities have had - such as Marree, they have generators. So they weren't affected by it. But presumably all the areas that were affected by it not only lost their mobile phone coverage, they would have lost their landline too because the nodes had all been affected.

**MR SUTTON:** Yes, that's correct. So that the mobile phone system in Leigh Creek, which is the most northerly one in that particular part of the world, has a battery backup system and a power backup system. It's a Telstra 3G service, it's not a 4G service. It had a battery backup for a period of time and then it died. The landlines went out straightway. Now, that service is a wonderful service, but was put there was a result of the mine 30 years ago. I would expect, but I can't guarantee that, but that's what I would say was the business argument for it at the time. It is only a 3G service. It is limited by the rack system that brings the service up is my understanding. So, yes, the community were without communications for four days.

**MR LINDWALL:** The UHF radios, do they work when there's a blackout?

**MR SUTTON:** Yes, they do. They're a solar-powered system with a battery backup. We have a service contract. They are generally 24 hour, seven days a week, all weather condition. However, they are susceptible - because they are a tower - to lightning strikes, which can drop them out. Unfortunately, the Commonwealth Government have seen to, through technological advances, move over to a more modern digital system, which limits the purchasing public to an ageing 10 or UHF system which is not as compatible with the 40-channel old system that we're doing. However, the upgrades to put these into the 80-channel UHF system is a slowly rollout system from our perspective because of the cost implication. Each UHF tower costs us in between 15 and 50 thousand dollars to install.

**MR LINDWALL:** Okay. So quite smaller than a mobile tower, yes.

**MR SUTTON:** Yes, they're a much smaller tower, but they are somewhere between 50 and 100 feet high, depending, and they're guy-wired. They are line of sight, essentially, so they're the highest point of ground. We don't link them together because the communications probably won't allow us to do that, which is a bit silly sometimes. We disagree with that and we've had a rather celebrated discussion/debate with them recently over that particular situation.

**MR LINDWALL:** That's interesting. I know a bit about radio frequencies. But HF radios, of course, have much higher range, but they're not good quality. But UHF is pretty high quality.

**MR SUTTON:** I mean, you can go to your average electrical supplier like an electrical store and you can buy a UHF radio for a couple hundred dollars, a repeated one, one that has a repeater function. Twenty years ago every car had one, whereas the HF radio, once you install that in your vehicle and you knew how to use it, you wouldn't get much change out of 2 or 3 thousand dollars. In that case you may as well buy a satellite phone.

You may recall that in a previous life I was a police officer and one of my previous colleagues is sitting in the room. Hello, Aaron. We were both stationed at Oodnadatta and we used to hire satellite phones as a base. We were an agent for people travelling in remote areas between us, Birdsville and Marree police station because of the tyranny of distance and the lack of mobile phone coverage.

**MR LINDWALL:** Obviously there's been some progress with the - for example, Marree now has the Sky Muster used to a much greater extent than it was used last year. But what's your feedback on the reliability of that? Do you think the community is distrustful of assurances that it's just a temporary problem while they get it all set up and it will get better.

**MR SUTTON:** There's mixed responses. Some people have had some wonderful experiences. Phil Turner, he's mentioned to you his EFTPOS is running better than it has. I think it's a horses for courses situation. Each individual has their own story. I can only sort of do the anecdotal thing of the people that I run into from time to time. There's a mixture of responses. I think that still the jury is out on the reliability. At the moment, all things being equal, they can pick up a fixed line phone in their house, albeit it might be a radio-linked phone, and 99 times out of a hundred it's going to work.

Yes, it's an expensive, old technology in some ways. But the NBN is, again, on the balance of probabilities or balance of information, not as reliable as that. There's genuine concern over the data shaping. There is genuine concern that it is being touted as a panacea for all. It is clearly not a commercial product; it is a domestic product. For example, and to perhaps corroborate that, we have just taken over the administration of Leigh Creek. Our public servant employee who is now based in Leigh Creek who is the town manager, we have lost access to the Flinders power data, the way they would communicate between Leigh Creek and the rest of the world.

We've actually, with the support of Telstra, are trialling an Iterra satellite system at \$3,000 a month to give one man, one person, access to megabytes up and down. If it wasn't for Telstra giving us the trial of the equipment - I mean, that's the cost of using it, but the equipment - this is a very expensive solution. However, the Department of Planning, Transport and Infrastructure, who is our parent agency, is quite accepting of that as the best solution because the 3G system is not adequate enough for our needs. So that's how we've had to solve that problem.

The average business in the outback could not afford \$3000 a month for an Iterra system, especially if they're looking at Wi-Fi'ing that and how do you recover the cost when there's a community expectation that Wi-Fi is free? So they're some of the links with the satellite that we're having.

**MR LINDWALL:** Yesterday in Melbourne a gentleman rang in from near Broken Hill and he's on the Next G wireless link which Telstra provides. Do you know anyone around this community that might be using that type of - - -

**MR SUTTON:** Next G? Is that CDMA technology?

**MR LINDWALL:** It's beyond that, I think. It replaced CDMA, yes.

**MR SUTTON:** To me, I would understand that as being 4G. I would have thought 3G, 4G, 4GX and all those other ones that are coming through.

**MR LINDWALL:** It seemed it replaced his fixed line service.

**MR SUTTON:** I'm just assuming that's a mobile system of some sort.

**MR LINDWALL:** It is a mobile system of some sort, yes. I didn't know about it until I heard about it yesterday.

**MR SUTTON:** My understanding of the mobile system - and I do hear criticism of the Telcos in the unincorporated areas. We live in a world of the way it's regulated it's commercial. Whether I agree with it or not, I understand the commercial imperatives of providing a service. We have been working with both Telstra and Optus in our capacity as a government agency - so no names, no pack drill sort of stuff - but we're quite heartened by some of the small cell technology stuff that Optus are leading with, but we know Telstra are playing in that area as well. Some of the more remote communities, Oodnadatta, who have been trialling an Optus small cell stuff, on the balance, it's actually a better service than they had before because they had nothing.

We understand William Creek will probably get that service eventually and I believe Marree will go down that road as well. Some of the bigger pastoral properties, that could be a solution for them as well. The ironic thing is that people are perhaps disappointed by that because it's not Telstra because of the phone systems they've gone and bought, because of the old CDMA country systems and what have you. That's life. We just have

to get over it. My staff carry two phones when we go to Oodnadatta; that's the way it is.

**MR LINDWALL:** At least you get some coverage, don't you?

**MR SUTTON:** Exactly right, and it's good enough for emails. I mean, I'm not streaming Netflix. I can get an email.

**MR LINDWALL:** The submission, of course - thanks for this and we'll consider it. But our recommendation about having community input for the Mobile Black Spot Program, I'd be interested whether you have some advice on how we can best manage that.

**MR SUTTON:** I think I'd use the local government mechanism to do that. There's no doubt the federal members are probably doing that to a certain extent anyway. However, the federal members in these situations, which I'm now well aware, are told they've got X amount of dollars per electorate and they've got to make a judgment call. I'm not questioning their judgment, but in the most transparent of processes community views will have a fair weighting rather than a political solution. We live in a world that should be more transparent. That's why I would argue that side use the local councils as that mechanism.

They're not going to be silly about it, I wouldn't have thought. But the communities themselves, they will get a bit parochial but someone's got to sort that out. So that's the councils would be better filtered for that.

**MR LINDWALL:** That seems sensible and we'll have to come up with some ideas on that. You mentioned the Optus small cell program. There's also some of these community payphones and Wi-Fi spots through a Prime Minister and Cabinet program.

**MR SUTTON:** Yes.

**MR LINDWALL:** I think they have 20 gigabyte monthly download limits. Have you got anything that you could comment on those and their success?

**MR SUTTON:** The remote areas of South Australia, the remote areas of the Northern Territory and the remote areas of Western Australia are not the same as the remote areas in Queensland, New South Wales and remote Victoria, if there's such a thing. The capacity, the American term "we don't know what we don't know" is quite appropriate. We just don't have the resources to play with the same people in Queensland and New South Wales who just have much more capacity and much more political clout to attract Commonwealth interest.

The OCA has got nine people and we look after 8 per cent of Australia and geographic area of 4000 people. We're very sparse in population, we're big in area. The solutions that might be appropriate for western Queensland and western New South Wales just don't apply. Yes, I'm aware of some of these programs. The RDA would be our conduit into knowing about that. I sit on the RDA boards, I'm aware of some of those through those aspects. We will pursue those in amongst the other priorities of clean

drinking water and reliable power that we have to deal with, although, I must say, that telecommunications is becoming the highest priority in remote areas at the moment above drinking water, believe it or not.

**MR LINDWALL:** That is amazing, yes. Now, that example you gave, Mark, about Leigh Creek to Hawker, the fibre optic that \$1.1 million - - -

**MR SUTTON:** \$1.5 million was a back of envelope, an estimate from - and I don't want to quote Telstra as being definitive but that was an indicative - - -

**MR LINDWALL:** It doesn't matter, whatever the amount is. Is the constraint the money or is the constraint something else? If you had the money, would it be able to happen?

**MR SUTTON:** You'd have to ask Telstra. It's theirs to Hawker. Do we use our ability to attract as a public institution probably taxpayers' money to give to a private enterprise to build their company model better? Does the end justify the means? Maybe it does. I don't know.

**MR LINDWALL:** That could be individual communities' decisions.

**MR SUTTON:** Correct. A deregulated fibre optic cable, that would probably be more attractive. It may not be able to be achieved. So something is better than nothing. Yes, the impediment is the dollars and how do we attract those dollars. The majority of the funding programs that exist in Australia at the moment require some sort of matching fund. And that's just not possible.

**MR LINDWALL:** That's a good point, actually. I think my final question at this stage would be if you have a reliable satellite service and a reliable mobile phone service in a particular premises, would that be sufficient to do away with landline?

**MR SUTTON:** At a philosophical level, yes. At a reality level it's effectively not going - - -

**MR LINDWALL:** Because you don't think it's reliable at the moment.

**MR SUTTON:** If it was reliable. The short answer is yes, that would be acceptable. But it's not going to happen. You're never going to get a mobile phone service into Mungerannie because the track - I mean, it's just not possible. So they need an alternative for when the satellite goes down.

**MR LINDWALL:** Which is why we said in our report for the 90,000 premises that are not covered by mobile phone that some targeted intervention be given, an alternative voice communication at least would be warranted.

**MR SUTTON:** Since we last talked, I attended a conference in Albany in Western Australia, the Sustainable Economic Growth for Regional Australia Conference. There's

quite a few speakers in relation to digital planning for remote areas. Again, the Queenslanders and New South Wales have done some great work on this. We just don't have the capacity to do it. But we do need to come up with some sort of blueprint for how we cannot rely on what we're given as opposed to go out and attract what we can get, if that makes sense.

Given a blank canvass, there are some great opportunities out there for solutions that are conducive to remote people's needs in remote South Australia. Remote Western Australia and remote Northern Territory that is not necessarily the same as what's happening in the more urban areas, the more populated areas. I think some investment to get that done. It's got to be in the government's interest to do something like that because we're not relying on their money for the solution; we'll go out to the market. There's some innovative technology around the world that we can utilise.

**MR LINDWALL:** Yes, quite. Now, did you have any final comment?

**MR SUTTON:** No.

**MR LINDWALL:** Thanks again, much appreciate the comments and the help and contribution over - well, the visit as well. That was fantastic.

**MR SUTTON:** Sorry we turned on the great weather for you. Thank you.

**MR LINDWALL:** I think we've got Aaron Stuart now; is that right?

**MR STUART:** For the record, my name is Aaron Stuart. I'm heavily involved with native title within South Australia Arabunna (indistinct). Probably the same concerns as Phil and Mark have mentioned in the earlier part but listening to the dialogue and I'm not au fait with everything, especially with the recommendations. But I would hope the federal government will have like a - in their heritage type setup for the Far North for Indigenous communities.

I think looking at that also that how state and federal government are working together - and I know Mark is with the Outback Areas Trust - I think how our state is going now we're looking at regional authorities being - and those that are looking at native title groups. If I could go a bit past that. If the federal government was to look at that sort of planning in dealing with Indigenous communities, I'd prefer it that it wouldn't go down that track. The reason why I say that because a lot of Aboriginal communities are mixed and they're not particularly all from the one native title group.

In 2014-2015, we did an assessment report and we looked at climate change and adaptation within country in the isolated areas, and a part of that was communications. The report showed that within the next few decades, the climate change, I think there's going to be a spike, a degree of about 3 per cent. So coming from the Marree area or the Flinders Ranges or the state's Far North, how we provide that service to that community. I just find it hard now where we haven't got anything set up and a lot of the, I suppose, planning of a dialogue hasn't involved the Aboriginal groups from that area.

What I'm asking is that can the federal government look at Aboriginal people for their high risk of morbidity - - -

**MR LINDWALL:** Sorry, could you speak up a little bit?

**MR STUART:** Has the federal government looked at communities - we're looking at communities. But what I'm saying is with the report we looked at we showed that Aboriginal people are more at risk of morbidity through climate change. There'll be heart disease, renal failure. In the state's Far North though we need communication. Not reading your report, have you taken that into consideration in recommendations? No? Yes?

**MR LINDWALL:** Well, one of the questions we asked in the report was whether there should be some targeted telecommunications programs for remote and Indigenous communities. I think most of the feedback we've got at the moment tends to be yes. They cite these programs, for example, run by the Department of the Prime Minister and Cabinet that provide community Wi-Fi payphone type things. Some of them are free often times.

**MR STUART:** The reason why I ask that question is because we've got Marree but we've also got the Outback Areas Trust in there and you've got your local government committee in there. But then you've got your homelands. You've got Finnis Springs or you could have Yatala, this side of Hawker. What I'm saying is there's two different elements there that they should be dealing with, and yes.

**MR LINDWALL:** Which is exactly why we thought that it should be targeted interventions suited to the particular communities, some of which are more mobile than others, obviously, and who are physically moving than others.

**MR STUART:** For me personally, is there a thought of a recommendation on a heritage survey type plan for any infrastructure if anything happens? Say the federal government want to put infrastructure out in the Far North, has there been a heritage survey plan thought about to be done by the federal government?

**MR LINDWALL:** You're looking at the old telecommunications services?

**MR STUART:** Yes, or upgrading.

**MR LINDWALL:** We didn't have a particular recommendation about that. It was more about we're building upon what is already there, leveraging off both the national broadband network and the organic growth of the mobile phone network and then trying to fill out gaps that might lie in there somewhere. I think our view would be that we don't have a particular view that it should be a one size fits all intervention.

**MR STUART:** There's no engagement policy, anything with like, with Aboriginal communities?

**MR LINDWALL:** There should be an engagement policy, yes. But you're talking about now in this particular area.

**MR STUART:** Yes, whether the report set it out. Yes? No?

**MR LINDWALL:** Maybe we should talk about that a bit more in our final report.

**MR STUART:** Because I think if you're dealing with native title groups that's very important.

**MR LINDWALL:** Yes.

**MR STUART:** But also like you've got native title, then you've got Aboriginals that are not from that area. There was another question or another idea where - I think around isolation. There was a fatality where a lady died, perished. Civilisation would have been about 30 kilometres away. A day like this. Hubby was in the car, found him, he was sleeping in the backseat of a troop carrier. But where I'm going with this, especially in the Far North when you're off the beaten track, I think there should be more of an emergency type communication for those isolated areas.

We might have Outback Areas Trust, we might have Marree, we might have those groups and those communities. But I think further north when you're talking about where your tourists come internationally, say round the western side of Lake Eyre, there seems to be no help out there. I know Mark talks about high frequency radios and communications as (indistinct). What I more or less would like to see in those isolated areas are emergency phones. If we could look at that for safety of obviously human life.

**MR LINDWALL:** I understand quite a few Indigenous communities use mobile phones with a Wi-Fi hotspot.

**MR STUART:** Yes.

**MR LINDWALL:** Do you know if any of them that have bought these satellite covers that go on mobile phones or have they been provided which allow you to use satellite service or emergency, which isn't - it's expensive to use it on an everyday basis, but for emergency calls it would - - -

**MR STUART:** I think you'll find telecommunications, especially in the more isolated areas, is still a bit of a new thing with the Aboriginal community, the technology and understanding it. I suppose if it was rolled out right and put into communities it would - not understanding the mechanisms on how that works, yes.

**MR LINDWALL:** We heard some evidence earlier in the inquiry that some of the traditional payphones that were around, often they are not working when people need it or say a person who's subject to domestic violence is reluctant to go to a payphone which is in a public place and it's pretty obvious who's making a call, whereas the mobile option

gives you a little bit more privacy. That was some of the testimony we got that was quite a positive move to have a hotspot type of situation where there's a reasonable range and you can use the mobile phone for that purpose.

**MR STUART:** For that example, yes, in this type of area, the metro or the more urbanised. You always have your problems with your ins and outs of signals and stuff.

**MR LINDWALL:** The other concern that I heard was the use of prepaid mobile phones where you have to - these are not in the free Wi-Fi zone, they actually use the mobile phone connection where the data runs through - sorry, the calls run through pretty quickly and then they're more expensive than getting a contract and the phones might be shared amongst a number of people. So it's very easy to get a quite large number of cost amount quite quickly.

**MR STUART:** All those problems, phone use, overcrowding, yes - the phone isn't - obviously an expensive thing. But I must admit I'm sort of getting confused. Are we talking more isolated or are we talking in general service around phone - - -

**MR LINDWALL:** This is about telecommunications and it's based upon the analysis of the Universal Service Obligation, which is a fixed line to the premises, plus the payphones. We've broadened out a bit. We said in our draft report that it should be not just voice, that data is now important in society and we all understand that, and that it's being used for a whole lot of purposes.

**MR STUART:** Have you thought about with Aboriginal groups in communities perhaps looking at procurement of certain contracts? Like Mark was talking about telecommunication Telstra and all that. Now that we're getting - or Aboriginal groups are getting land back, if you will, have you thought about making them part of the rollout of any system that we may deliver?

**MR LINDWALL:** We basically said there should be targeted intervention. I don't think we've gone beyond that. We don't want to - I think my view is that you have a generalised system that covers 99 per cent of the population.

Then for those that are in disadvantaged or remote areas or for whatever reason, we cut it into three ways, which was availability of the service, which we thought government intervention through the NBN and others appropriate, the affordability of the service and the accessibility of service. For example, people with disabilities accessing the service. We thought we'd cut it that way and then analyse what type of programs, if you like, or what types of supports should be targeted to each of those. The affordability, we thought in general but not always it should be through some sort of consume subsidy.

**MR STUART:** I've got an uncle in the community always - he's about 73, got a little pocketsize phone, got the shakes, can't afford a house phone for emergencies and stuff like that. I think if you can work in something like that for our elderly folk - - -

**MR LINDWALL:** Yes, something fairly simple, in other words.

**MR STUART:** Yes. But what I'm trying to say is with telecommunications, I think there's got to be an adapt element to - where I'm going with this is that the climate is changing and more Aboriginal people doesn't - and non-Aboriginal people, I suppose, are more at risk of health problems. I think communication is very important. But what I'd like to raise is that the next decade or so communication, they're going to need that and it's going to have to be simple. Whether that's rolling a system out through local health organisations to those that are on like closing the gap stands and stuff like - where it's part of that and part of that structure just for that safety.

**MR LINDWALL:** I think you're absolutely right. I spoke to Martin Lavery at the Royal Flying Doctors Service and he showed me something that is being used in some of their areas - it requires a mobile phone. But it has an ECG reader on the back. So that a person who has chest pain or something can use this. Its diagnosis is sent through to the RFDS doctors and they can see that this person has got an angina attack or this person has got a cardiac arrest. Rather than just sending the doctor there straightaway, they can say, "Well, this way is angina attack, take the nitro-glycerine with us," or whatever it might be. That way you can optimise the support much quicker than having doctors automatically.

**MR STUART:** I think another thing I've noticed is that with communications, especially mobile phones, knowing the systems how they operate - but things like overheating. A day like today someone will be sitting down, could be - and all of a sudden the phone is not working because it's overheated. Just simple little things like that. I think Aboriginal people need to be aware of how they, I suppose - - -

**MR LINDWALL:** Exactly right. A mobile phone won't operate above a certain temperature if it's kept in the sun.

**MR STUART:** Yes. You leave it on your dash when you're driving or something like that, yes. But definitely I think around safety aspects for Aboriginal people, in particular the elderly, are more at risk, those suffering from mental health.

**MR LINDWALL:** You're talking about some sort of educational program?

**MR STUART:** Yes. But, also, when you talk about Outback Areas Trust and you've got your local councils, always remember that there is an Aboriginal group within there and it'll probably come under an ORIC type formation or something like that. Just to keep that in the background. I was listening to Mark. I was a bit late. But a lot of the infrastructure stuff, I do think the federal government should have a heritage survey action plan, meaning that if there's going to be implementation of infrastructure rollout, whatever system there is, on ground, that there should be a strategic plan on how to do that.

**MR LINDWALL:** You're quite right, yes.

**MR STUART:** And probably part of that process will be an engagement policy; you'd

probably need to look at that, especially the further north you go.

**MR LINDWALL:** Do you know Daniel Featherstone?

**MR STUART:** No.

**MR LINDWALL:** He was from Alice Springs, IRCA. He was telling me a lot of these - he covers the Aboriginal groups mainly around Alice Springs, I think, yes.

**MR STUART:** I'm thinking here. The technology available now, is it available out say somewhere away from 3G out in the bush? Is there a technology that is battery operated that connects straight to a satellite where isolated communities can use for emergencies? Is that available now? If so - - -

**MR LINDWALL:** There's certainly satellite phones. You would have to charge the - solar-powered ones I don't know.

**MR STUART:** Where I'm going - so for communities or something say north of Marree, you've got a homeland of population 30 or 40. Would the federal government invest in providing something like that for that community, something simply like that, just one phone out there?

**MR LINDWALL:** I don't know the answer to that. We can certainly raise that with the Prime Minister and Cabinet department.

**MR STUART:** That's what I'm trying to ask here. I'll use Marree for example. You've got Marree, you've got those that are in industry involved there and obviously social media and all that is good for business. But I'm going back to the safety of Aboriginal people.

**MR LINDWALL:** Yes, I understand.

**MR STUART:** If something could be done, whether it be subsidised, for isolated communities where they can have that telecommunications, yes.

**MR LINDWALL:** We did say quite clearly in our report that Aboriginal communities in remote areas are much more at risk than obviously elsewhere. Aaron, did you have any more points you'd like to raise?

**MR STUART:** No. Sorry I'm shooting from the hip. I'm not too au fait with the report.

**MR LINDWALL:** I'm glad you could come.

**MR STUART:** No worries.

**MR LINDWALL:** Thank you.

**MR STUART:** Cheers.

**MR LINDWALL:** Have we got Tony Smith here? Thanks again, Tony. Please introduce yourself.

**MR SMITH:** Tony Smith, I'm the owner of Rawnsley Park Station, which is a tourism resort near Wilpena Pound, about 140 kilometres north of Port Augusta. I'd just like to perhaps share my experience of telecommunications running a business and having personal access. I guess the main point that I would like to make is that running a business in today's world you need internet access and you need good speed and you need decent data download.

Today we use cloud-based systems for our booking systems and for accounting. It's absolutely essential that we have internet access. Currently we use the mobile signal that comes from Hawker, which is about 40 kilometres away. We're right on the edge of that signal, but we have installed a tower on a hill that then redirects the signal down to our office and we also use that signal for Wi-Fi for our guests staying. At the moment we've got three data cards with Telstra, three 50 gigabyte data cards that we use up pretty well regularly on a monthly basis. That's costing us about \$450 a month for that 150 gigabytes. Then when we go over it's another \$10 a gigabyte. Quite often our Wi-Fi bill is \$700 or \$800 a month for access.

I guess the really critical aspect, apart from running a business, is the availability of mobile phone or Wi-Fi to our guests, particularly international guests and Australians.

**MR LINDWALL:** Because they expect it.

**MR SMITH:** They expect it. If they've got plane flights to confirm or accommodation to confirm, then they really do not want to be off the net. It's just critical. We're one of the sites that's been chosen for the Optus mini cells that Phil Turner mentioned. I've got some fairly major concerns with how that's going to work. I've been informed that they're only a 50-channel system. It's only hearsay, but I believe that's what they are. They are connected via the satellite. So there's going to be a delay, I think, with the voice transmission on those.

As Phil says, we think we may have been sold a lemon with these. This is the mobile hotspot. There's seven sites in northern South Australia that have been told they're going to get these systems in the next 12 months. Yes, I think that's - as far as some of the other speakers have said about the Universal Service Obligation, I just really think we should be thinking outside the square here a bit. Previously it's been a landline system that provided that service obligation. The Commissioner has said that in not very long that copper-based network is going to be uneconomic to maintain. So we should be looking at the other options.

I would have thought that the fixed Wi-Fi is a really important part of that because you consume Wi-Fi hundreds of kilometres if you have line of sight towers. It would have to be a far more productive way of providing service than with landline.

**MR LINDWALL:** Thank you, Tony. We have an issue where the Telstra mobile network, as far as I understand, covers 99.3 per cent of the premises of Australia and just under 30 per cent of the geographic area of Australia. How to fill that gap, if you like, with a reasonable economic sense - in other words, it doesn't cost a bomb. So technologies that can fill that will be quite useful.

I did hear from Optus. Optus appeared at our hearings in Sydney and they spoke about these mini cells and sounded quite all right to me. I don't know, I haven't experienced one and I don't know what they'll be like in practice. But they seemed to be that they were a fairly reasonable cost way of delivering a service that otherwise would not have gone somewhere. I guess proof will be the pudding when you actually see what they're like.

**MR SMITH:** I think there is an issue with that service. What is that service hoping to achieve? If we're putting in a mobile service that will benefit the residents of small communities in the outback, then the Optus cells are probably going to achieve that. But if you're hoping to provide a service for travelling public that is a very important part of the economy of the outback, then I don't really think it's going to do that very well and I would have thought that those sort of installations would be far better to provide sharing with the various mobile providers.

**MR LINDWALL:** I had the impression - maybe I'm wrong - that it was effectively like a mobile phone service.

**MR SMITH:** I don't think so. I think in order to access these mini cells you'll need an Optus card. Probably 70 per cent of the visitors are not going to have them.

**MR LINDWALL:** Maybe that's true, I don't know. What about the tower you put up on the hill to increase the range of the mobile service, did you have to get approval - I mean, how does that work? And how effective is it?

**MR SMITH:** We didn't get approval, Commissioner.

**MR LINDWALL:** That's all right. I don't know whether you need approval or not.

**MR SMITH:** We did get advice from a Telstra technician who said it was a good idea. But, yes, what we're doing is we're retransmitting the data signal. It would be nice probably if we had some technical expertise in the room. But my limited knowledge is that the mobile signal, we think of it as mobile signal but it's not; it's data signal and voice signal. So there's two frequencies coming through. What we're doing is retransmitting the data signal down to the office. Then from the office we're retransmitting that on Wi-Fi around the property, which gives most - - -

**MR LINDWALL:** Is that a 4G service?

**MR SMITH:** That's a 4G service.

**MR LINDWALL:** That's data only, so, yes.

**MR SMITH:** It's far better than the 3G. It's 10 times faster and quite reliable, seems to be quite reliable.

**MR LINDWALL:** 4G is a very good service. I did a speed test in the middle of Sydney and got 140 megabits a second out of it.

**MR SMITH:** We're getting 20 to 30 megabits a second with this retransmission. So it's very - we're quite happy with that. It's just the cost, but we're hoping Telstra will do something about it.

**MR LINDWALL:** Do you know other people who have followed this to extend the network? Some people use - what are they called - those little antennas in that - - -

**MR SMITH:** Yes, we've got some of those for the voice signal in a couple of spots.

**MR LINDWALL:** That's the 3G service then.

**MR SMITH:** Yes. That works reasonably well. But the 4G is definitely better.

**MR LINDWALL:** I can imagine, it'd be fantastic.

**MR SMITH:** And 5G will be even better.

**MR LINDWALL:** Around the corner. Technology does improve, obviously. I think that's one of the messages we wanted to say in our report, that government shouldn't try and lock in a particular technology that might provide a disincentive to bringing in better technology.

**MR SMITH:** That's right, and, as you've said earlier, I think what we should be looking at is trying to encourage any new technology that can provide the service and then the Sky Muster becomes the backup for those areas that can't be accessed. Trying to get the best possible result for the least cost.

**MR LINDWALL:** That's the 4G mobile service that you're getting through that.

**MR SMITH:** Yes.

**MR LINDWALL:** Are you also on an NBN package?

**MR SMITH:** Not personally. A couple of our employees have taken out the NBN where they've got children and they want access for the kids.

**MR LINDWALL:** Because the data that you're buying, the 150 gigabytes for 450 a month, I think you said, is not exactly cheap.

**MR SMITH:** No.

**MR LINDWALL:** Mobile data is not cheap, obviously. It is limited. You could have had a NBN service as well but you don't think it's worth it. Is that what you're - - -

**MR SMITH:** Well, yes, we made the decision to put in the equipment and go with the mobile signal which we knew was working just before the Sky Muster came in. We'll probably have to make a decision which way to go.

**MR LINDWALL:** The balance, I guess, for you about whether you could use some of the data through the Sky Muster at a lower price and - - -

**MR SMITH:** Yes, that's right.

**MR LINDWALL:** What about a landline?

**MR SMITH:** We have a landline but we're about 20 kilometres from the exchange at Wilpena. So it doesn't - we used to get data on the landline.

**MR LINDWALL:** The ADSL?

**MR SMITH:** Yes, but it's right at the limit of the distance.

**MR LINDWALL:** So it would have been quite slow.

**MR SMITH:** Yes.

**MR LINDWALL:** I think you've found what you prefer, obviously. Any payphones around?

**MR SMITH:** Yes, there's three payphones on the property.

**MR LINDWALL:** Do they get used much, do you know?

**MR SMITH:** Yes, they get some use. I think if there was good mobile coverage they probably wouldn't. Every tourist that comes has a mobile phone. It's just what people do.

**MR LINDWALL:** What thoughts do you have about the Mobile Black Spot Program, given Phil's comment where he said that his impression seemed to be that the Mobile Black Spot Program was allocating a new service or the Optus small cell instead.

**MR SMITH:** I guess we're unsure of how good the service is going to be. I would have thought that if there was sharing between the networks, that would be much more useful than a single provider providing that - - -

**MR LINDWALL:** The ACCC, the Australian Competition and Consumers Commission, is doing a - I said that earlier, I think you may have heard it. They're doing a study into that at the moment about mobile roaming.

**MR SMITH:** Okay.

**MR LINDWALL:** Any other final points then, Tony?

**MR SMITH:** No, I don't think so. I think there's two issues, as I see it, or probably more than two. But the principal issues is providing guaranteed service to residents of the outback or isolated areas. Then the other issue is to provide a business environment that allows us to try to grow our businesses. They're a little bit different.

**MR LINDWALL:** I should have asked about your tower. Is that powered by solar, I guess?

**MR SMITH:** Yes, that's by solar.

**MR LINDWALL:** So when the power outage happened - - -

**MR SMITH:** No, our system worked well, but the mobile tower in Hawker ran out of power eventually back in September. But that's unusual. It's been quite reliable.

**MR LINDWALL:** Thank you very much then, Tony.

**MR SMITH:** Thank you.

**MR LINDWALL:** Have we got Christina now? If you could just say your name for the record and then just say what you'd like to say.

**MR WAKELIN:** Barry Wakelin from Kimba. I just want to explain recent experiences with the landline and without a mobile service.

**MS WAKELIN:** Christine Wakelin. We live some 20 ks, like Tony, very similar situation in many ways. We try to run a business with no mobile coverage, therefore, no - and we had relied on our data for that, for the mobile coverage. So we've got what we call communications hill. We sit up on a hill a kilometre from our farm and try and get it. So we're looking at various options, but we need it for safety and for business, as do our little exchange area, which probably takes in 20 people who run similar businesses to us and need more surety of phone coverage and for our business as well for data. That's basically it. Barry might like to just go through a few problems.

**MR WAKELIN:** It's just a coincidence of events which brings us here as much as anything, I suppose. That is that - well, we weren't really - until coming up here half an hour looked at the terms of reference and the responses and the general reasoning behind it. So we're quite raw to it. But in the last month we've had our landline, because that's what we rely on, it's been down for up to three weeks. But it was Telstra the service

provider that was one of the interesting responses where they told us - there was about 20 of us say in the exchange area - and said that, "Well, there's really not a problem, your service is okay. You're the only one. If there's a problem, you're the only one."

Then we were told that we'll have to charge you if your instruments are inadequate, suggesting that we were the problem. I don't know what these people think, but the reality is that we do talk to each other out there. In talking to each other we found that we had 20 people who didn't have a phone and we'd been told that we were the only one; and they were getting the same story. So we were provoked, so here we are today. I note the comment about the \$3 billion - - -

**MR LINDWALL:** Three million a year.

**MR WAKELIN:** Yes. There'll be an issue for a long time. I believe that the - I've had some experience in the USO back 20 years ago and looking at Telstra's costs and it was always very hard to vindicate and justify. Perhaps the two or three final comments would be that the comment that our neighbours and friends of 70 years were making, "Well, this is the worse it's been for 50 years." Our communication is - we're obviously at that stage. When we have such a failing on our landline it's - people are - well, they're provoked.

I'll just finish by saying as far as the USO - and I note that it's about USO going rather than staying and there's all sorts of good reasons why it should go, I can understand that. But particularly for Australians who may witness a deterioration of service at this time, which is a remarkable observation for all to consider, but even more remarkable for those directly affected. We come with this immediate background, and I am sure - I regret to have to share it with you, but it is a negative story and we simply say that the answer is the mobile services, the data and the whole lot. We're interested in the 4G/3G discussion earlier.

But I think that - we know the technology is there to get our mobile to work. We know even mobiles can be made to work a lot better. That's if you have my mobile with the plug that allows the aerial to go in, which is quite difficult to find these days, or is impossible from my perspective. There was a machine called Telstra Day for a while that did it a little bit. But I had other problems with that. We are in need of something that works and at the moment we don't have it. We don't have it in the mobile, we don't have it in the data and we don't even - too regularly we don't have it in the landline. I'm sorry, you call it a fixed line. We call it landline fixed line.

**MR LINDWALL:** Landline is fine.

**MR WAKELIN:** And we know what we're talking about. That's all I can really contribute today and to say that the people that can develop the technology for our purposes - and I think the knowledge is there and I think the technology is probably that far away from - because we know, we've got Chinese devices which can do it. Then, of course, the gale gets at the cable and then the wind comes and blows the thing off course. My wife who loves the phone and naturally with family and grandchildren and

the whole lot, it is something that communication hill is our way to survival. Thank you.

**MR LINDWALL:** The landline, how is that provided? Is that a straight-out copper connection or is it a digital concentrator, do you know?

**MS WAKELIN:** No, we understand it's through our exchange through copper service. We do have a lovely big optic cable running through our place. But, of course, the only use it is to us, they give us a small fee for a building that's on it. But, of course, if we penetrate those optic fibres when we're fencing or whatever we're in a bit of strife. Can I add to Tony's Optus mobile? We've been travelling - we were travelling through regional New South Wales/Queensland quite recently and we go to use our phone; service not available. We presume it's that mobile coverage that Optus could provide to an area but it wasn't available on Telstra phones. So that may add another dimension to yours, Tony, about whether it's acceptable for right across the use.

**MR LINDWALL:** It's hard to know. Optus specific tower but you don't have to have an Optus - except for emergency calls.

**MS WAKELIN:** Yes.

**MR LINDWALL:** They work across all networks.

**MS WAKELIN:** That's good to know.

**MR LINDWALL:** That's important to know.

**MS WAKELIN:** That is important to know.

**MR LINDWALL:** Have you got an NBN service?

**MS WAKELIN:** We haven't got an NBN service. I have to say we did have NBN satellite and when we got our you-beaut device that allows mobile without the galahs and so forth, we actually cut that out because we were using our hotspot from our mobile devices. But once that went down, of course, we haven't got anything. So back to communications hill or the local town.

**MR WAKELIN:** But, of course, no voice.

**MS WAKELIN:** But no voice for that. We even actually did cut out our landline for a while but then we were forced back into it because no mobile coverage.

**MR WAKELIN:** We were finding with it that we were (indistinct).

**MR LINDWALL:** This is often things in life, yes, but have you thought about Tony's solution about having some sort of tower?

**MS WAKELIN:** Well, I was just going to mention I've been talking with our

neighbours who are a little frustrated and run million dollar businesses. They get thoroughly frustrated when there's no data and no voice, no nothing. We were looking and we had discussed whether there is something we can put up. We've got a good-sized hill nearby. In fact, two good-sized hills, one of which would probably cover - well, both of them would probably cover some of the national highway. We don't know - and might have a chat to Tony later about this - whether there is some support we can get for these 20-odd people or 20-odd businesses that would be able to use it. That's another option that we do have to look at. That would solve a lot of our problems if we could get that because our little local town is only 22 ks away. But we just happen to have a hill in the middle of it that cuts us all out.

**MR WAKELIN:** As you'd be aware, the signal - we're closer to the tower but the signal goes further and a place called Buckleboo is significantly further but without (indistinct) it works.

**MS WAKELIN:** Yes, it was flatter, it was flatter.

**MR WAKELIN:** But you understand all of that.

**MR LINDWALL:** Was that line of sight?

**MS WAKELIN:** Yes.

**MR LINDWALL:** My mother has exactly the same issues. She doesn't - I haven't taught her to use a mobile phone yet, although she's got one but she never uses it, doesn't charge it. Anyway. But there is one spot on her farm which is about a 10-minute walk where you can get some mobile phone coverage. It's at the very fringes.

**MS WAKELIN:** You understand our problem.

**MR LINDWALL:** I do know the problem, yes.

**MS WAKELIN:** And ADSL was never an option for us.

**MR LINDWALL:** Because you're too far away.

**MS WAKELIN:** That's right, yes.

**MR WAKELIN:** Can I ask a question in terms of the towers themselves?

**MR LINDWALL:** Please.

**MR WAKELIN:** I used to listen to the stories about the wattage or the average of a tower, the capacity to push that signal out. What is the limitation? Because I sometimes had an impression it was dollars, that you only deal to that capacity what you think your market is. How strong can those towers be?

**MR LINDWALL:** Some people say that some of the towers have been over-engineered, are gold-plated and obviously the taller the tower the wider the range. Also, the lower the frequency, the larger the range. But high frequency or very low frequency in levels - very high range and they're not so affected by terrain, but the quality is less. So you're trading off one against the other. When you move to 5G - because we've been talking about 4G - 5G is very, very high frequency but quite very small cells. That has a great advantage that you can pump lots of data through that.

**MR WAKELIN:** It is a national dilemma for the 90,000. But, of course, there's the hundreds of thousands who deal with the 90,000. Therefore, there is a common purpose so that we can communicate a lot better and for a whole lot of reasons that you will know.

**MR LINDWALL:** There's a part of the spectrum that could be used for much wider space towers for mobile phones.

**MR WAKELIN:** Which the Commonwealth sells at significant profit.

**MR LINDWALL:** I guess so, yes. You'd imagine, other things being equal, in the cities small little cells, very high frequency, in the regional areas lower frequencies, broader areas.

**MR WAKELIN:** Therefore, if a solution is available technically or financially or by any other means, the nation would have a benefit. That's my bottom line.

**MR LINDWALL:** Thank you.

**MR WAKELIN:** I'm speaking too much because I can't hear, so it's not fair to anyone else.

**MR LINDWALL:** Any final points you'd like to make?

**MS WAKELIN:** No, I think we've covered it in the - I think availability is our big - you mentioned your three of the availability, affordability and meeting the disadvantaged groups. Well, availability is ours mainly. We're used to paying more out here for most things, so we expect to - - -

**MR WAKELIN:** But we don't necessarily like it.

**MS WAKELIN:** No, we don't.

**MR LINDWALL:** People in Sydney complain about house prices.

**MS WAKELIN:** True. We don't have that problem.

**MR LINDWALL:** No, fortunately. Take care.

**MR WAKELIN:** Thank you, Commissioner.

**MS WAKELIN:** Thank you.

**MR LINDWALL:** Now, there's an opportunity if anyone else wants to say - did you want to come up, sir? If you wish, yes. Please state your name and organisation or if you have one and then whatever you'd like to say, as long as it's roughly within the terms of reference.

**MR HEWITSON:** George Hewitson, I'm the head of campus of School of the Air based here at Port Augusta. I really came along to have a listen because communicating is our business and we have many - our clients, our families, come from about 80 per cent of South Australia, but only 40 students. So they're far apart but absolutely rely totally on things working; and they don't always work. For example, Activ8me went down two days ago, 10 of our families were out, didn't have school. The only way they could contact us was that I call landline. If that wasn't there, they're absolutely isolated. I'm only speaking from an educational point of view. School doesn't happen. But if they were sick and they want to get hold of the flying doctor, that's another issue as well.

But, yes, we have a bit of a hotchpotch of all over the place where it happens, but the field changes very quickly. It used to be basically the owners of the stations and their kids. They've all grown up and they're often now owned by one or two people and people looking after it. Families coming in and going out, coming in, going out. So lots of pastoral leases but at the moment we've got about 35 with children going from reception to year 7 with us.

This year we had seven new families come in who don't necessarily have the connectivity. So it's a whole game going all the time. Very expensive to do, but from their end it's school. It's what we guarantee every child in Australia to have a school. It's something that's fluid and we just - we can't have any erosion of that current facilities. And they've changed a long time in the last - my kids are in their 30s but they were School of the Air students, just posted out, posted back, lots of stickers and maybe a phone call once a week or so. But now it's all WebEx, it's online. I've just come back from two lessons with kids all over, from Pipalyatjara out to Burra area and whatever.

But when it fails, their education is very much limited. That's basically all I have to say. Not that I've got any solutions, but there's another mob out there - I suppose you heard this morning from someone from ICPA - I can't remember her name - Ms Gibson - we're in the same boat. It's a whole - you talked about Telstra having 99 per cent of the people but only 30 per cent of the land. Well, we're out there in that 70 per cent and there's a few of them, but it's all they've got, I suppose.

In town here you don't want to go to this school, you can go to that school, or whatever, but that's it. We think we provide a good service. But when it goes down it's so frustrating, I suppose.

**MR LINDWALL:** As you say, George, the original way was through telephone and before that HF radio, I think, which would have been even more challenging still.

**MR HEWITSON:** Yes.

**MR LINDWALL:** One person from the Isolated Children's Parents' Association told me that her daughter was taught the violin over the phone, which I found most remarkable, actually. I don't know how you can teach the violin over the phone.

**MR HEWITSON:** We were at Indulkana at the time and my son got a half-hour lesson a week and it took about 29 minutes to tune it up because it was so hot out there. That's the issues. Other issues I'm fine with as well. But yes, he learned the violin at Indulkana on the phone.

**MR LINDWALL:** Could you tell us a bit about the Sky Muster service when it's working - we'll talk about the not working part. But how have you found when it's actually working?

**MR HEWITSON:** When everything is working it's great. It's a great service. I think the kids get a really good education. We don't have to fight all the other things that you do in a more urban setting. They also spend a lot of time coming in as well four times a time at their cost so their children can be part of a big family. But when it's working it's great.

**MR LINDWALL:** And they manage with the - there's obviously a little bit of latency when you're operating on the satellite service?

**MR HEWITSON:** Yes.

**MR LINDWALL:** But they obviously manage that fairly well?

**MR HEWITSON:** What we find is that out of our 39 or 40 students we've got now, not all of them are fine any day. So if someone's having issues, someone's having issues. Even some weather things occur quickly or - and, as you know, up at Cooper Creek there's been - we've got about four families around Innamincka, that area, and they've had lots of issues, just washaways and that sort of thing. So they're down for a long time. And I'm sure you guys have, but it's just a bullet point that it's not a business, I'm not looking after a business, I'm not looking after myself.

I listened before. I spent 13 years living in remote Aboriginal communities in South Australia and Northern Territory. So I know the issues and the public phones and all the things that are very frustrating living there or very more isolating. When you get that you'll also find it difficult to recruit people to come and work there.

**MR LINDWALL:** Exactly.

**MR HEWITSON:** Can I work at a Rose Park Primary School or can I work at Pipalyatjara? Some people like Pipalyatjara, but I'm saying that's still an issue when you're recruiting.

**MR LINDWALL:** Obviously the Sky Muster has been going off for a variety of reasons. Have you in your role spoken to the NBN about the types of reasons and whether some of them are temporary or whether some of them are more long lasting and the overall reliability you might expect is going to increase over time?

**MR HEWITSON:** We have, but we do get lots of different answers and we'll get on too soon and - but a day is a day or two days is two days. In the meantime, those that aren't affected the lessons go on. So it's just like wagging school for a week.

**MR LINDWALL:** And it's unpredictable.

**MR HEWITSON:** Absolutely. We don't even know it's happened till it's happened. Nothing to do with you guys, but we have to do a WebEx thing which runs out of Singapore; that can go down too. So we can't do too much at all.

**MR LINDWALL:** But when you said Activ8me, I think is the name of that company, that - so you're saying that only the satellites - this was a retailer problem, not an NBN problem.

**MR HEWITSON:** That one was. All those that had their email address with ...activ8 ... gone. That was Tuesday of this week.

**MR LINDWALL:** How did that happen, do you know?

**MR HEWITSON:** No. They didn't know. They just got - well, no one can tell them at the time because they're out. One was able to ring them and was told it could be a day and they were back on the next morning. But that was all could be. So we had all these other contingencies through landlines and that, which aren't as good if you're not prepared for it. Then they were back on. But that happens quite a lot. It sort of throws us out a fair bit.

**MR LINDWALL:** The interaction part of it, of course, you can't do much about when it goes down like that. But do the students download some of the material so that if it does go down they still have downloaded it and therefore they can still use it?

**MR HEWITSON:** They have some, that's possible. But during the lesson there's a minimum of - their little pipes or whatever, it's very thin coming in and out. So we're restricted somewhat there. They don't have a teacher. So you know, we could say 12 years at home reading the books but there's a difference.

**MR LINDWALL:** I know.

**MR HEWITSON:** So they don't have the teacher. So they sort of wander off into - the older - I mean, I have the year 7s. They'd look after themselves if that happened. But when you have little 5-year-olds their first time at school, they can't read and, all of a sudden, they're on this WebEx thing coming in at them, it's fairly - - -

**MR LINDWALL:** I can understand. Any other final points you've got?

**MR HEWITSON:** I assume the lady before put the point, but I thought yes, we do represent a huge area of the state with a very few number of people. Everybody has an entitlement and sometimes they feel that their entitlement is not as good as some other people.

**MR LINDWALL:** Thanks very much.

**MR HEWITSON:** No worries.

**MR LINDWALL:** Does anyone else want to make a presentation? No others? Okay. I think the last thing I have to do is to conclude today and adjourn now for next week in Perth; next Tuesday, if I'm not mistaken. Thank you, everyone, for coming.

**MATTER ADJOURNED AT 12.39 PM UNTIL  
TUESDAY, 14 FEBRUARY 2017 at 8.30 AM**



**Australian Government**  
**Productivity Commission**

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**PRODUCTIVITY COMMISSION**

**INQUIRY INTO THE TELECOMMUNICATIONS  
UNIVERSAL SERVICE OBLIGATION**

**MR P LINDWALL, Presiding Commissioner**

**TRANSCRIPT OF PROCEEDINGS**

**AT PERTH  
ON TUESDAY, 14 FEBRUARY 2017 AT 8.43 AM**

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**MR LINDWALL:** Good morning. Welcome to the public hearings for the Productivity Commission inquiry into the Telecommunications Universal Service Obligation. My name is Paul Lindwall and I am the Commissioner for the inquiry.

I would like to start off with a few housekeeping matters. In the event of an emergency, Travelodge Hotel staff will direct or assist people in evacuating and moving to the Assembly points. We will be breaking for morning tea at around 11 am. We look like we will be concluding the hearing around 1 pm. If you have any particular questions, or wish to present at this hearing, please see PaoYi here at the back, who can arrange you to present or make a statement.

The inquiry started with a reference from the Australian Government in April last year that has asked us to examine “to what extent are government policies required to support universal access to a minimum level of retail telecommunications services?” This includes recommendations on the objectives for a Universal Service Obligation or equivalent, the scope of services to achieve objectives, specific user needs, and funding and transitional arrangements.

We released an issues paper in June and received about 60 submissions since its release, and we have talked to a range of organisations and individuals with interest in the issues. We then released a draft report in December, and submissions for that, in response to that, are continuing to come in.

We are grateful to all of the organisations and individuals who have taken the time to meet with us, prepare submissions and appear at these hearings.

The purpose of this round of hearings is to facilitate public scrutiny of the Commission’s work and to get comment and feedback on the draft report. Over the past week, hearings have been held in Cairns, Dubbo, Sydney, Melbourne and Port Augusta. We are then working towards completing a final report to be provided to the Australian Government in April. Participants and those who have registered their interest in the inquiry will automatically be advised of the final report’s release by government, which may be up to 25 parliamentary sitting days after completion.

We like to conduct all hearings in a reasonably informal manner, but I remind participants that a full transcript is being taken. For this reason comments from the floor cannot be taken, but at the end of the proceedings you will be provided an opportunity to make a presentation.

You are not required to take an oath, but should be truthful in your remarks. You are welcome to comment on issues raised in other submissions or by other participants at our hearings.

The transcript will be made available on our website following the hearings and you will be notified of that. Submissions are also of course on our website.

You are invited to make some opening remarks of five or - I'm pretty flexible about that, actually. Of whatever length you want, as long as it's not too long, and you're keeping us - and then we have a question and answer.

Before I go on, I'd like to also notify you that I'm also conducting a study into transition regional economies, and while I was in Port Augusta last week we went to Whyalla to talk about issues relating to that. So if you have an issue in telecommunications in regional and remote Australia, you may also be interested in that particular study, and the terms of reference for that of course are on our website, provided of course you can access the internet, which is probably the purpose of today's discussion.

So I'd like to invite Bruce Bebbington to - if you could just state your name and give a little bit of a statement, that would be great, Bruce.

**MR BEBBINGTON:** Bruce Bebbington. We live and work on our farm. We have no mobile coverage. The last customers on a 17 kilometre rural line for a rural exchange. That exchange is 15 kilometres from the town exchange. We have been on the Australian broadband guarantee, the interim satellite service, and Sky Muster.

With regard to the future of the copper line network and exchanges in areas outside of the NBN fibre network, until last December Telstra has maintained it cannot run copper lines across regulated exchange boundaries, even temporary lines. Where mobile coverage actually exists, the copper could be rationalised. For example, in our area the copper may be needed to serve the last three of 17 kilometres on one exchange, three of 15 on another, and five of 15 of another. Current 47 kilometres of copper is needed, but only 20 kilometres will be necessary in the future.

Telstra is paid to maintain that 47 kilometres, but changing exchange boundaries could reduce this to 20 kilometres of lines from a town exchange. Nationally, the USO cost could be reduced with line and exchange rationalisation and provide better services due to shorter distance from bigger exchanges.

Is the USO and safeguards working at the moment? No, I don't believe so. The National Reliability Framework - only Telstra is required to report under the NRF. The safeguard only works if Telstra records all faults, when they are lodged, and that the faults are closed when the fault affecting a premises is actually restored.

NRF1, copper services subject to CSG that did not experience a fault in the last month, same. If Telstra doesn't record the fault, or closes the fault without repair, the data isn't accurate. NRF3, 3(a) is three faults in 60 rolling days, and 3(b) is four faults in 365 rolling days, involves reporting to ACMA, and identifies the services and when the repair is scheduled.

NRF3 allows for CMA to detect issues in an area or individual services, and can step in if the timeframe or fault recurrence is inappropriate. ACMA says NRF3 reports are commercial in-confidence, even though Telstra is the only party. If a customer knows

about NRF, they and the TIO, the ombudsman, can't access reports to see if it shows the correct number and date of fault reports, closure dates or scheduled repair timeframe given to the consumer and the TIO.

The NRF should be reported by all providers across all modes of communication, to ensure that all faults are acted upon. The customer should be advised of the report, and the TIO should have access to that data.

The customer service guarantee of 2011. The guarantee only protects those with copper and no mobile coverage, as anyone with mobile coverage either receives immediate at-no-cost redirection of their phone, or a loss of entitlements if they refuse. There is no payment if the fault is not recorded. If the fault is not recorded at the time that it is lodged, there is a delay in repair and a loss of CSG.

When the provider closes a fault without repair, there is no compensation, only a further delay waiting for the fault that's never going to be repaired. Defined repair timeframes do not reflect the four hour difference in reported repair times nationally between urban and rural, yet the rural non-mobile customer has no entitlement to repair or CSG until up to six days.

Under 12(2) of the standard, if a repair does not involve plant work or a visit to customer's premises, restoration is the end of the first business day after report. This is not applied, the CSG is not paid, and the TIO does not even meet this timeframe.

All the timeframes start after the provider receives a report, yet Telstra will not allow lodgement online unless the customers acknowledge that CSG calculation does not commence at the time of lodgement and electronic acknowledgement, only if and when Telstra enters the fault in their system, which can be up to five days later, as our experience.

Mass service disruptions and local service exemptions, for which providers are required to advise consumers if they are or are likely to rely on, further impact on repair times and entitlements.

Critical impact summaries. CIS do not provide clear information for comparison, contrary to what ACMA says, as a month is not a month. Monthly plans are now 28 days, 30, 31, or calendar. There is no comparison of what the monthly or annual costs would be. A 28 day monthly plan actually has 13 months in a year. Sky Muster 24 month fixed term fixed price plans state that all terms and conditions of pricing, data and speed can be amended by the provider. Over charging compared to CIS statements occurs. ACMA, TIO and ACCC take no action.

The CIS as part of a safeguard does not provide any consumer safeguards, with variable comparison periods, variable fixed price speeds, and data and overcharging. The reported comments for procedures - all telecommunication providers across all modes should be required to report, not just Telstra.

Enforcing a regulation by ACMA, TIO and ACCC. In 2015, ACMA advised me that the federal government had a deregulation policy, so it would not enforce the CSG standard. TIO says enforcement is the role of ACMA. ACMA says speak to the TIO. ACCC says not their job unless it's unconscionable conduct or false advertising. Consumer Affairs all say go to the TIO. The safeguards only work if there is monitoring, regulation and enforcement.

Lack of mobile coverage. The draft report relies heavily on the claimed mobile coverage of 99.3 per cent of the Australian population, and that STS could be provided by mobile for 320,000 premises on the NBN Sky Muster.

In my submission I challenge this. Telstra's response to the draft, and evidence given at the Sydney hearing on January 31, dispute the 99.3 per cent. Telstra, page 7 of their submission on 211:

*While mobile coverage has improved over the years and now reaches the vast majority of Australians, the fact a customer's residence falls within a mobile coverage map does not automatically translate into an ability to deliver STS to that residence. Telstra is unable to determine what percentage of the Australian population have mobile coverage.*

I also note that the Sydney hearing on January 31, Commissioner, you asked a question of Telstra and referred to 400,000 people that are supposedly in the satellite footprint, and we have an estimate of 90,000 not having mobile coverage.

NBN is providing satellite coverage, as you referred in the draft, to 413,000 approximately premises and businesses, or over 1,000,000 people, around 4.5 per cent of the population, not 400,000 people.

As Telstra has now admitted that it does not provide mobile coverage to 99.3 per cent of Australians, only a vast majority, no decisions in regard to the copper network based on mobile coverage on 99.3 per cent should occur, until the actual coverage can be determined.

Also a direct comparison of NBN fixed coverage and mobile is not possible, because NBN fixed is often roof mounted antenna, whereas a mobile would be at, say, table level.

"Capable of delivering" is not a standard or a safeguard. In the draft, "capable of delivering 25 megabits a second" is used and discussed as the baseline. This is not a standard or a safeguard. The interim satellite was capable of delivering 6/1, but did it ever do this? As the government over-sold the satellite beyond its capabilities, speed dropped, data was limited to two, five or ten gigabyte a month. Nothing was done about helping those customers, but the service could be described as "capable of delivering". The benchmark must be an actual minimum delivery speed, not hypothetical.

The standard must be "delivering 25 megabits a second", so that when there's not, consumers can seek some recourse or improvement. If a consumer, however, elects to

pay for 12/1, that's their choice. Speed expectations worldwide would continue to increase, as will demand for data. The USO should stipulate a minimum speed now for satellite, fixed and fibre, plus set minimums for future dates to ensure Australia remains on par with the rest of the world.

Minimum data limits should also be imposed, so that every satellite customer can expect a minimum level of data now and in the future. That's service disruption and local service exemptions. Critical to the USO, reliability, and the CSG are the exemptions available to providers. When you report a fault, if an exemption is in place, the providers are required to advise you then or when they first become aware of an exemption affecting your service. The CSG standard 2011 sets out the requirements for an exemption, as publicly notified, like MSD, shall be advertised in a paper in the area. That doesn't happen, with New South Wales exemptions in Melbourne papers and Western Australian exemptions in Northern Territory papers. Specify the dates exemptions apply - yes, the dates advertised differ from what's in the notices. For extreme weather, be one of the defined events. For extreme weather, meet the defined criteria. For extreme weather, include evidence of the weather meeting the defined criteria. A forecast is not acceptable. Show geographical area, show range of numbers affected. Can only be whilst the extreme weather is affecting the restoration, and can only be due to or associated with events outside the provider's control. You can't extend the exemption after it's expired.

ACMA said they do random checks. TIO says they can't challenge MSDs that are approved by ACMA, and ACMA say they're not approved. Local exemptions have a ten day notification requirement which is not adhered to, and these exemptions become invalid. The TIO is aware of this but has not issued a position statement.

In conclusion, the current system I don't believe is working. We have experienced. We had a period recently of 381 days consecutive continuous faults, as confirmed by the TIO, across two services. It took nearly three years to get the matter sorted. It isn't working for rural people, and we don't have the mobile coverage, and we need to investigate the true mobile coverage before any decision can be made.

**MR LINDWALL:** Well, thanks very much for that, Bruce. Could I ask - just the point about the 400,000, it was actually 400,000 premises, and similarly the estimate we put in our draft report for people in that satellite coverage area was for 90,000 premises, not people, so - but apart from that - and you can challenge that, of course, as you say.

Could I start with the mobile phone coverage? Now, you live about 15 kilometres from the nearest town, I think, in Bridgetown, is that right? And what's - how far do you have to travel to get a mobile phone coverage, would you say?

**MR BEBBINGTON:** The issue is the terrain, because we're a valley. We would have to get - at about 10 kilometres closer to town you'll pick up any SMS that might have occurred.

**MR LINDWALL:** Yes.

**MR BEBBINGTON:** But you have to then park on the side of a road closer to town to get a signal. Generally you wait till you get to town.

**MR LINDWALL:** And so a Yagi antenna or something wouldn't help you in that - - -

**MR BEBBINGTON:** When we were changing - getting the Australian broadband guarantee, we actually got the most powerful aerials that could be provided at the time, put them on a very large pole on our roof, and weren't able to get a signal. NBN actually provided some figures and they confirmed there was a hill in the way. Our aerial would need to be about 300 feet to get within mobile coverage.

**MR LINDWALL:** Yes, all right. And you're right about the estimates about the coverage. I mean, Telstra does talk about different coverage on 99.3 per cent of Australian premises being within a mobile phone coverage. It's very important to distinguish premises from geographic area, but of course the quality does vary, obviously, and it does get affected, I think, by weather occasionally, too, mobile phone coverage, of course.

So - now, on the NBN, could we talk about it a bit? So you've had the interim satellite service, and now you've got the Sky Muster?

**MR BEBBINGTON:** We also had the ABG, 20 per cent.

**MR LINDWALL:** That's true, yes, and could you comment on the quality of the works that were provided for the Sky Muster? Because I've had some mixed views expressed in different hearings about - - -

**MR BEBBINGTON:** The installation?

**MR LINDWALL:** The installation, yes.

**MR BEBBINGTON:** The installation for us went very quickly, I think within a week of the application being lodged we got confirmation. The only issue that came was a question of whether they were removing the old equipment or not, which they decided was prudent.

But no, the service was installed quickly. Probably less - we were offered a date about a week and a half after the application, but we weren't available, so it was about three weeks, so we can't complain about that, and by the time the technician left the premises we had a service.

It wasn't until September that we started to experience any issues. We were with Harbour ISP, and in December they changed us over to a larger server, because they had had problems as well, and after that we've had significant drop out - reduction in drop outs. We've actually since changed to Westnet, and we've only had one drop out in the

last four weeks, but reliability-wise, it has had issues, but the installation process was very efficient.

**MR LINDWALL:** Yes, and the quality of the installation was quite good then? Because obviously it's important that the satellite dish be pointed exactly right and be the right size for your location. And how have you found dealing with the retailers? Since of course NBN is a wholesaler, and you have to deal with retailers, and are they good at dealing with the problems that are their problems, and passing on to NBN which are its problems?

**MR BEBBINGTON:** In regard to applying for installations, we were one of the early applicants because it was June. They didn't have a lot of information. One provider was adamant on their form that they had to have an ability to have line of sight to the north or north-east of the location. Nowhere in Australia under Sky Muster can you be directly south of - and even with their technical people, they said, "No, because the satellite's in Indonesia," and would take no clarification.

In regard to the churning or the changeover from Harbour ISP to NBN - to Westnet, Westnet flatly said it could not be done, and it was about a six week backwards and forwards discussion about whether they could activate a second port on the modem, which NBN kept on saying that they could. There was a three way call with NBN, who said, "Yes, we can," and Westnet said, "Well, you're telling the guy you can't." He said, "We've just told you we can."

And it took quite a period of time, and then suddenly got a call out of the blue from Westnet to say, "Yes, we can do it," so they've obviously come to a - the biggest thing I think people are facing is that because the major phone providers were not early adopters, people have gone to other providers, and that has then left people with - if you've got a business or I've changed my email addresses, the cost in that - in our case we ran both services for nine months.

**MR LINDWALL:** When you say "both services" - - -

**MR BEBBINGTON:** Both - we paid for the Westnet service - - -

**MR LINDWALL:** Yes.

**MR BEBBINGTON:** - - - and we paid for the Harbour ISP service, even though Westnet were providing no service, in order to maintain the account so we could do the quick turnover.

**MR LINDWALL:** Okay.

**MR BEBBINGTON:** that has been one of the big transitional things, and NBN can't force a retailer to do anything. I have spoken with NBN a number of times, and even though they make it clear, and I know they're not - they don't have customer interface,

because they don't have customers, they have always been very good and very knowledgeable in information they provide.

**MR LINDWALL:** Yes, yes. And could you - well, obviously in your introduction you outlined it a bit, but let's get into the actual NBN service that you get through the satellite. Have you tried making phone calls, voice calls?

**MR BEBBINGTON:** No. We - I've actually been involved with matters to do with the phones for a while, and did some early work with NBN on satellite about some issues, and it's always been quite clear that it would not suit phone calls, and we've never tried.

The big thing is when we were having reliability issues, we didn't need that. Having - because of our circumstance of not working in town, we rely 100 per cent on what we've got on the farm. If we don't have a landline, we're done for, so we aren't prepared to take the chance of not having a landline, because we need it for reliability, both for our communications - I'm involved with two volunteer fire brigades - and also communications in the event of a fire. My wife stays behind.

For us, we haven't attempted to do the satellite, because we need a guaranteed system.

**MR LINDWALL:** But you can still use it? You could have - you can use both, as far as I can see. You could be using your landline, but you could also use the satellite as a voice service, even if it's not the same standard?

**MR BEBBINGTON:** I don't believe that the satellite would provide. I think one of the other issues that hasn't been looked at is that the atmospheric conditions that would affect the satellite, travelling through effectively the layer of weather to get from supplying Cairns would be significantly different to what it has to supply on this side, because it's - even though the satellite's 34,000 kilometres in the air, it's another 5,000 or 6,000 at an angle through the weather.

So I don't believe that it would. We actually had one person who uses Skype from a metropolitan service to our phones and we have enough trouble trying to listen to those calls across our landline, so we would have trouble with - the other thing that I - in regard to the use of NBN for voice, Sky Muster, is that's - there's additional issues of the potential for it to fail as far as electricity, but there is also the cost involved, because you have to buy additional equipment, a modem, an ATA. There are issues with regard to if you're running multiple cordless phones off a satellite link, that can exacerbate the problems. And they are the sort of issues which, regardless of whether it's any satellite system, make the situation worse.

But no, we would not give the satellite a try, because we don't have the - - -

**MR LINDWALL:** I mean, you can, of course, as you say, set up a satellite service with the voice prioritised like you've suggested, but you could also use, you know, Skype or

some other service directly from your laptop computer without any phone, and I'd be interested to see how you would have found that, that's all.

**MR BEBBINGTON:** The bit of research I've done indicates that Skype is worse than using the direct router modem setup, so that would actually - - -

**MR LINDWALL:** Because it's an over the top service, so it's not prioritised, but the - now, in your introduction you mentioned that some of the copper should be increased, but I wonder, is that really a good idea, though, because - - -

**MR BEBBINGTON:** Decreased.

**MR LINDWALL:** It's - - -

**MR BEBBINGTON:** Some of the copper decreased.

**MR LINDWALL:** Yes, but weren't you saying that we should be putting new runs of copper out there?

**MR BEBBINGTON:** No, no, we - where we are - - -

**MR LINDWALL:** No? Sorry, I must have misinterpreted.

**MR BEBBINGTON:** Yes, we're the end of one line. Another line finishes at the end of our property, from another exchange. Another finishes about half a kilometre away. They run from three different exchanges. Collectively they currently are 47 kilometres of exchange. With the increased mobile coverage that Winnijup Tower is going to improve, there will only be a certain - a group of customers in that end of each of those three lines that won't have mobile, so they will rely on the copper.

If we can rationalise that service from this exchange, cut off their link to those two exchanges, we can reduce the requirement from 47 to 20 kilometres.

**MR LINDWALL:** I see, yes, yes.

**MR BEBBINGTON:** And I think that's something that can be repeated in a lot of places. It also raised the issue of, if you have mobile coverage for the first, say, eight kilometres coming from a town where there's currently a copper line, it may be feasible to say because there is mobile coverage and it's proven, there will be no requirement to provide copper in that area. But beyond that we have to.

So they might be able to remove customers from the copper network in that regard, reduce the load on the system, and perhaps allow - reduce maintenance costs. Because every link to a house is another connection point, another bit of servicing that is the responsibility of Telstra until it gets to the house.

**MR LINDWALL:** So I just wanted to clarify that, because my theory would be that if - for maintaining the existing copper network through the USO, that's one thing, but if you were to put in new services, probably it's best to be fibre optic rather than copper.

**MR BEBBINGTON:** When you've only got - when you're probably only servicing three customers over 17 kilometres, I imagine they would maintain what they've got now for as long as possible.

**MR LINDWALL:** Yes, maintain, but into new services, yes.

**MR BEBBINGTON:** Well, actually, in the work that was done in 2013 they covered - they uncovered lead lines, not copper. That's how old our network was. So that's the age of some of the phone systems that are actually out there.

**MR LINDWALL:** So they're lead lined?

**MR BEBBINGTON:** Lead lined.

**MR LINDWALL:** Lead lined copper?

**MR BEBBINGTON:** Which is the predecessor to the copper network.

**MR LINDWALL:** That's pretty heavy. You mentioned the Telecommunications Industry Ombudsman. How widespread do you think the knowledge of customers in the various regional areas are of it?

**MR BEBBINGTON:** I think people are aware of it. We get a lot of people who are just neighbours talking about things, say, "I'll follow something up with the Ombudsman." So I think they're aware it exists. Whether they take advantage of it, I don't know. I think, though, a lot of people who have dealt with the Ombudsman tend to have a feeling of, it's futile and long drawn out.

That's - but I think a lot of people are aware of it. Whether they're aware of what their issue is, whether (a) the issues exists, and secondly whether it comes under the constraints of the TIO, that's the big thing the TIO faces, is a large number of things aren't relevant to them.

**MR LINDWALL:** Yes, and how widespread do you think people are aware of their consumer services guarantee under the Universal Service Obligation?

**MR BEBBINGTON:** I don't know how much - and it was interesting, I referred in my submission about the fact that in the draft it referred to people are waiving their rights, and I queried whether that is simply the - I think it's 5.5, the waiving of the rights, or whether it is specifically - whether you're just referring to when somebody accepts a mobile service they're waiving their rights, so that's what I wasn't sure of.

I don't think people are, because - aware of their entitlements, because first of all the main place you get your CSG notification is in your phone book, which you don't get. You don't get phone books delivered anymore. We have to go and pick up our phone book if we want one.

Most people aren't - it isn't clarified - you aren't told whether you're a business plus two or a business plus three customer, you just have to work that out. As I say, people aren't aware of the next business day requirement for - if it's fixed without them having to attend your premises, or - and nobody tells you that. The TIO wasn't aware of that. So if - I don't think people are aware of their entitlements.

Basically a lot of people in country areas, they just get used to putting up with things, so they're probably less likely to follow up on an issue or a complaint than other people would be, so that probably reflects in lower complaint and CSG rates, because they just go, well, we're used to not having a phone, it's just part of being in a rural area.

It's not acceptable, but that's I think what a lot of people just treat it as, we'll just get on with doing our job and we'll get a phone some time.

**MR LINDWALL:** Well, my mother lives in a place without mobile phone coverage, and she's had her local phone, her USO phone, off for more than a month on two occasions, so it's not unusual, and that's over in New South Wales. Have you heard of people getting compensation for failures of their CSG and that are above the statutory timeframes for a repair?

**MR BEBBINGTON:** Most people don't refer to it. A lot of the debate that we had with Telstra during the 381 day period related to the CSG entitlement. There is a requirement that if there's an exemption in place, they have to advise you. That wasn't happening, and it was interesting, the ways in which attempts were made to get out of paying the entitlement. I know Boyd's here, and we've had a few discussions, and Boyd actually did get an ex gratia payment for one matter back in 2012.

We had to fight every inch of the way to get our entitlements. We're medical priority, which automatically would indicate that, where possible, we've got 24 hour restoration, and where possible and when available, Telstra has a commitment that they would give you an alternative, like a satellite phone.

380 days, so let's say 13 months. We were never offered a satellite phone, even though we were dealing with TIO for a large period of that, the national complaints manager and the CEO's office. In fact the CEO's office said, "Well, you're on a farm, why don't you have your own satellite phone?" And I go, "No, that's not the requirement. I don't have to have my own satellite phone, because you won't repair the service under the USO."

In total, there was a number of exemptions that were claimed, a number of the local exemptions, which I actually think was the first person who ever succeeded in

challenging Telstra on the 10 day rule. The TIO said, “We didn’t know about that,” and they applied it.

Basically the amount of CSG that was paid in relation to the 13 months of faults, by the time, two and a half years later when the level 3 investigation occurred, finalised, and the conciliation period, we probably received, as final settlement, 40 times what Telstra actually paid for those faults during that period of time, so I think perhaps - no, I don’t think people are getting their entitlements, and I know that I had to - I had to know the act inside out to challenge Telstra, to challenge the TIO, to challenge ACMA, in order to get those entitlements, and the point we actually made through the whole process was not - I’m not after money. All I want is a phone that works.

And that basically is what people want. They want a phone that works. Whether it’s a landline or whether it’s a mobile or if it’s their satellite broadband. They just want something that works. That’s what you’re paying for. That’s what people expect.

We said, “Look, all we want to do is try and get the system working so that the next time I ring up with a fault, it’ll get fixed.” And I said, “I’m not after the money.” But unfortunately both the TIO and Telstra can only think in terms of money when it comes to compensation. They can’t say, “Well, how about we do this?” and I go, “No, let’s see if we can sit down and look at a procedure.”

Now, even Judy Jones, the TIO, when I spoke with her last September, she - and I said, “Look, these are the things that came out of it, that for example the TIO does not take into account voice messaging services in working out a working services.” Now, we have had voice services for 25 years, and Telstra in conciliation said, “We consider a working service to be, if your phone is not working and you have got message bank and the phone is fixed seven days later and you get that message, we’ve made that communication.” That was what Telstra used as their standard of a working service. I don’t think anyone in the country would say seven days from the time you ring me till the time I get the message is good.

There are a number of failings in the system, and that’s why I refer to things like the enforcement, the application, you know, in regard to MSDs and those service disruptions. I have been successful in getting five changes done through ACMA, and Telstra has adopted some of those changes, so that’s an improvement. Are they doing less MSDs? No, what they are doing is they are actually doing it correctly so they comply with the provision. So I’m not saying they’re not entitled to, I’m just saying these are the rules, you stick to the rules.

If you make a declaration that’s outside of those rules and is not valid, you lose that entitlement. Telstra should have the legal capacity to understand the standard. If I can read it and understand it, they should be able to prepare their notices to ensure they have their legal protection. That’s what I’ve been arguing for three years, to try and get - not to attack Telstra, not for people to get money out of Telstra, but just say a set of rules, do them properly. The USO says this, you have to maintain a phone service.

That is what my expectation is, because there's 23 million people out there who don't know what they are entitled to, because they don't have the act in their back pocket.

**MR LINDWALL:** Yes, yes. So just to clarify, you mentioned earlier, you're a priority - your household is a priority assist customer? Okay. Now, do you think it's right that you have to study the act so thoroughly to be so knowledgeable about all of this? Do you think that's a reasonable expectation on customers to have to be so across all of the detail?

**MR BEBBINGTON:** The standards and requirements aren't that difficult. People shouldn't have to know them. The bit that is in the back of the phone book, or what they can find on a provider's web page or the TIO, is sufficient.

People shouldn't have to get to the point of ringing up their provider and saying, "Hang on a minute, I didn't have a phone for two weeks, and here it is, I don't have any compensation." Now, for example, one of the things is that a provider has 14 days from the closure of the fault in which to assess CSG, and then has up to three months in which to pay it.

But when it comes on your bill, it doesn't tell you, it just says, "CSG payment." It doesn't actually say what it was for or when it was for. And this is one of the issues the TIO had. They actually identified, "We worked out CSG was paid on this day for this fault." But they actually had payment before the fault occurred, because it was actually a three month ago one.

So there are a lot of things that the standard is sufficient for what consumers need to know as their protection, but the question is, is anyone applying it? And that's what people have to fight for. And I don't think that the person they turn to, the Ombudsman, has the knowledge. They say it's their workload, but in the process they've laid off a lot of staff, even though the workload's gone higher with things like increased internet, but it was astounding that they did not know certain concepts like the approval of mass service obstructions.

They said to me, "ACMA approves MSD, so we won't challenge it." I go, "Well, that's interesting, because I've just gotten on the phone to ACMA and they've said, 'We do not approve them,' and here is a reference to their website." The TIO guy says, "Well, we didn't know that."

Now, how can somebody who is the Ombudsman, who is supposedly making the determinations on what is fair and appropriate under the legislation, be caught out by not knowing a basic tenet of the legislation? And I - my review document I think was 90 pages, and within an hour of that going in, that 90 page, they'd agreed, "Yes, we're going to give you a review," because I had pointed out such bad things about the processes the TIO have used in their determination, which contradicted their position statements.

Now - no, people shouldn't need to be as knowledgeable as I am. Unfortunately for Telstra and the TIO, I'm a legislation person, I have been for many years.

**MR LINDWALL:** Yes.

**MR BEBBINGTON:** So - and if somebody throws a rock at me, I'll throw it back as much as them. If there's a set of rules and they're not going to stick to them, I'll say, "No, you've got to stick to those rules."

**MR LINDWALL:** Now, we don't have much more time, so I'll just ask you a couple of quick points, if you don't mind. One is my - in our draft report we said that if you had a good mobile service and the NBN Sky Muster was properly laid out - in other words, finalised - that would be sufficient. You wouldn't need to have the USO. Is that - would you - if you had a good mobile service, would you forego your - - -

**MR BEBBINGTON:** My - what I would consider the USO could end up with this. For those customers who have to have copper landline, that they are still provided with a guarantee. For those that have mobile service and it is an acceptable standard and a consistent standard, that becomes their baseline. And the same would apply for broadband, that - but there has to be you do have that service.

I don't believe that the voice over Sky Muster will become an effective service. The technology I don't think is quite there yet. Next round of satellites and the other thing, possibly it will be.

**MR LINDWALL:** Now, finally, you haven't mentioned anything about the Mobile Black Spot Program. Have you got any comments about it?

**MR BEBBINGTON:** The Mobile Black Spot Program, yes, I have had a few things there. One - I contacted them recently in regard to this submission. They actually couldn't tell us if the round 1 sites had been built, and they can't tell whether they're 360 degree or partial, like, north-south orientated. Even though some were approved as such, they don't know if that's what's happened.

So the funding, you're saying, so if a company comes along and says, "We would like to build a tower here," provided with a subsidy for 360 degree coverage in this approximate area, fine, here's the funding. "We've decided to only put a north-south, actually." There's no check. So there's a failure there, because the federal government is providing on you get 360 degrees and it's not happening.

There is also the issue that there's not the follow up, but I also wonder whether, like, raise with - and Boyd responded back in December about one near us that's north-south orientated. Now, originally the Shire was told that's 360 degrees, and was shown the maps of 360 degree coverage, and yet it is only north-south. It was apparently only ever built as north-south.

So I wonder whether the Black Spot Program is looking at a situation like that where for X dollars we can put in a new tower and benefit this area, these people, but if we've got north-south axes - if we made that 360, which is only going to cost this much, because

the infrastructure is in place, can we provide as good an improvement in coverage and better spend? And I don't know if that is being looked at, because first of all they don't know what's out there, they don't know what has been built that they've already paid for.

**MR LINDWALL:** Okay, that's interesting. I haven't heard anyone mention north-south, in other words 180 degrees coverage, rather than 360.

**MR BEBBINGTON:** That may be - in our case the South-East Highway is Highway One, and the original program revolved primarily about trying to increase the coverage on Highway One. That was the first objective that the government was trying to achieve, so a lot were put along the highways to provide that coverage.

And my understanding was they were supposed to be 360 degree, but it turns out some were done purely to access the highway, and that that is where we possibly can get significant mobile coverage gains with minimal cost. The extent of that, I don't know whether it was just the Western Australian program for mobiles, because the WA government had its own program, whether that's where the discrepancy occurs, I don't know.

**MR LINDWALL:** Yes, well, I'll look at that. Thank you, Bruce. Do you have any final comments before you go?

**MR BEBBINGTON:** I'll be at the end of the day, if I get a chance.

**MR LINDWALL:** Yes, all right, thank you. Now, could I invite Robert Smallwood? Is Robert here? Yes, hello Robert. Please. Good morning.

**MR SMALLWOOD:** Good morning, Commissioner.

**MR LINDWALL:** Please introduce yourself and just say - - -

**MR SMALLWOOD:** I've just prepared a few materials that perhaps I can give you a copy of, and also provide a few for the audience in the event that they'd like to have a look at these.

**MR LINDWALL:** Certainly. Thank you.

**MR SMALLWOOD:** And here are three additional copies. You can see those.

Good morning everyone. I'd like to begin by thanking the Commission for agreeing to host an inquiry in Western Australia. We very much appreciate the opportunity to put our views forward in this state, as we do represent a fair chunk of the entire continent. I'd like to also - - -

**MR LINDWALL:** You probably should introduce yourself for the record - - -

**MR SMALLWOOD:** Sorry.

**MR LINDWALL:** - - - and talk about the organisation.

**MR SMALLWOOD:** Okay. My name is Robert Smallwood. I'm the Midwest Digital Economy Strategy Manager for the Midwest Development Commission, and we're based in Geraldton in Western Australia. 25 years in the telecoms, IT and electronic media business. Senior Manager at roles in places like Honeywell, Telstra and other technology companies, as well as senior manager at (indistinct), construction roles and operation and other IT roles. I have also spent the last four years in local and state government in Geraldton in the regional digital communications space, and many years ago spent a number of years as a technician and engineer responsible for maintaining broadcast transmitters in America.

I would like to begin also by a formal note that if everyone can be aware of, we are a state government organisation, and as a result of that we are currently under the 2017 caretaker convention. I would also like to acknowledge the local member for the agricultural region, Martin Aldridge, who is also with us today, and accordingly, the positions that are espoused in this presentation are based exclusively upon technical and operational criteria, and are not intended to be necessarily critical of or supportive of any political party or the policies, the platforms, or the positions held by any political party.

So now that we've got that out of the way, most of you in the room here I'm sure would be aware of the regions of Western Australia. 598,000 residents live outside of the Perth metropolitan area, and that's 23 per cent of the state, and even though it's only 23 per cent of the population of the state, those 23 per cent represent 32 per cent of the economic output of the state, and 14.6 per cent of Australia's GDP comes from Western Australia.

As a separate country, Western Australia would be amongst the top 50 economies in the world by GDP. And very important to the regions in Western Australia is global competitiveness. If Western Australia is going to remain globally competitive we need world-class telecommunications.

So I am going to try and keep the intro very brief, even though there is a significant amount of detail that is in support of our position later on. I'll perhaps take a couple of minutes and just go through the key points that we'd like to make, and then perhaps the Commissioner can either challenge some of those points or perhaps ask for additional information as the situation warrants.

As I said, reliable telecommunications is critically important to global competitiveness for this region, and it is becoming more so by the day. There are quite a number of aspects of the revised USO that are being considered at the moment, including the addition of broadband as an essential service to the USO, and others who are in the room today will be addressing those issues. I just want to point out and clarify that my focus today will be exclusively on the voice services. I will not be addressing the broadband issues related to the USO.

There is currently a consideration of the existing USO voice services that are in place being provided by Telstra being delivered over copper or in radio networks, and the suggestion is that some of those or all of those could be replaced by Sky Muster or mobile networks to provide voice services.

And in essence, we have three major concerns about that. We believe, number one, that this would significantly degrade the customer experience for voice services, and that troubleshooting and maintenance of satellite services without access to a landline or a mobile service would become extremely problematic, and that the evidence to date suggests that Sky Muster's ability is insufficient to ensure a high probability of availability during an emergency.

Some additional information those key points. With respect to number one, the customer experience, according to the International Telecommunications Users Group user research, a Sky Muster to Sky Muster phone call would result in, quote unquote, "nearly 100 per cent users dissatisfied". And that comes from the ITU standardisation sector of transmission systems in media, digital systems and networks for recommendations G.114, G.109 and G.107.

It is not acceptable that an existing high quality voice service be replaced with a lower quality service. A degraded quality of voice calls and consistently poor customer experience is likely to negatively impact on regional competitiveness.

Extremely importantly, with respect to item number two, troubleshooting, troubleshooting a failed Sky Muster service without access to a landline or a mobile phone is not a reasonable expectation of a non-IT specialist.

And number three, with respect to emergency services, the reliability targets of the Sky Muster service and the service restoration targets, which are currently 10 to 90 days, are insufficient to meet public safety requirements. For example, in Senate Estimates in 2016 it was stated that during October of 2016 the average time for Sky Muster complaints to be resolved was 21.4 days.

Further, from the information that is available, Sky Muster does not appear to be meeting its reliability target to date, and quoting from the NBN Chief Customer Officer, John Symons in yesterday's Port Lincoln Times, Symons said so far Sky Muster had not met anyone's expectations.

So following on from that, I'd like to highlight two very recent specific examples that relate to these issues with the provision of voice services over Sky Muster satellite. One was a phone call that I received yesterday morning from a lady who's based in Horrocks, which is about 60 kilometres north of Geraldton. She has been, for a number of years, connected to the NBN interim satellite service, because that's the only option in their neighbourhood for broadband services, and that service has been working for her, during the time that she's had it, reliably, without any substantial numbers of complaints, which I found quite surprising.

However, she was advised about a month ago that the interim satellite service would be disconnected at the end of February, and if she wished to continue to have broadband services she had no choice but to switch over to the Sky Muster satellite. So we assisted her with contacting her existing internet service provider, who organised a technician, who turned up, conducted the installation, and in speaking to her yesterday, everything with the installation went well. The service was switched on, the technician checked out the service, the reliability was to an acceptable standard, and the technician left.

She used the service for the remainder of that day, went to bed on Tuesday night, and got up Wednesday morning to find that the service was no longer working. So that was Wednesday, a week ago tomorrow, and in the meantime she advised that she had spent seven hours on the telephone, using her fixed line service, provided under USO, with call centres in a variety of places such as South Africa, Australia, Philippines - she mentioned a couple of others that I forget at this stage.

But seven hours on the telephone, and the service still was not functioning, and the final advice she received yesterday afternoon from her service provider's call centre staff was that "someone will be in touch sometime within the next 10 business days". Thank you very much.

Now, I'm afraid to advise that that is an all too common experience that we hear about the satellite service in our part of the world. I had high hopes when the announcement was made, but unfortunately there are still regular instances of this happening.

Now, I'd like you to imagine what it would be like for this lovely lady in Horrocks had she had no Telstra-provided USO phone service. Well, some people say, "Well, surely you can just use a satellite phone in those circumstances." Let's do the sums just here on the back of a serviette or in the air. I haven't used a satellite phone and had to pay the bill for a while, but the last time I checked, the cost of a satellite phone call was around about \$8 a minute, so if we take \$8 a minute, multiply that times seven hours, my sums come out that's somewhere around about \$4,000 in phone calls, and her service still isn't working and she's supposed to wait another 10 days.

Those are the kinds of typical examples that we find when satellite services go down, and if you could imagine yourself in a remote area where, for example, in many places in the mid-west part of WA where we operate, it's often an hour's drive or more to the nearest second telephone. Sometimes even further than that.

And troubleshooting in an environment where you have a satellite voice service, that's not the same as a fixed line analogue mobile phone - or analogue fixed line service, is very complex. You can't just pop down to the neighbours, get on the phone with your service provider, and troubleshoot what's going on with your satellite service. "Is the blue light on on your modem?" you might hear from the call centre. "Well, I don't know, I'll just pop in the car and drive 100ks back to my station and then I'll come back and I'll continue the conversation."

You can imagine it's just simply not a practical environment to troubleshoot a complex system that is inherently, by its nature, complicated and always going to be difficult to troubleshoot.

That is a very typical example. I'd like to relate one other example, that was published in a blog of one of the most highly regarded communications consultants in Australia, whose name is Paul Buda. He lives in a place called Bucketty. Now, that's about 100 kilometres outside of the Sydney CBD. His only option for broadband services there are ADSL services or the Sky Muster satellite.

Now, he's got both of those at the moment, and writing on 7 February 2017, Paul Budde says:

*We now have two broadband access services in Bucketty. When the Telstra ADSL service in our area is being used heavily, late afternoon/early evening, the ADSL service slows down, so I then change over to the satellite service. That service typically cuts out every 10 to 20 minutes or so and then reconnects automatically, mostly within a minute. When I eventually tire of these dropouts, I switch back to the ADSL service in hope that the service performance there has improved, and remarkably, this seems to work most of the time.*

*Is this satisfactory? Of course not. Need to have two services in order to get some sort of accessible online service connection is appalling, but I don't have much choice, as there is no light at the end of the tunnel.*

Et cetera, et cetera. So those are two very typical scenarios that we hear on a regular basis. As a result of that, we don't believe that the proposed replacement of the existing USO services for voice services with satellite communications or with mobile communications would be sufficient to provide an equivalent or better service than what the customers have today.

I do also refer to a document that I found in relation to this USO inquiry by Coutts Communications, Better Telecommunications Services For All Australians, which states on page 13:

*The NBN fixed wireless and LTSS satellite services can both provide a high quality telephone service.*

We would like to challenge that assumption and suggest that there is sufficient data from a number of sources that would actually justify that, and I'm happy to point to some of those in our presentation. But before we go to more details, I'd like to make our recommendation based on the current situation and the current proposals.

It is our view that until it can be clearly demonstrated that Sky Muster voice services or the mobile networks can deliver at least an equivalent customer experience, along with the equivalent reliability, to the existing USO services that are in place, then the latter, these existing USO services, should remain in place.

So I'll pause there and perhaps ask the Commissioner if there is any questions, or if he'd like some additional statistical or background support of this position.

**MR LINDWALL:** Thank you very much for that. Could I ask, firstly, are you happy for this to be treated as a submission, and we'll put it on our website then?

**MR SMALLWOOD:** Yes, I am, correct. And there are two areas of that that are contained in this presentation that I have that have been removed that may be considered commercial in-confidence information that I have taken out.

**MR LINDWALL:** Okay, so - all right, the version that we've got then.

**MR SMALLWOOD:** Correct.

**MR LINDWALL:** And could you send an electronic version?

**MR SMALLWOOD:** I certainly can.

**MR LINDWALL:** All right, good. Makes it easier, rather than scanning it in. The other question is - and I just - especially since your organisation is a development commission for the mid-west, I urge you to have a look at the transitioning regional economies study, and certainly be happy if you could talk about that - - -

**MR SMALLWOOD:** Absolutely.

**MR LINDWALL:** - - - and maybe put a submission in to that as well.

**MR SMALLWOOD:** Absolutely. Having said that, I must advise that, given caretaker conventions and also our state government conventions, the individual development commissions are not permitted to make individual submissions to federal inquiries, except as a consensus through the WA Department of Commerce.

**MR LINDWALL:** Yes, okay. Well, by the time submissions are made, maybe there might be a result in the election and a new government formed.

**MR SMALLWOOD:** Absolutely. We will certainly have a look at it.

**MR LINDWALL:** And that study, the final report's in December.

**MR SMALLWOOD:** Fantastic.

**MR LINDWALL:** Now, getting back to the topic at hand, I just want to clarify that what we said in the draft report about the approximately 400,000 premises covered by Sky Muster, we also said that - and I note particularly the numbers of hearings I've had, people with concerns about Sky Muster.

So my first question is, do you think that this is just - the problems with Sky Muster that you've - you've laid out as well as other people is a temporary thing? That - because NBN is going around putting the Sky Muster out and setting it up properly, that it's teething issues, and that you would expect it to get better over time? Or are you sceptical of that?

**MR SMALLWOOD:** I'd like to start from what let's consider from a physics point of view is a best-case scenario, okay? So let's assume that everything with Sky Muster works perfectly, and all the claims that Sky Muster makes come to fruition and everything operates within the bounds of physics. Best possible scenario.

Now, even given all of those scenarios, excluding any potential delays that may occur in the network equipment that's based terrestrially or the network equipment that's in the satellite, taking simply the limitations of the speed of light, which as far as I'm aware no one in the circles that I travel in has any great ideas about how we can improve on that, you still have a scenario where a Sky Muster to Sky Muster telephone call is always going - in every single circumstances is always going to violate these ITU behaviour studies as to what is acceptable from a telephone call perspective.

**MR LINDWALL:** Latency.

**MR SMALLWOOD:** From latency alone point of view. Now, once we add what are typically real world additions to those latencies, in most cases, not always, but in most cases and even from what I know about the TC1 packet prioritisation system that NBN is proposing to use on Sky Muster voice calls, you will suggest at least another 50 per cent increase in that latency, and in many cases up to 100 per cent.

So once you've done that, in a typical real-world scenario, you've got - just latency issues alone, notwithstanding all the reliability issues to do with weather impacts et cetera, et cetera, you're going to have a latency that is double what the ITU considers to be acceptable for a telephone call.

So we can go into more detail if you want - - -

**MR LINDWALL:** No, no, no, no, no.

**MR SMALLWOOD:** - - - but that's the basic problem. You're not going to change the speed of light.

**MR LINDWALL:** I understand about geostationary orbits.

**MR SMALLWOOD:** And if you look at, for example - - -

**MR LINDWALL:** And I know the speed of light is 300,000 kilometres per second, so I do - - -

**MR SMALLWOOD:** Let's say, for example, let's go to slide number 33.

**MR LINDWALL:** Yes.

**MR SMALLWOOD:** Slide number 33 shows a comparison of various latencies. Now, if we look down to the very left-hand side, that's the situation that we have today. On the current fixed line telephone networks that are delivered by the Telstra USO, this is what people are used to dealing with. It's down in that, you know, mostly sub 20 milliseconds kind of range, and that is also on Telstra's high capacity radio concentrator systems that go out to the most remote parts of Australia. They still manage, in the majority of cases, below 25 milliseconds of latency.

So when I'm speaking to someone in one of the most remote stations in Western Australia, I'll take for example a phone call I had yesterday to Wooleen Station, which sits just outside of the Square Kilometre Array properties, about 200 and - just guessing - 40 kilometres north-east of Geraldton.

The phone call I have with the operators of the station is equally as clear as if someone were sitting in the next room on a direct line connection without even going through a telephone exchange. You cannot even tell that it is going through any network. It is high quality, it works, and it is for the most part generally quite reliable, notwithstanding some issues that we all are aware of with the end of life issues with that equipment.

Now, let's move further. The mobile networks and satellite phones - I want to very clearly differentiate here and make sure that everyone understands, there is a significant difference between a satellite phone and telephone calls transmitted over the Sky Muster satellite.

Satellite phones mostly manage latencies in the sub 100 millisecond range. Why is that?

**MR LINDWALL:** Because they're low earth orbits.

**MR SMALLWOOD:** If you look onto the page - let's see, where is that now? It's on the previous page, page number 32. This is an important point to make. On page 32 - I'll hold this up because it's so obvious that everyone can see it, even from the back of the room. If you look at where the satellites that deliver phone service from satphones operate, it's in an orbit around the Earth that is around about 600 to 1,100 kilometres, and this is roughly to scale, by the way. That's the diameter of the Earth. There's Australia in the middle. And those satellites orbit at an orbit that is roughly 10 to 20 per cent of the diameter of the Earth.

On the other hand, the Sky Muster satellite orbit is on an orbit that is 300 per cent of the diameter of the Earth, at 35,786 kilometres. In the best of all scenarios, no matter how you cut it and how little latency exists in the rest of the network, you're going to get a minimum of 119 milliseconds on each one of those legs, and unfortunately, on a Sky Muster to Sky Muster call - we'll go back in that particular case to slide number 28. On a

Sky Muster to Sky Muster call, you've got five legs to transition between when I say hello - I'll hold this up to see if you can see it.

I'm the caller. I say hello. The call goes to the satellite. It then reverts to an Earth station. Now, that Earth station can be anywhere in Australia. It's not your local Earth station, necessarily, so for example, I looked up Wooleen Station, which, as I just spoke about, is 220 kilometres or so north-east of Geraldton. The Earth station that the signals from Wooleen Station come down to are not the Geraldton satellite Earth station. They're in Tasmania. Not sure why, but they're in Tasmania. So if there were weather issues between that satellite and Tasmania, telephone calls at Wooleen Station are going to be disrupted.

The signal then transits the terrestrial network up to 4,500 kilometres, and from what I understand, all the signals must go via the Sydney Earth station, where they are then re-uplinked to the satellite and re-downlinked to the call party, who then hears "Hello" in a minimum, absolute minimum, theoretical minimum, of 492 milliseconds. It cannot get any better than that, unless someone is willing to contest Mr Einstein.

Now - - -

**MR LINDWALL:** I'm not contesting Albert Einstein.

**MR SMALLWOOD:** What that results in, if we look at the ITU G.114 standard - this is - again, it's primarily a recommendation for how telephone networks are designed around the world. They have done behavioural research that essentially suggests that as the latency increases, user dissatisfaction increases, where you get to the point of around about 520 milliseconds or so you always get 100 per cent of users dissatisfied.

So with Sky Muster's theoretical minimum latency on a one-direction Sky Muster to Sky Muster call of 492 milliseconds, there is no way to avoid that you're going to get nearly all users dissatisfied, if someone on a Sky Muster satellite has to call someone who may be 20 kilometres down the road on another Sky Muster satellite.

**MR LINDWALL:** Okay.

**MR SMALLWOOD:** Now, I might just add one more thing.

**MR LINDWALL:** Yes.

**MR SMALLWOOD:** In the real world, this is actual - this is a ping test from a customer's terminal who is on a Sky Muster satellite service, and the theoretical ping is up and back, so it says, "Hello, do you hear me? Yes, I hear you. Okay, how long did it take?" So the theoretical latency on that is 238 milliseconds. So that is 119 times two. But in this particular case, and again this is one-off, I'll acknowledge, this is anecdotal, I haven't done 100 and compared the average amongst them. 564 is what this customer gets typically on a ping test to the satellite.

So in the real world we need to roughly double those figures. I'll pause for a moment.

**MR LINDWALL:** No, no, that's good. And just for the record, of course, geostationary orbit is above the equator, right?

**MR SMALLWOOD:** Correct.

**MR LINDWALL:** Now, the thing that you're talking about here are satellite to satellite communications.

**MR SMALLWOOD:** Correct.

**MR LINDWALL:** As in the NBN satellite to NBN satellite.

**MR SMALLWOOD:** That's correct.

**MR LINDWALL:** What about NBN satellite to a landline or to something like that?

**MR SMALLWOOD:** Okay. It's a very good question to ask, and in the very small number of anecdotal circumstances that I have personally participated, and I can't speak for others, I find that if someone on an NBN satellite on a managed VOIP service rings me on a landline, it's slightly awkward, but it's not an unacceptable scenario.

It actually does provide a reasonably okay conversation. It's not certainly not up to the standard of what you'd get on, say, one of the existing landlines that's delivered over the HCRC radio systems that Telstra delivers into the most remote areas today.

**MR LINDWALL:** I haven't actually personally tried the - I think we might be, next week, the Sky Muster to Sky Muster call.

**MR SMALLWOOD:** Yes.

**MR LINDWALL:** But I have done a one - you know, to a landline, and like you, I found it quite all right, I didn't have any problems with that.

**MR SMALLWOOD:** But again, I think the primary concern beyond the latency is the vulnerability to service issues and the difficulty in remedying those faults when that scenario takes place. And once you're off the line and once that service fails, unless you're a fairly savvy IT skilled person it is a challenging scenario in virtually every circumstance to get that service back online again.

I mean, I've been in the IT telecoms business for more than 25 years. I still struggle with this stuff. I really feel the pain of what folks must go through who don't really understand how this stuff works or how to fix it.

**MR LINDWALL:** On the examples you gave me of the lady at Horrocks, for example -  
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**MR SMALLWOOD:** Yes.

**MR LINDWALL:** --- where she had been using the interim satellite service, everyone I speak to seems to think that the Sky Muster is a lot better than the ISS, so I hope that she's not thinking that she's going to get worse service.

**MR SMALLWOOD:** Look, there are some challenging situations in all environments. There may be some issues with the topology where she is located that could cause some issues. I don't know where the orbit is of where the interim satellite was. I know in this particular scenario there were some issues with there being a hill that was slightly above where the satellite dish needed to point, and there may be some reflections off the hill. We don't know at this stage. It's too early to say.

However, they did get the satellite reliably working when the technician left the premise last Tuesday, so that's all we can say.

**MR LINDWALL:** So maybe it moved or something? Because I understand that it is very important to be pointed exactly with the right size ---

**MR SMALLWOOD:** Absolutely. One other thing to point out is that the Ka band satellite which operates in the - it's around about the 25 to 40 gigahertz spectrum, is highly susceptible to any kinds of interference, and it's also important to recognise that in order to get the performance that they've got from those types of satellites, you have to increase the frequency at which they transmit. And the higher the frequency, the more susceptible those signals are to any sort of disruption or weather events or dust or - you know, even bird flocks.

**MR LINDWALL:** Have you had any experience with the Telstra USO satellite service?

**MR SMALLWOOD:** I haven't, not personally.

**MR LINDWALL:** Okay, that's all right. And you understand that in our report we did say there were 400,000 premises within the NBN satellite service, of which 90,000 wouldn't have a good mobile service, so ---

**MR SMALLWOOD:** Correct.

**MR LINDWALL:** ---do you say - would you say that if you had a good mobile service and the NBN Sky Muster, that would be sufficient? You wouldn't also need to have a landline?

**MR SMALLWOOD:** That's a difficult one. In particular - and again, I'll go to slide number - let's start with slide number 19. Let's see. Let's see, where are we?

**MR LINDWALL:** Yes, it's quite red, and - - -

**MR SMALLWOOD:** Yes, that's right, now - - -

**MR LINDWALL:** The estimate is that 99.3 per cent of the premises in Australia are covered by the Telstra mobile network, and less than 30 per cent of the geographic area.

**MR SMALLWOOD:** That's right.

**MR LINDWALL:** And WA is a large percentage of the 30 per cent, you would say - the 70 per cent that's not covered.

**MR SMALLWOOD:** What you might be led to believe by looking at this - again, this is not meant to be critical - this service shows essentially where the population of Western Australia live, so you would be right to think, well, there's no point in putting mobile towers up in the middle of the desert where there's no one, and absolutely, that's certainly not something that we would be recommending either.

But let's go to the next page, on page 20, and that's a blow-up of the area that's roughly halfway between Perth and Geraldton, and that shows Telstra's 3G coverage in that area. Now imagine if your role were to determine where USO would apply for voice services. It would be extraordinarily difficult to map out an area that would be permitted to have mobile coverage for USO and define where those boundaries are that would permit a sufficiently reliable service on mobile to replace the existing landlines that can be predicted and always have a dedicated circuit back to the exchange and can provide a reliable service.

With a mobile network, being radio – and again, being a radio technical person from many, many decades ago, radio is difficult. It is always going to be difficult, and it is impacted by a number of things, and it changes. Those patterns are not just static. If there's a heavy load on the mobile network, the signal will shrink to accommodate for the load. If there is a weather condition, there can be an impact. If there is high traffic in one part of the network.

You have got all these sequential points of contention that can determine the level of service that is provided at the end user point of view. So we don't feel that the mobile network is predictable enough to be able to replace the existing USO services.

**MR LINDWALL:** So given that - and the other factor I think is worth noting is that, however you cut it, the current copper network and digital radio concentrator, which is 70s technology as far as I understand - - -

**MR SMALLWOOD:** 80s, yes.

**MR LINDWALL:** - - - are becoming increasingly difficult to maintain - - -

**MR SMALLWOOD:** Yes.

**MR LINDWALL:** - - - so ultimately at some point in the future it will have to be replaced with something.

**MR SMALLWOOD:** Correct.

**MR LINDWALL:** What would you replace it with?

**MR SMALLWOOD:** Okay. I cannot make a personal comment on that. I have got a view, but it is not probably appropriate in this forum.

**MR LINDWALL:** Okay, all right.

**MR SMALLWOOD:** I have to say, however, though - I mean, this is, by the way, one of the HCRC receiver units at Wooleen Station for example. These have been in place - there was a huge amount of very thoughtful work that went into the design of that system to allow it to do what it does and to continue to work. Even though it is at its sort of end of life, it is still certainly maintainable and it does deliver a very high quality service. Telstra owns the delivery of the USO, and it's really Telstra's role to determine what they would do to replace that system with something equivalent or better should this service prove to be unreliable or unable to provide the service.

But as it stands today, this is a high quality PSTN-grade remote service that goes to the most remote parts of Australia in a way that, as far as I am aware, doesn't exist anywhere else in the world, and to replace that with something that is of a lower grade service that would reduce the customer experience is really not something we should be considering in the revision of the USO.

Again, it's Telstra's call as to what that should be. We've got something now that works - - -

**MR LINDWALL:** Well, locked in contract, yes.

**MR SMALLWOOD:** - - - let's not replace it with something that's worse.

**MR LINDWALL:** Yes. Now, in our Sydney hearings, we heard from a gentleman whose name eludes me right at this instant - - -

**MR SMALLWOOD:** Would it be Mr Moore, perhaps?

**MR LINDWALL:** - - - about tethered balloons.

**MR SMALLWOOD:** No, no.

**MR LINDWALL:** No. No, it wasn't Mr Moore, it was another gentleman. Have you heard of this technology?

**MR SMALLWOOD:** Okay, yes. That idea has been around since the 1980s. It was originally introduced by a gentleman by the name of Alexander Haig who was one of the top defence officials in the Reagan government in the USA. They called it, at that stage, Sky Station. Memory still works. And it was abandoned,.

**MR LINDWALL:** Not - okay, abandoned.

**MR SMALLWOOD:** It was abandoned for many, many logistical difficulties. I mean, we could be here until midnight tonight and I wouldn't even finish.

**MR LINDWALL:** No, that's all right, we don't have time for that, so - - -

**MR SMALLWOOD:** It's complicated. Look, if you're going to go to the extent of what that would take, you may as well just put fibre everywhere.

**MR LINDWALL:** Okay. Well, finally, did you have any comments you would like to make before we move to the next presentation?

**MR SMALLWOOD:** Let's just have a quick look through some of the slides that we didn't talk about.

**MR LINDWALL:** Of course you're able to come back later in the day if you hear something that you'd like to comment or dispute.

**MR SMALLWOOD:** Sure, yes. I think one very important point to be made is that the existence of the current fixed line USO services are really important to people in regional areas, if for no other reason than it gives them a lifeline to the rest of the world if the satellite service that they're using for broadband fails.

If you don't have that lifeline, the complexity of restoring your service is disruptive to your life and to your business in a very, very big way, and so we need to consider not just what the quality of that service is, but what the impacts would be of removing the existing service.

I might just also point out that on slide number 11, this shows the locations of all of the current areas in Western Australia where fixed line voice services are delivered by Telstra's copper network along with ADSL services.

Now, it doesn't show all of the fixed line services, but it shows fixed line services where ADSL services are available. And you'll note that compared to the previous slide, on number 10, which shows - if you - you'll have to have very good eyesight to see this one, but on this slide here, purple dots indicate where the NBN fixed line and fixed wireless services go, so if you're not in one of those areas where there's a purple dot, you're on Sky Muster.

Now, my rough calculations, looking at that map, would say that's about 90 plus percent or more of people on Sky Muster. However, a lot of those folks that are

designated for Sky Muster have got pretty darn good fixed line services with ADSL at the moment.

And under some of the proposal that we've looked at, most of these folks who are outside the metropolitan regions would eventually lose those fixed line services and be placed on Sky Muster. Amongst those would be all of these communities on page 12, and if you were to go individually to each one of these communities and ask them whether they'd rather keep their existing services or switch over to satellite, if I were a betting man I know where I'd put my money.

So we'll leave it at that.

**MR LINDWALL:** Okay, and final point on ADSL, of course, ADSL deteriorates over (inaudible).

*(The Commissioner's fails at this point.)*

**MR SMALLWOOD:** Correct.

**MR LINDWALL:** (inaudible)

**MR SMALLWOOD:** That's correct.

**MR LINDWALL:** (inaudible) 24 megabits a second (inaudible)

**MR SMALLWOOD:** Depending on how long the copper is.

**MR LINDWALL:** And after that it gets down to (inaudible).

**MR SMALLWOOD:** Yes.

**MR LINDWALL:** (inaudible). Thank you very much (inaudible) perhaps if you (inaudible) presentation (inaudible).

**MR SMALLWOOD:** I shall.

**MR LINDWALL:** (inaudible) So could I now ask Gary Sherry to come forward, please?

*(Commission is made aware of microphone failure and adjourns.)*

**ADJOURNED**

**[10.03 am]**

**RESUMED**

**[10.06 am]**

**MR LINDWALL:** Please introduce yourself, Gary, and make a statement as you see fit.

**MR SHERRY:** Thanks, Paul. My name is Gary Sherry, I'm the CEO of the Shire of Cuballing. The Shire of Cuballing is a small wheat belt shire, we have a population of about 800 to 900 people. We're about 190 kilometres from Perth and our area is about 1200 square kilometres. We have two town sites, two small town sites, of Cuballing and Popanyinning. And then the majority of our shire is agricultural wheat based. Also some intensive animal husbandry businesses, and an increasing number of lifestyle people who are choosing to retire or move to our shire for lifestyle purposes, for that rural lifestyle.

I just wanted to, I suppose my submission is more about how my community telecommunications and communications and where I see my community wanting to or needing to have those communications in the future. So I suppose the first point I would want to make is that we support the extension of the USO to include Internet and mobile phone services. We see our community as using those sources of communication more and more and it is becoming part of our social fabric to some point.

Mobile phones and particularly Internet are becoming a bigger part of education, health, particularly commerce, and the way our local businesses work, our community transactions, because we're slightly remote, our transactions with government. Even our own shire and our relationship with our community is moving more to that electronic, digital communication. So it's just that our community is now seeing these, Internet and mobile communication, as being their standard or their minimum service requirement to interact and the services covered by the USO are increasingly becoming less important in my community.

The Shire of Cuballing does support some sort of national wholesale pricing. We don't see our rural telecommunications market as being anywhere near a perfect market and we're concerned about the services that we're coming to take for granted as becoming more costly for us than perhaps a more populace market. My comments about the Sky Muster service probably more relate to the cost in relation to other services. We're now one of the communities serviced by the NBN fixed wireless service which is a very good service but we have issues with, for us, the Shire of Cuballing, we're unable to get a NBN fixed wireless service in the shire's name.

Apparently Telstra don't, or we can't get that service from Telstra, Telstra don't have an NBN fixed wireless service for a commercial user. They certainly have them for personal home use but not for commercial users, so that is an example of how our market is skewed. We would also mention that, and support, I think, in your draft recommendation 74 about addressing improving the rollout of the mobile black spot and also the NBN coverage in that. We don't see that there's been opportunities, we don't see the opportunities for maximising the service have been always taken.

We would probably suggest that the programs are running the locations and the timeframes of the need to build those structures to comply with the funding program are driving their location and how those structures are put up. I'd just mention a couple of experiences we've had with the NBN and the construction of the two fixed wireless

service in Cuballing and Popanyinning where in our - and we're not technical experts of course, but in our opinion we would have thought that the service was best in the highest part of the landscape. Certainly in Popanyinning that opportunity wasn't taken.

Similarly with the rollout of the mobile black spot program in Popanyinning Telstra chose to build a tower on their land that they owned in the town, which was fine, however that's at the very bottom of the landscape and resulted in a very large tower in the centre of our town. In building that tower Telstra and the program took a very metro-centric attitude to the construction of that tower, whereas - and I say that in that when we took an interest in the location and the scale of the tower there was a presumption that we were being negative about it. We just wanted to maximise the service.

We weren't concerned, there was a presumption by Telstra that we were concerned about radiation and that our community was worried about it and they wanted to reduce the size of the tower, that wasn't our case, we wanted the best possible outcome. And we were willing to work with the programs to make sure that happened. And that could take a point of having the service located on our land, on our structures, we were much more keen about the - we wanted to get the best possible result. And in our opinion that Telstra contact gave us plans in April, they had to have it finished by June, so we didn't get any opportunity to have those discussions about the best site or location.

So we see that there would be opportunities for improving the - we see opportunities for improving Internet and mobile services by at least prescriptive programs and where there is opportunities by taking the opportunities of working with the local communities to make sure those services are best provided. That's pretty much it.

**MR LINDWALL:** Thanks very much for that, Gary. I just want to distinguish here between fixed wireless that's provided by the NBN and the Telstra tower that we saw which is our mobile phones?

**MR SHERRY:** Yes.

**MR LINDWALL:** I couldn't understand when you were saying that the council itself wanted to have fixed wireless service for the NBN service and you weren't able to get it?

**MR SHERRY:** So that we weren't able to get from Telstra?

**MR LINDWALL:** Or any other - - -

**MR SHERRY:** No, we were able to buy it through another provider. But I was using that as an example of the market not being perfect. And one of the largest players who just doesn't have an NBN fixed wireless product for a commercial entity.

**MR LINDWALL:** It hasn't got the satellite service either - sorry, you don't get any satellite there, it's a commercial decision, I guess, but how many retailers have you seen offering fixed wireless services in your area?

**MR SHERRY:** There's only two that are actively advertising in our community, so that's iiNet and Activ8, who sell a service through our local post office.

**MR LINDWALL:** So in the shire what percentage of households do you think would have a Sky Muster service and what percentage would that be fixed wireless service?

**MR SHERRY:** Look, I'm probably thinking of, most of the population is located around our two towns, so I'm probably thinking somewhere between five and 10 per cent of our 800 people are those people living on farms remotely out of our towns.

**MR LINDWALL:** They would be on the satellite service?

**MR SHERRY:** They're on the satellite service.

**MR LINDWALL:** So if we take the fixed wireless service, have people been generally happy about the service?

**MR SHERRY:** In general people are very happy with the service. So we have, there were a number of households in our - a lot of households in our communities didn't have access to ADSL so there was a private provider doing another fixed wireless solution that was inferior to NBN. Lots of people have moved across to the NBN service from that inferior service and have found it very good.

**MR LINDWALL:** And with the Sky Muster, I take it most people would complain somewhere else and not necessarily come to - - -

**MR SHERRY:** They don't necessarily come to you but at the same time the only concern I'm hearing about it is the price.

**MR LINDWALL:** Because it's more expensive - - -

**MR SHERRY:** It's more expensive. And our community want, our farming community who use that service, they want access to Internet as part of their business. And also they're living there so they want that for their family as well.

**MR LINDWALL:** But do you think they understand that a satellite by nature is a fixed service in the sense that it's got fixed capacity and you can't upgrade a satellite, the only way that you can increase capacity is to launch yet another satellite, which is quite expensive of course?

**MR SHERRY:** I think they do. I think by those people that have Sky Muster I think there's a relatively good understanding of how the service works and that they're fixed to that level. Most of them still see Sky Muster as being better, a better service than what they were on before, but they see its limitations. Although they understand they can't, you can't fix it overnight.

**MR LINDWALL:** No because it's split between peak and off-peak data allocations. As an example of the amount of people who are using the Internet to interact with state council do you have any comments about say the number of people paying their rates electronically rather than, I don't know, sending the cheque in the mail or something like that?

**MR SHERRY:** Increasingly people are choosing to use those sort of they pay their rates increasingly by electronic transfer. That's now becoming the norm rather than cash or cheque. Given that we still have a relatively large number of retirees and pensioners in our community that section of our community probably use cash or cheque slightly higher than others. Our farming community and our local businesses probably, I can't think of a farmer who paid their rates by cheque this year. Also we're increasingly using Internet services such as Facebook and our website to put out news and communicate with our communities, SMS as well.

So we have from an emergency services point of view we use SMS a large amount in terms of fire, so we put out warnings about harvest bans during high fire periods. We also use it to communicate with people when roads are closed. We've just had floods this last week so we've been reporting that to our communities through mobile phones, through SMS. We do the same thing through Facebook and other social media as well so that's increasingly becoming how people are finding out about these services that we use.

**MR LINDWALL:** It's changing your business model.

**MR SHERRY:** It's changing our business model, yes.

**MR LINDWALL:** The thing about the mobile phone towers, interestingly, it sounds what you're commenting that Telstra deliberately reduce the power so that it wouldn't have as wide a coverage as it could have. Is that what you're saying?

**MR SHERRY:** Anecdotally people tell that to me but they were keen to reduce the size of the tower.

**MR LINDWALL:** Yes.

**MR SHERRY:** To reduce the level of community concern. There wasn't any community concern. We were wanting if anything to get as big a tower as we possibly could to get as bigger wider coverage as possible. So our community was thinking that rather than there was concerns about radiation or whatever else. So we actually, our community was so in support of that service that we as a shire we cut short the planning process for the tower to fit with Telstra's timeframe for construction by the end of June, rather than - because their suggestion was if we didn't do that they would then shift that grant program to some other community so our community would then miss out that this year. So that wasn't a politically - that's not something that we could have put up with politically, our community wanted the service.

**MR LINDWALL:** But before that tower was installed how much of an increase in mobile phone coverage would you now see in the shire?

**MR SHERRY:** Until the Popanyinning mobile phone tower was erected Popanyinning basically had no mobile phone coverage at all. So it wasn't strong enough to carry certainly voice call. So the local post office, the local bed and breakfast in Popanyinning, they had to install the booster service because people would turn up to their businesses, realise there wasn't a mobile service, they couldn't use their mobile Internet, as say a travelling salesman or business people, so they would go somewhere else rather than stay there. So that just became a necessary cost for them to operate. People now are able to use that.

Our shire office in Cuballing, we're on the - we're due to get a black spot tower this year, so by 30 June this year, so our shire office, we maintain a booster, we need that for emergency services and that sort of to run fires, our fire response. We have local business people that come and park their car in our car park so they can take advantage of our booster service, it doesn't cost us anything but we're providing that, that service is available. We've got that service in our local sporting facility because we had an incident where somebody was staying overnight and had a heart attack and they weren't able to contact the emergency services because that part of town didn't carry mobile phone voice call services.

**MR LINDWALL:** What do you think of the current Perth - I think they've got their own government that provides quite good subsidies for the mobile black spot areas so you wouldn't be aware of whether the money came from WA Government or the federal government?

**MR SHERRY:** I think our money has come from the WA Government. Certainly the WA National Party are taking responsibility for the decision as part of this in our current state election.

**MR LINDWALL:** Are there many pay phones in the shire?

**MR SHERRY:** We have two pay phones, one in Cuballing and one in Popanyinning.

**MR LINDWALL:** Do you support our recommendation to phase them out?

**MR SHERRY:** Yes, I've now lived in Cuballing for three years, I've never seen anyone use that mobile phone, Telstra would probably back that up.

**MR LINDWALL:** You mean the pay phone?

**MR SHERRY:** The pay phone, yes, sorry. I never seen anyone use it. I don't see that as having value. I reckon there would be opportunity, there could well be another program that could replace that if that was seen as worthwhile.

**MR LINDWALL:** (inaudible) Bruce, do you have any - sorry, Garry, do you have any final points you'd like to make?

**MR SHERRY:** No, I think I've covered those pretty well.

**MR LINDWALL:** All right, thank you.

**MR SHERRY:** Cheers.

**MR LINDWALL:** Could I now invite Juliet Grist to come forward here? And then we'll have morning tea after this. Hello. Paul.

**MS GRIST:** Hi Paul. Juliet, yes. Sorry.

**MR LINDWALL:** If you could just introduce yourself and say what you wish.

**MS GRIST:** Thanks, Paul. My name is Juliet Grist, I'm the executive officer of Regional Development Australia Wheatbelt. Regional Development Australia Wheatbelt along with other regional and remote peak bodies and stakeholders view efficient and affordable telecommunications as essential in achieving positive economic development outcomes.

Many, although not all, of the findings of the Productivity Commission as articulated in its draft report are supported by our own regional experience. We also agree with many of the Commission's recommendations contained within the draft report, including the need for a new service framework. Today I'd like to highlight some of those areas where we would encourage further work or further refinements to the Commission's draft recommendations.

Those three areas are baseline or minimum quality, targeted intervention to support thin markets so that affordability is managed, and the provision of basic voice services, whether that's through the public phone system or another mechanism. So first to baseline or minimum quality, we contend that satellite NBN does not meet the minimum or baseline quality requirements for today's world. We agree that the USO is one of a range of measures aimed at ensuring telecommunication services are available, accessible and affordable to cohorts of users that may be high cost and uneconomic to serve.

We draw the Commission's attention to the sad fact that when it comes to small disperse communities in rural Australia the NBN also finds the provision of anything other than a satellite service to be high cost and uneconomic. Consequently these communities will still receive a lesser service after the NBN than their city counterparts receive right now. The change may improve their circumstances but it will not lessen the divide. Further, it may impede their international competitiveness and their ability to partake in the digital economy. Not because the NBN isn't there but because the satellite service does not meet the baseline or minimum quality required of business in these times.

The NBN approach is to minimise the potential impacts of these limitations by stating that only three per cent of Australian customers will have access to satellite services. We are part of that three per cent. In the wheatbelt subregions of central east and south connections to the satellite service are likely to comprise almost three quarters of households in the south and half in the central east. Staying competitive in a business environment is critical and as the business environment becomes more digital so we have to lift our ability to engage with it.

Last time the gross regional product of these two subregions was comprehensibly measured in 2013 it came in at an impressive 2.3 billion, or more than \$80,456 per person. These subregions punch well above their weight in their contribution to the Australian economy. Telecommunications investments in these regions should be looked upon as an investment in the future of the whole country. We are heartened by the Commission's acknowledgement that there are questions around the adequacy of the NBN service as a baseline service within the satellite footprint and also by the Commission's efforts to inquire further as to what the baseline measures should be.

We believe that community definitions around what constitutes basic telecommunications enabled functions has moved with the times and ought to be reflected within the USO. Increasingly basic telecommunications in rural and regional areas extends beyond your email inbox to the delivery of health and educational services such as eHealth services and secondary education such as the School of Isolated and Distance Education which services our region, as well as access to universities with study increasingly including online delivery.

Earlier this year the AMA warned that without access to telemedicine and eHealth services people in regional, rural and remote Australia could fall even further behind in terms of access to quality health services. Current satellite services were identified as grossly inadequate for this purpose. NBN officers have confirmed to us that the satellite provides for a maximum speed of 25 megabytes per second with no guaranteed minimum.

Two; targeted interventions to support thin markets so that affordability is managed. Some participants in your inquiry have argued that the relative affordability of services is ultimately a function of where you live and that rural and regional communities need to accept that some things will be more expensive. And of course they are. The thin regional remote telecommunications market of the WA Wheatbelt and other WA agricultural and resource regions will not attract the level of competition or have the profit opportunity for service providers that urban markets will. This is across telecommunications and many other categories of products and services.

The choices, that either the regional user pays a premium which in a thin market is usually significant, as some examples in our written submission show, or the taxpayer and/or urban users subsidise an equitable level of affordable service to regional and remote areas, whether that be through a regulatory framework such as the USO or through direct subsidies. Of course the residents of these thin markets are themselves taxpayers and often do not have access to the services paid for out of taxpayers' funds that are taken for granted in more populated areas.

These families still contribute their share to the tax pool even though they cannot necessarily access the services provided. In 2014 WA's agricultural production was eight billion with the wheatbelt producing five billion. Similarly the value of the WA mineral and petroleum industry was 84.6 billion in 2015/16, which represented 53 per cent of the total national value of the mineral petroleum industry. All of this was generated from regions with an estimated population of 1.7 per cent of the national population. When it comes to telecommunications these regions are receiving a significantly lesser outcome than their urban counterparts despite their importance to the nation.

I personally am encouraged by the talk around the capability of the 5G network which suggests significantly improved quality that will vastly exceed the capability of the NBN satellite service. Perhaps this is the way forward. The principle of support and the philosophy of the universal access of the same standard applies whether or not the mechanism for delivery changes. We agree with the Commission that any further government intervention should harness markets while closely targeting particular user needs.

We do believe, however, that this needs to be supported by policy frameworks and mechanisms that recognise and properly define the rights of the three per cent as being equally entitled to available, accessible, and affordable telecommunications and not left to the whims of the political cycle.

Three, the provision of basic phone services, whether that's through the public phone system or another mechanism. RDAW recommends that concessions be kept in place or implemented for disadvantaged elements of regional remote populations to ensure their access to basic phone services. We agree with the Commission that there are some user groups whose specific needs are not likely to be addressed in the absence of the USO. For people in regional and remote communities who do not have the means to own and use a mobile phone or lack mobile phone coverage such as our community members who may be poor, or where the technological divide exists such as with some elderly, the removal of the public phone network may result in a complete inability to communicate with anyone not in their immediate surrounds.

This is particularly relevant for people experiencing crises. We note that the Commission has considered this in its draft recommendations and considers that these needs could potentially be met by a targeted program of funding. A concept we would agree with in principle but in practice experience suggests that unless there is a mechanism such as the USO to require the provision of such services they are likely to come under the cost per head argument or a change in government priorities with funding inadequate, and where it exists, short term focused. This will leave very vulnerable people even more vulnerable and serve to further marginalise them from society and the support mechanisms that do exist.

For rural and regional Australia this is particularly relevant as face to face services are increasingly replaced by contact centres and online portals. Access to services can be effectively cut off for vulnerable groups because in order to get to them you must first

purchase either a mobile phone or a computer, provide evidence of your fixed evidence in order to connect with a service, and so forth.

So we do support targeted programs to address the needs of vulnerable groups but strongly recommend that the Commission look at ways to ingrain the support within a legislative framework that protects access for all Australians. The simple fact is that efficient, affordable telecommunications are an economic and social necessity in regional and remote areas in the 21st Century. If we were building a national highway we wouldn't say I'm sorry, when this national highway goes through your remote area containing only a few hundred people it will go to a dirt track. We keep the national highway bitumen and of a high quality so that all can connect to using it, goods can move through it, and the national economy is supported.

Telecommunications should be the same. It needs to link our communities with each other and with the goods and services produced. You might argue that a dirt track, or in technological terms, satellite NBN providing voice capability, meets the basic needs. But actually in today's world it doesn't. That's all, thanks.

**MR LINDWALL:** Could I just follow-up and ask you when you mentioned the satellite doesn't provide a sufficient baseline, are you talking about voice or data or both?

**MS GRIST:** Both.

**MR LINDWALL:** So what's the alternative? Well, let's talk about data then, what's the alternative, and (inaudible)?

**MS GRIST:** Well, what I look there is the baseline measurement in the city is a minimum delivery of 25. That is the maximum possible delivery under satellite. So our maximum, we can't get any better than what is asserted to be the minimum standard for the city. And NBN advised us that there is no guaranteed minimum. So there is no guarantee that once everyone is on, because of course the satellite is up but a lot of our communities aren't yet connected to it because of the delay in getting satellite dishes put on the roofs.

**MR LINDWALL:** Just on the point about guaranteed minimum?

**MS GRIST:** Yes.

**MR LINDWALL:** There's no guaranteed minimum in the cities as well. In fact I have fibre to the node NBN in the moment in my premises in Canberra and I get around about - I wanted to get really fast, but I get around about 12 to 13 megabits per second. So it's well below 25.

**MS GRIST:** Yes, which is not good, but - - -

**MR LINDWALL:** There's actually a copper line that connects (inaudible)

**MS GRIST:** Well, because we don't have that, we only have the advice given us by the NBN, the NBN have advised us in writing that the minimum for fixed wireless to the connection point is 25 megabytes per second, upload I think that is. And that is the maximum that will be received by satellite. So we are only operating on advice because we don't have that ability.

**MR LINDWALL:** But does that suggest that, do you think, that the eight billion or so that's been spent on the Sky Muster has been totally wasted?

**MS GRIST:** No, I don't think it is, has been wasted, what I have an objection to is it being considered to be sufficient baseline service. It does not meet the requirements to say that is all that needs to be done. So we do agree with your recommendations that in these small pockets there should be targeted if it's to enable communities to work at ways to improve that so that the baseline can rise. What we're concerned about is if that's left to the market and not ingrained within a framework that there will be no ability for that to happen in real life.

**MR LINDWALL:** Now the NBN service of course is based upon a wholesale capped price cap and there are a number of retailers within the satellite zone, I think there's up to about 12 retailers?

**MS GRIST:** Yes. In our written submission to you, I might just have to check with my researcher, I think we looked at 121 different plans?

**MR EVANS:** Yes. (inaudible)

**MS GRIST:** We modelled 121 different plans that were delivering within our region to look at the affordability issue, and we've included that in our written submission, and that the bottom line was significantly more expensive than even a quarter of the delivery in urban areas.

**MR LINDWALL:** But isn't that the - I mean, wouldn't the argument be that the satellite service is by nature fixed user capacity and you can't increase the capacity without launching more satellites?

**MS GRIST:** I guess it depends what you're arguing. Like the capacity, whether they've got this or that, they're still only guaranteeing a certain level of - well they're not guaranteeing any level of minimum, and a maximum, so that's not going to change whether there's two million people or one million people on it. What we're arguing is it does not meet the baseline requirements. It is insufficient for you to undertake work today. For example, it's been noted as insufficient for rich content. Now if you're doing School of the Air what that means is kids out there cannot access a video to watch that their counterparts can in the curriculum, they would have to have a modified curriculum because they simply cannot access the material that would normally be used to support learnings.

**MR LINDWALL:** Well we've had testimony from the Isolated Children's Parents Association who said that the Sky Muster was a good service - - -

**MS GRIST:** Much better.

**MR LINDWALL:** And they've got 50 gigabytes per student and they thought that was about right. Even if you're not getting 25 megabits per second, and let's say you're only getting 14 megabits per second, you know, high quality definition of video uses about 4 megabits per second at most, maybe, voice call is 150 kilohertz per second, so it's still pretty fast. And is it a bit unreasonable asking for a service that's a minimum of 25 when that would be phenomenally expensive for the Australian taxpayer?

**MS GRIST:** Well, NBN has advised us that is the minimum service that is being provided to urban. So I take on board your note that that's not your understanding that - - -

**MR LINDWALL:** Well the government's objectives is that - - -

**MS GRIST:** That is our written advice from the NBN, yes.

**MR LINDWALL:** It also depends what package you take.

**MS GRIST:** For sure.

**MR LINDWALL:** You could take a 12 megabit package or a 25, and I must point out that the ACCC, the Australian Competition Consumer Commission, has been undertaking a study about how retailers, the retail service providers, advertise their services. And different retailers have different speed throughputs because of the capacity they've got. So it's more than just the NBN issue, it's the issue of retailers.

**MS GRIST:** Absolutely. And as I said there, like I'm personally excited by the possibility of the 5G network. By the time our NBN is rolled out I think we've got another three years before we're rolled out in our area, and that includes installation of satellite dishes so that everybody can access it, by the time that's all rolled out well the 5G network may be out. And in fact we may say well that's great, we'd rather invest in mobile, we have quite good mobile coverage across our area. But I don't know enough about it. But maybe that's the solution, and that's - - -

**MR LINDWALL:** Well it will be for some areas but not necessarily - - -

**MS GRIST:** For everyone.

**MR LINDWALL:** Not for everyone. I mean 5G, the technology is very small cell coverage at a much higher frequency which means that the coverage is not as broad as lower frequencies so in general the people I would speak to would say that for very remote areas low frequencies are good because they can give you much longer coverage between towers.

**MS GRIST:** More distance, yes.

**MR LINDWALL:** But the 5G which is very high throughput megahertz per second and a gigabit a second or more would require very small cell sizes so it would be interesting to see how it works out.

**MS GRIST:** Yes, but that to me just reconfirms our point that there should be an acknowledgment there's a minimum level of service requirement without necessarily stating the mechanism that needs to provide that. And these small and remote communities should have some discretion to work out amongst all the technology that is available, given that it's still rapidly changing, what works best for us as a community. A lot of these areas the communities are investing their own money in these solutions but at the moment the way the system works you can't say well actually we'll forego the NBN and that money that would have been spent on us we will actually prefer to get this higher quality service that we will co-invest in. There's not that option available.

So we will encourage the Commission to look at setting a framework that has a legislative base level that is higher than the base level provided by the NBN satellite service. But again we would agree with the Commission's recommendations that small communities who are in that three per cent footprint should be able to have targeted mechanisms. But we would also encourage that those targeted mechanisms to allow the communities to have some say in what those are because a lot of them are co-investing, and we have communities in our own region who are investing all of their own money in a solution because the NBN satellite is inadequate and they're not able to in any way share in the money that would have been spent by the NBN in their community to redirect it to co-invest into an alternate high quality service.

**MR LINDWALL:** Are you sure that people who are dissatisfied with the NBN Sky Muster are not talking about the ISS, the interim satellite service?

**MS GRIST:** No, no, the interim satellite service people are very dissatisfied with. It is true to say that because we don't have all of our area actually activating on Sky Muster that we have limited experience with it so people are going off the technical requirements of what it offers and saying that is not enough along with their experience of the interim satellite, which again had no guaranteed minimum with NBN advising us there is no guaranteed minimum under the satellite either, so it is possible that when everybody uploads to it, because of course not everyone is on it yet, that the service does in fact drop back.

**MR LINDWALL:** Although the other argument with that is it is still being rolled out and there are some teething problems and some of the reliability issues should be temporary.

**MS GRIST:** Yes, we have not had that feedback from the NBN. Our feedback when we met directly with Bill Morrow was that if it becomes an issue they will just launch another satellite. But we have some scepticism over that sort of approach because we

have direct experience of the interim satellite when of course all these promises were made before that as well and then all undone in the rollouts. So, yes, you're quite right, a lot of our feedback on the inadequacy of the satellite NBN is based on what it can actually do rather than - we are surveying the entire region but that takes some many weeks to undertake.

**MR LINDWALL:** I take all your points about the importance of technology and that but the thing that your complaints about you having guaranteed minimum of 25 megabits that's been unique. People have criticised to this inquiry about unreliability or about the use of satellite for voice calls and so forth, but I don't think anyone else has said that we make it mandatory about the minimum of 25 megabits a second - - -

**MS GRIST:** Well whether it's 25 or not our argument is equal, it should be our minimum should be the same minimum as is experienced by urban counterparts, a regulated minimum.

**MR LINDWALL:** But there is no - I want to be a sort of devil's advocate here, because everything comes with a cost.

**MS GRIST:** Yes, but that's why we argue that it should be viewed an investment not a cost.

**MR LINDWALL:** But then you don't get the same access to hospitals, the roads are not all the way - - -

**MS GRIST:** And this is yet another example. It doesn't make it right.

**MR LINDWALL:** But everything is a balanced cost and benefits surely?

**MS GRIST:** Yes, but I'm not saying to you that we should require the NBN to offer that. What I'm saying is what we don't want you to do is to say is the NBN is an adequate service, a satellite service. Communities don't think it is. Communities should be able to have some discretion on how they resolve that so that they can provide an equal service to their residents. At the moment they don't have that unless they provide 100 per cent of the capital themselves. So they make other choices.

There may be other better technologies that they want to enlist to be able to provide that equal service. Particularly in light of the fact that NBN, according to the NBN, was only ever intended for households but actually these regional people are business people. We are producing a huge amount of business output out there and a huge contribution to the economy. And the businesses are only able to access household Internet. It is just not adequate.

**MR LINDWALL:** Have you actually spoken to NBN about this, because they do provide business services?

**MS GRIST:** I've only spoken to Mr Morrow and he says that it's never intended as that, it's intended as a household service.

**MR LINDWALL:** Any final comments then Juliet?

**MS GRIST:** No, I don't think so. This is our third submission to you for this inquiry so probably between it all we've covered all our opinion. Our public phones, we really - sorry, I just want to - - -

**MR LINDWALL:** The public phones, yes?

**MS GRIST:** Because it has come up. In our role we spend a lot of time trying to make sure our disadvantaged are serviced. The point I want to make around this is our disadvantaged are the people who can't usually access Internet or can't usually access mobile phones when they're in crisis. Almost all federal services are moving to online only.

**MR LINDWALL:** Yes.

**MS GRIST:** If you don't have a call centre or you have online and you don't have access to some form of communication method whatever that might be for the disadvantaged you effectively lock them out of the system. We have done, we've put it in our submissions already to you, but we have done surveys looking at disadvantaged households and how many are connected. And it's less than half. So even though they may not be used very often when people are in crisis they're a necessary connection.

**MR LINDWALL:** The payphones?

**MS GRIST:** Yes, we've said they're not necessarily payphones but a communication mechanism that allows people to go and put their 50 cents in or whatever. At the moment you can't use Internet or phone unless you have the equipment and you have a fixed address and you can have a plan. At the moment the mobile phone is the only mechanism that allows you to go and spend 50 cents and make a connection, everything else requires an upfront capital cost.

**MR LINDWALL:** You mean the payphone?

**MS GRIST:** The payphone does. So whether it's a payphone that continues or some other local support mechanism that allows access to the disadvantaged, I think it's very important that we if we're removing infrastructure really remember that that infrastructure is actually servicing disadvantaged community that do not have access to these other things all of the time, particularly in crisis.

**MR LINDWALL:** That's a good point but in the case of payphones usage has dropped precipitously and it does cost quite a bit of money to - - -

**MS GRIST:** Perhaps payphones isn't the right mechanism, perhaps what it is - - -

**MR LINDWALL:** The mobile phones, people can use a mobile - for example, a survey in Sydney showed that over 90 per cent of homeless people had a mobile phone that they used. It's a pretty high - - -

**MS GRIST:** But we would argue for the 10 per cent that don't, yes. So it's no problem if people have the service, it's fine, but how do you manage the 10 per cent that don't? Or in our case, the more than 50 per cent that aren't connected. It's how do you - maybe in 20 years' time it will be a different conversation but at present the community has not moved to the fact that there is community support. My son locks himself out of the house and he goes down to the library to use the Internet to contact me, he doesn't have a library card, he can't message me, he can't contact me, he has to wait until I come home to unlock the house. And a homeless person or a disadvantaged, that's their everyday life.

**MR LINDWALL:** Well thank you, Juliet. And I think it's time to have a break, if everyone wants to have morning tea.

**ADJOURNED**

**[10.51 am]**

**RESUMED**

**[11.06 am]**

**MR LINDWALL:** Make some submissions, Martin.

**MR ALDRIDGE:** Thanks.

**MR LINDWALL:** So just introduce yourself and say what you wish.

**MR ALDRIDGE:** Yes. Thank you, Commissioner, and thank you for the opportunity to present at this public hearing today, and for the Commission bringing the public hearing to Western Australia, which I think is important. My name's Martin Aldridge. I'm the member for the agricultural region and I'm here in that capacity.

Along with health and education, it's my view that telecommunications is the other top three issue affecting many of my constituents in regional Western Australia. The submission that I did make, before attending this hearing, outlines the electorate that I represent, which is some 204,000 square kilometres, comparable to the size of Victoria, some 100,000 electors and 60 local government authorities, to give some context to that part of Western Australia.

I'd argue that in today's world, telecommunications is as essential as other critical infrastructure, such as power and water. Many of the things that we do in everyday life, we cannot live without access to good telecommunications. Some of the challenges that I'm regularly faced with by people living in my electorate and their availability and access to telecommunications, include access to emergency services, and that could be

simply their ability to call for assistance when that is needed, or emergency services themselves operating within regional or remote environments with many of them moving towards computer-aided dispatch and digital radio networks, requiring telecommunication networks to operate.

Reliability for business systems, some examples include small businesses that are unreliably able to access EFTPOS facilities to make basic transactions, band width for medical practices to access cloud-based technology. Obviously, in an electorate with sparse population and small communities, we often see, in particular, GPs working across practices and across towns. That is certainly one of the issues that has been raised with me during my term, in relation to their ability to access technology within their practice.

Agricultural businesses being unable to adequately download software and access other marketing tools. The deployment of education and health technology is a really important one.

Certainly, from my perspective, what we've tried to drive in regional Western Australia, is a change in the way we deliver services, particularly government services. Rather than throwing money at the same old problem to deliver it the same old way, we're trying to deliver, particularly some of those core services, where possible with technology or, at least, with reform. Sometimes that can be difficult.

One example of that is Western Australia is really leading Australia, and in fact internationally, in terms of the deployment of emergency tele-health services. Many of our very small nursing posts and country hospitals are now connected to an emergency tele-health network, which gives them access to an emergency medicine physician based in Perth, but indeed they could be based anywhere in the world, to provide that type of emergency medical expertise in small hospitals, where you might not see significant emergencies or trauma regularly.

In one town north of Perth, Lancelin, where we have a remote area nursing post run by Silver Chain, I'm told that deploying the band width to the medical centre there to support emergency telehealth, costs in the order of \$100,000, and that wasn't including the technology itself.

Some of the previous presenters today have talked about small towns and fixed wireless versus satellite technology deployment under NBN, and it's something that I do want to talk about this morning. My understanding is that, originally, under the, I guess, version one of NBN, we were expecting many of these small, particularly wheat-belt, towns in my electorate to be connected under the fixed wireless technology rollout. We're now seeing a greater number of them move to satellite connections.

My view on that is that was largely done to reduce the costs associated with the NBN build because, obviously, NBN had some costs associated with the deployment of the satellites and, the more customers from small communities that could be moved onto fixed satellite, would overall reduce the cost of deployment of the NBN program. These are in communities, if I can just name a few: Bruce Rock, with a possible 579 connections; Corrigin, 544 connections; Quairading, 462 connections; Morawa, 425

connections, just to name a few of the larger ones. So they aren't, what I would consider, really small communities. They are towns of reasonable size and reasonable number of connections that will be connected to the satellite Sky Muster service.

One of the things that I don't think is recognised, in the shift between fixed wireless and satellite technology under the NBN, is the costs of connection, not to the customer, but the cost of deploying the technology to the household or to the connection. I'm advised that fixed wireless technology costs about \$2,000 to deploy, \$8,000 in comparison for Sky Muster satellite. A greater cost to NBN to connect those premises but, I guess, overall potentially a lesser cost in terms of not having to deploy a fixed wireless technology solution to those towns.

I am, fortunately, a fixed wireless customer. I live in a town about 85 kilometres north of Perth, recently connected to the NBN fixed wireless network. Initially, my experience, I receive 10 megabit per second service which, in my view, was more than adequate for what I needed. In the few months since I've connected, that service has deteriorated to some two megabits, and hasn't improved since. I'm told that the aspects of the NBN fixed wireless network are being affected by Spectrum interference, particularly around the mix between rural and urban environments where the ACMA have issued licences for Spectrum which might be conflicting on the boundaries of those Spectrum licences.

I agree with some of the previous presenters this morning, that we must ensure, particularly if we're looking at a future without USO and a move away from Telstra's copper network, NBN will provide a superior service to what we currently have available in our community, especially in relation to those satellite services. We've had some discussion this morning about the ability to transmit voice over satellite.

I think that there is definitely a role for government to continue to have policy and maybe even legislative framework to deal with market failure. That's probably going to be more prevalent in a Western Australian context where we have probably the most concentrated population in our urban areas of Perth and, as the largest State in Australia, have populations scattered from the very northern to the very southern parts of our state.

The draft report of the Commission recognises the increasing affordability of fixed line and mobile services over time. I think it's important to note that many people in regional Western Australia still rely on mobile data as their primary data source, and that continues to be, although improving, high costs in comparison to other options. Small local governments in my electorate, relying on mobile data, are paying in the order of \$10,000 a month for their connections.

In terms of funding and the recommendation from the Commission about phasing out the USO over time, the telecommunications industry, and ultimately consumers, have contributed to the industry levy in different forms for some time. I think that's largely accepted, or not known by consumers that a part of their communication cost is in relation to the industry levy. I hold the view that a levy based funding model should be retained in preference to a government funding model, largely driven by budget sources.

I think there is great risk to regional consumers of having a politically driven or a budget driven investment by governments in relation to dealing with market failure of telecommunication networks. I think that this issue is as important, as I said, as maintaining water or power supplies to our communities and should be something that has a level of certainty and guarantee about it. Budget funding probably presents greater capacity, but I think it also presents greater risks.

A revised USO, in my view, would have regard for the NBN rollout and its capacity to deliver data and voice services. I note there were some submissions made to the Commission in relation to voice over Sky Muster, and I think Telstra made some observations in their submission about their experience with voice over their satellite service and whether or not the Sky Muster service could deliver, if optimised, a voice over satellite service. I don't come from a technological background. My job is to know about two per cent of every issue. So I guess I'll leave that to the technical experts. But it is something that I think really does need serious consideration in terms of this inquiry in relation to the USO.

I agree that there should be a minimum service standard, for voice and data. I guess there'll be some speculation as to what that should be. But I think there does need to be some guarantee to, particularly, regional consumers, that they will be not worse off under a phasing out of a USO or a reformed USO arrangement.

As I said, I think the levy funding is probably the best way to deal with market failure in remote and regional Australia. I think, at the moment, we see a greater number of fixed line deployment under NBN to, particularly, the urban areas and maybe our larger regional cities which, I would argue, are probably more likely to be your commercial, or close to commercial markets, which are probably the ones that were cross-subsidising those thinner markets in the regions. That's where my greatest concern lies, in terms of delivery of a minimum or a baseline service to those consumers. Thank you.

**MR LINDWALL:** Thank you. That's great. On the fixed wireless, and since you've got it at home, have you used it for voice calling?

**MR ALDRIDGE:** No. I haven't tried it. My plan comes with a VoIP service. When I made the connection, it actually took some time to convince my retailer that I was able to retain my copper service from Telstra, because they insisted on me shutting it off.

**MR LINDWALL:** Yes.

**MR ALDRIDGE:** It probably delayed my connection process significantly, while the retailer went through the process of understanding fixed wireless. I think the concern I relayed to NBN through that process is, perhaps other consumers may not have persisted with that process because of the challenges that I faced in terms of retaining my copper line to my home whilst gaining fixed wireless for my data. When I connected to my fixed wireless data, I had to agree over the phone to some lengthy disclaimer by the retailer

about what the voice service could or couldn't be relied upon to do. I think I had to waive my rights under - - -

**MR LINDWALL:** The consumer service guarantee?

**MR ALDRIDGE:** Yes, to receive that service, which I thought was interesting given the retailer was insisting on me shutting off my Telstra provided copper service. I haven't tried the VoIP service. The reason why I do currently have a copper line still connected to my home, which I haven't had for some years, is in relation to certain security equipment that is in my home that can't be guaranteed connectivity by the NBN VoIP services.

**MR LINDWALL:** There's a company that we met in Melbourne that does a lot of testing of all sorts of services, including EFTPOS machines and so on and security services, about their ability to work with different types of technologies. I heard that fixed wireless should work quite well with security, but maybe I'm wrong.

**MR ALDRIDGE:** Yes, I haven't tried it yet. I guess my experience, at a previous time, with using VoIP over ADSL was very unsatisfactory, so I wasn't rushing back there.

**MR LINDWALL:** I think our experience, and Telstra's testimony also and its submission, that voice over fixed wireless is a very good service and the same with fixed line, of course. The area that is most of concern is voice over Sky Muster.

**MR ALDRIDGE:** Yes.

**MR LINDWALL:** For the reasons that have been outlined before.

**MR ALDRIDGE:** Yes.

**MR LINDWALL:** I'm surprised about the two megabits a second. I mean, fixed wireless is supposed to have - you'd be able to buy up to 50 megabits a second. It may be partly to do with this, as you say, interference. Although even then, it's highly beamed into the location. Or it may be your retailer, I'm not sure. The contention ratios can be quite different. When you get a low speed, it's not necessarily the NBN. It can often be the retailer not providing enough, buying enough, CBC capacity for example. Anyway, that's just an aside.

I accept, and there's no doubt, as you read in our reports that technology and dealing with governments, increasingly digitally, is important and vital to today's society. I met Martin Laverty, of the Royal Flying Doctor Service. He gave me an example, which I thought was a great example, where there's a capacity to register a ECG device on the back of a mobile phone.

So he can have someone, say, with a heart condition in a remote or regional area, and if they get some pain they can use the sensor and it immediately detects if, say, it's an angina attack versus a cardiac arrest. That way they can say, if it's a cardiac arrest they,

of course, send the doctor on the plane straight away. If it's angina, they're able to take the nitro-glycerine medicine. But that was a great example of where technology is able to optimise and get a better outcome than before we had that type of data.

Do you get many people from your constituents, talking about Sky Muster and its service and their concerns about how it's been rolled out?

**MR ALDRIDGE:** Not a lot. I generally try and solicit information from people that I meet that have changed. Generally, the response I get is satisfaction from the new Sky Muster service, in comparison to the interim satellite solution. But, I think, the caution that I put in that is almost universally people express to me concern about what the satellite service will look like once 400,000 customers connect to it.

**MR LINDWALL:** Yes. 400,000 premises, yes. This is the issue, isn't it, about the satellite is a residual, if you like, and the more people that are on fixed wireless or fixed line, the less demand on the satellite service. Your point, I think, is reasonable about as it was being rolled out that more people who would've been on fixed wireless that are now going onto satellite, well that increases the demand on the satellite. But it's up to NBN to balance those costs and benefits. I'm sure it is the case that the installation at the home of the satellite, is going to be more expensive than the fixed wireless. But they must have had a calculus about the cost overall. I don't know. The capacity of fixed wireless is, effectively, unlimited compared to satellite.

**MR ALDRIDGE:** Yes. It's a point that I've put to NBN with respect to their Technology Choice Program. We have a number of these communities, some of them that I mentioned, that are destined for satellite. They aren't, what I would consider to be, small communities. A community with connections of 500 premises is not small in my mind, in comparison to my electorate.

**MR LINDWALL:** Exactly.

**MR ALDRIDGE:** The question that I have put to NBN was that if you're exercising some sort of a co-investment through the Technology Choice Program, how did they model the \$8000 connection versus the \$2000 connection in terms of their capital contribution to a, say, fixed wireless network?

**MR LINDWALL:** Yes, exactly.

**MR ALDRIDGE:** I haven't quite got a clear answer on that yet.

**MR LINDWALL:** It would be interesting. I think NBN should've surveyed, if there's a community of 500-odd people, they could ask, "Are you willing to stump up a little bit of money, and we'll get you a better service", or something and maybe that might've got over the hurdle. But I'm not sure that's happening at all.

**MR ALDRIDGE:** Yes. I think there are communities that are putting in requests under the Technology Choice Program. My view of that to date is, it's a bit like asking Western

Power how much it would cost to connect your new house on the farm to power. They generally give you a quote which is that unreasonable, you don't come back again. It's so ballpark and desktop that it generally scares off anybody that might be considering it.

In terms of fixed wireless, I've heard of communities saying it's about \$1 million a tower, in terms of the quotes that are provided. Whereas, I talk to others in the industry and also, I look at some of the planning applications made by NBN for their fixed wireless network, and it's somewhere in the order of probably 20 to 25 per cent of that cost.

**MR LINDWALL:** It is. \$1 million is ridiculously high, yes. The Mobile Black Spot Program, have you got any comments about how it's been rolled out and if you support it? And, if you do support it, how it could be improved even?

**MR ALDRIDGE:** We support it. The State of Western Australia has invested, since 2008, initially through the Regional Mobile Communications Project. That was a program that predated the Mobile Black Spot Program federally, which saw a partnership between Telstra and the State of Western Australia through Royalties for Regions.

**MR LINDWALL:** Yes.

**MR ALDRIDGE:** That's been extended into the Regional Telecommunications Project at two stages of the Regional Telecommunications Project which, I think, has delivered or will deliver 344 new mobile base stations, predominantly with Telstra. I think, where we are wanting to progress is recognising that mobile phone towers are essential in terms of people on the move, mobile accessibility and, in some cases, mobile data. But there are others that have a different data need which aren't going to be met by mobile phone tower programs alone.

Recently, the State of Western Australia announced a \$22 million fund through Royalties for Regions, particularly targeted at agriculture and how it can improve or innovate, in the space of technology provision to the agricultural sector. I think we are, rather than government having all of the answers, we're actually looking to industry and innovation to, perhaps, deliver some of those solutions.

In talking about the NBN Technology Choice Program, there are also lots of other private sector players that are looking at developing retail, largely, fixed wireless networks. I guess, the upside to it is, that could potentially drive some competition in those markets.

But also I'm a little bit concerned, from a government policy perspective, if we were to be investing in those networks, having some assurance around their model to make sure that it's sustainable and reliable in terms of the service provider, because Western Australia does have a history of failed networks. You've only got to drive through some of the small towns to see some of the old infrastructure still sitting on the roofs from previous companies that have had a go in this space. Obviously, that was some time ago.

But NBN, I guess, presents, perhaps not the least cost option, but an option which is government-backed won't fail, but still unclear on how we resolve, particularly, large portions of my electorate which won't be accessing any technology option other than satellite.

**MR LINDWALL:** Do you have any comments on the exposure drafts of the statutory infrastructure provision legislation that the Federal Government has put out for comment? That's to do with effectively, not entirely but partly, making all that look like a wholesale guarantee for NBN.

**MR ALDRIDGE:** No. No, I haven't seen them.

**MR LINDWALL:** Have you also seen the regional broadband levy proposal? In the city areas, we have competing wholesale provision of course, in Sydney and Melbourne and so forth.

**MR ALDRIDGE:** Yes. Yes.

**MR LINDWALL:** Some people are saying they're cherry picking obviously where there's a lot of revenue source and this would help fund NBN to provide services in the regional areas, is that something - - -

**MR ALDRIDGE:** Yes. I think that, generally speaking, most of the people that I talk to and interact on this issue are more concerned about coverage than competition. That's certainly the point that I've made to the ACCC in terms of their inquiry into domestic declared roaming. I think most people who can afford to pay for the services will, as long as they have a decent service and a reliability of service. I think, certainly under our mobile phone tower program, we've come under pressure to fund more Optus and Vodafone infrastructure in regional Western Australia to promote competition.

**MR LINDWALL:** Yes, yes.

**MR ALDRIDGE:** Whereas the great challenge that I have in my electorate is actually having continuity of service and highway coverage and the like, which I think is a great and more pressing priority than them duplicating networks by investing in competing infrastructure.

**MR LINDWALL:** That's a good point. The other thing is, I think it's an observation that I've made in this inquiry, is that data use is highly skewed or asymmetric. 50 per cent of the data in the world being used is generated by Netflix and YouTube combined. They're some very heavy users of data and that's fine. But quite a few people in the cities now just have mobile phone contracts and, whilst the data is more expensive, they obviously don't use it terribly much so they find that better than having an NBN contract plus a mobile contract.

**MR ALDRIDGE:** Yes.

**MR LINDWALL:** But I'm surprised that your councils that you're talking about, with the bills of \$10,000 a month, why aren't they using the NBN satellite service or something like that, where the data rates would be quite a lot less than that?

**MR ALDRIDGE:** Yes. I don't know the answer. Perhaps they are progressing to satellite options or there's some limitations perhaps. Some limitations. But they were towns that don't have ADSL connections. They don't have ADSL exchanges.

**MR LINDWALL:** Yes. Yes.

**MR ALDRIDGE:** Up until recently, they didn't even have mobile phone coverage. So they had mobile phone coverage as a result of the joint investment by the State and Federal governments and industry and they don't have, really, other alternatives that deliver a better service. I think we've also seen some of the challenges of the deployment of NBN infrastructure and the impact that that's having on ADSL technology. I completely understand Telstra's reluctance to expand or invest in ADSL infrastructure with such an uncertain future in some places.

**MR LINDWALL:** Yes.

**MR ALDRIDGE:** So particularly larger regional centres, even small towns, that have constrained ADSL capacity pending, perhaps, fixed wireless deployment by the NBN which still could be some months or years off.

**MR LINDWALL:** Finally, I think, it's come out in a few of the hearings that a lot of areas have been crossed by fibre optic which, the claim is that it's being under-used. For example, fibre optic running up to a mining site or something and it crosses past some towns and it could be used, theoretically.

**MR ALDRIDGE:** Yes. Yes.

**MR LINDWALL:** I mean, what do you think about that? Do you know if the WA government has been looking at, say, doing a stock take of the fibre optic coverage and could it be better exploited than it currently is?

**MR ALDRIDGE:** Yes. I'm not sure what the state government has done in that regard, but I've certainly had several conversations with that view in mind, that even once you start to scratch the surface, you even find State government agencies that own fibre networks with capacity, which aren't that widely known, then obviously, understanding the access or the potential access that could be provided to those fibre networks.

I have a view that the State certainly could play a role in terms of determining the fibre network that we have and its capacity and its accessibility, but also, potentially, developing a blueprint into the future that might help shape future state and maybe Federal Government investment in dealing with some of the areas which NBN aren't going to service well, in my view.

Obviously, I think, there's some opportunity through the inquiry into the USO to, perhaps, shift the USO towards more modern technology choices than perhaps traditional fixed line services, but respecting that fixed line services will probably remain in some places as the preferred option. But, I guess, having regard for how the USO could, perhaps, deliver better outcomes using different technologies and maybe through different services providers.

**MR LINDWALL:** Yes, yes.

**MR ALDRIDGE:** In some cases, it could be NBN. In some cases, it could be existing Telstra infrastructure. In some cases, it could be new private investment into some markets. I think that's where there's some great opportunity in terms of reforming the USO, particularly with the significant decrease in fixed line services and the shift away from them where there are better technologies available.

**MR LINDWALL:** While being technologically neutral, of course.

**MR ALDRIDGE:** Yes.

**MR LINDWALL:** Martin, thank you very much. Did you have any final comments you'd like to make?

**MR ALDRIDGE:** No, thanks.

**MR LINDWALL:** Thank you. I much appreciate you coming here today. Could I invite Andrew Mangano? Hello. If you could just introduce yourself for the record?

**MR MANGANO:** Hello, everyone. My name is Andrew Mangano. I'm a professional engineer in 31 years of telecoms experience. Just a brief introduction about me and my company. My company is called Great Northern Telecommunications and we specialise in telecommunications network planning, design, construction, operations, in Western Australia. I was responsible, myself personally as a Telstra employee, for all the high cost rural and remote area service connections from 1991 to 2000, that's including managing individual customers right up to projects, yes, like optic fibre projects.

Background. Telstra is the current monopoly supplier of USO services. Most USO services in WA are on copper, but there's quite a few on two channel radio, HDRC, USO sat, and some are on optical fibre, particularly large Aboriginal communities.

Just a little bit of an example, this is back in '94 when I was in that job, we had a DRCS up north of Broome. It was highly overloaded. It'd only been there seven years. Similar to the Sky Muster situation, totally overcooked. Long and short, we put an optic fibre in 1994. We picked up Beagle Bay, Lombadina, One Arm Point, Signet Bay, put them on fibre. Twenty-two years later, still on fibre, still doing good job. Technologies on the ends have changed, but they've even got mobile coverage, as a result of it, they would not have got otherwise. That fibre is going to - it'll be there for another lifetime or two.

Rural copper and two channel radio and HCRC are all at end of life. It's well acknowledged that they're well past end of life, in fact. Mobile covered is highly variable, as has been highlighted by just about everybody. Highly variable. You cannot guarantee. Today you've got coverage in one place and then next day maybe not, because someone else is doing something else close to the town and cooking the network. You can't rely on it. You certainly couldn't rely on it as a data medium. Voice maybe, but not data, not unless you've got the base within cooee of your house.

NBN satellite, as everyone's just see, latency is shocking. Weather has a direct affect to the data. As soon as it starts raining, the data speed slows and slows and slows and slows till it stops. It basically has an algorithm that looks at the fading, the radio signal fade margin, and drops the data speed accordingly until it gets to a point where it just says, "Okay, I can't send any more data". I don't know what the hell NBN were thinking when they put a station in Geeveston, Tasmania, of all places, a high rainfall environment, and expect it to work reliability. It rains there, I think, like 270 days a year and they put a station there. That is where Wooleen is hanging off. It's not the only one. There's quite a few spot beams off that. I don't know what they were thinking when they did that. It'll need to be perfectly fine weather. It's raining cats and dogs at Geeveston and that's it, no service.

The other thing that also should be noted, is the NBN satellites have a finite life. In 15 years, they're cooked. They'll be crashing and burning out of orbit. They've got to be replaced and that's hundreds of millions of dollars that's going to have to be outlaid to put those two new satellites in time for that to happen. Very similar to the DRCS, you cannot overload these things. They have finite resources.

You've got a negligible situation where the voice traffic is pretty well flattened out across the medium, but data traffic continues to grow and this is the problem. Data traffic will probably flatten out one day, but it's certainly not at this point in time. It's continuing to grow. Also, because of that, people with Netflix and all the other things that are happening, so you need higher data throughput as well. The minimum baseline certainly isn't metered, whether it's 25 megabits is another question. But four megabits, as you alluded to earlier, it probably will be at least a start as far as the baseline goes. We need to have a minimum floor level.

What should the USO really be? Certainly, not affected by weather or radio path issues which affect availability. It should not use too much power because, in remote areas, power is key. If you've got to have good service, you've got to have a battery backup. When we were in Telstra, we used to put batteries in our - an example, they've got a battery in the box, bottom of the box.

If you're chewing up anything up to 70 watts with an NBN satellite service, you've got to have a massive battery to give you a decent reserve, which is not great. Whereas all the other technologies, even radio, generally, doesn't need that much power. But, obviously, some technologies less than others. It's got to have an acceptable latency for voice to work properly.

Even that example, Rob mentioned earlier about Wooleen, when I was on the other end of the conversation, I found it hard with a one-way satellite hop. I, personally, found that I had to pause to stop myself talking over him when he was using it. This is, mind you, using Skype, I admit that, but it was still as a one-way satellite conversation. Forget having a two-satellite conversation. It would just be a disaster. It would be like talking on a two-way, “Yes, over”, sort of thing, before you start talking and the next person starts talking.

We need, it's an absolutely essentiality, and this is where we've got to look further forward than just this immediate, you know, next electoral cycle, a long term, long lifespan solution, that provides voice and data services that are scalable, that means they can grow for the future, and provides equivalent and universal service. “Equivalent” is the key word here. “Equivalent” means the same as the metro area. Just like you get your 240 volt power, or full 15 volt power from Western Power, the same power that delivers to Martin's house in Gin Gin, delivers to me. Same voltage, same everything.

Technology options to deliver the USO. Copper. Yes, copper's great. It's carried voice for many, many years. Many, many years. But it's no good for data over long distances. It's okay for short distances, like VDSL, or fibre to the node. Short distance is fine. A kilometre, maybe two kilometres. ADSL four, five kilometres. But after, you start talking about repeaters. Repeaters cost money. They fail. Then you've got the lightning issue, which I haven't even mentioned here. There's a lightning issue. Once you get further out, you start getting lightning issues. More likely than not, you're getting smashed by lightning, especially in tropical areas.

Mobile. As I mentioned earlier, terrain issues, Spectrum limitations, limited coverage per cell, prone to congestion at times. Radio, fixed radio that is, like fixed wireless. Terrain issues, trees, Spectrum limitations. The ACMA is constantly changing the Spectrum things that costs the carriers piles of money to have to remove, to change their frequency bands. Telstra is paying a fortune at the moment to shift these exchanges that were on a 1.5, 1.8 gigahertz bands to 11 gigs and others. They're the ones that are going to be thrown out when the NBN comes, unless we keep the voice USO.

Optical fibre. A few technical limitations, but expensive to deploy. Not the actual cable, it's the trenching that's the killer there. Optical fibre is preferred and is already being used by the NBN. But how can we deliver it to every rural customer in Australia, in fact every customer in Australia, at a reasonable cost? This is the question that can be answered, and it's been done before.

It's called PPE. Partly privately erected lines. PPE, basically was what farmers had before they got the underground copper and in some places, even HDRC. Just for the benefit of everybody who hasn't got this in front of them, PPE lines were introduced to extend services to rural subscribers located far from local rural exchanges. The lines consisted of a PMG, or post-master general, section constructed from the local telephone exchange out to a prescribed maximum length, which is probably just outside of town in

most places. Then, from then on, connected to a private erectly section extending to the subscribers.

What I'm proposing here, is a 21st Century version of PPE. Basically, it's in-ground fibre optic cable. It's by a standardised design. It's built by accredited contractors, funded by the rural customers concerned. Each customer basically builds from their property, from the upstream side of their property to the downstream side of their property, plus the lead in into their house, if you know what I mean, which I'll show you on the next page.

Each customer, as I said, also funds their own lead in. Then it is gifted to NBN or any other carrier that is interested in getting into this space, e.g. Telstra, for long term operations and maintenance. The summary of all this is, customers have skin in the game. They're putting in towards this, so they obviously contribute towards it, but they take ownership of it too.

So typical PPE build, it's a bit hard to show you this slide. But as you can imagine, that's the property and that's the street, the road it's running on. Say this farm has got a two kilometre frontage to the road. He basically builds his trench, digs his trench on the inside of his fence line. There's a pit at the upstream end, and the lead in to his house. All that could be dug by him, the farmer, or via contractor if he doesn't want to do it himself. He'll just pay a contractor to come and do that part.

Basically, that network will be gifted then to NBN or Telstra if they want to be the carrier of that area. That basically provides a service, a fibre optic service to that farmer, as long as is mandated that every other farmer in the area upstream from him, is also going to contribute. This is where it gets political.

The benefits of 21st Century PPE. Significantly less cost to tax payers for a start. Tax payers aren't going to be funding this. It may be partly. Obviously, there'll be some, because there'll always be bits and pieces of contention of who's responsible for it. It creates local employment in the regions. The regions need employment opportunities. It's not just farming out there. They need people to spend money out there to local electricians, local excavator contractors. Farmers themselves, they could start their own businesses doing this on the side.

It provides rural customers with an equivalent service, which is absolutely key in all these, everyone's presentation, we need equivalent service for rural people. It's highly scalable. It's as scalable as you can get. There's no other technology that's scalable. Fibre is the only one. All the rest have got serious limitations without truck rolls, basically, having to send the truck in to build a new tower or whatever. Radio is the only one that you could partially argue some scalability there. It's a long lifespan solution, greater than 50 years. I've been in this business all my career and the first fibres that have gone in are still in service today, and no signs of failing.

The other thing that the Productivity Commission should consider is that the NBN satellite is just like the DRCS of old. It's already getting cooked in certain spot beams,

I'm sure. I know somebody I was talking to the other day who works for Telstra, their brother lives in Serpentine, which is just out of Perth, and from the day their service went in it was great and then it's just got worse, and worse, and worse. That's because more and more customers are getting on and it's just cooking it.

We really want a situation where the NBN satellite is really down to just the most remote of the remote customers. At the end of the day of all this in, maybe, 15 years time, rural copper, HDRC, all the two-channel radios are just history. It'll only be fibre or mobile.

So the summary version is, optical fibre is the preferred universal service technology. The 21st Century PPE concept delivers FTTP in rural areas. Rural customers have skin in the game. They've got some ownership in this, and they also have to pay for this. Tax payers are not imposed with a large cost burden. It creates local employment, in which the customers can, themselves, assist in construction. NBN satellite can be de-loaded and only used for the most remote locations, e.g. islands like Christmas and Cocos Islands, Lord Howe, Norfolk, any other island that's just too expensive to deliver fibre to. Even the Abrolhos Islands here in WA.

**MR LINDWALL:** Or remote Australia, I guess?

**MR MANGANO:** Yes, the various remotes, Cape York, whatever. It provides rural Australia with a world class telecommunication service that assists Australia in remaining globally competitive.

**MR LINDWALL:** Thank you very much, Andrew.

**MR MANGANO:** Yes, yes.

**MR LINDWALL:** Is this a submission we can put on our website?

**MR MANGANO:** Yes, yes, yes.

**MR LINDWALL:** Perhaps we could get it emailed to PaoYi later on?

**MR MANGANO:** Yes, yes. I can do that. Yes.

**MR LINDWALL:** Then if we can do that.

**MR MANGANO:** Yes.

**MR LINDWALL:** The NBN, has a Technology Choice Program where people - I know in the cities, but I don't know elsewhere - can theoretically, if you're on fibre to the node, extend fibre optic to your street and pay some money. Isn't that doing this or what's the problem with that particular program?

**MR MANGANO:** The problem we've got here is this is more targeted to rural areas for a start.

**MR LINDWALL:** Yes.

**MR MANGANO:** The problem is, with those sorts of solutions in the metro area, the metro area is different because they've already got pipe in the ground. In the rural areas, they don't have pipe in the ground once you leave town. It has to be dug up any which way. Looking at the metro area scenario, I've got a personal view as well that fibre should be the answer, and that the customer should be paying their lead in part.

**MR LINDWALL:** Yes, yes.

**MR MANGANO:** Not like this FTTDP, which I really think is a bad move. Honestly, from a technology point of view, is a very poor move.

**MR LINDWALL:** Fibre to the distribution point?

**MR MANGANO:** Yes, in the pit. I think that's going to come and bite them very hard in the future. It would be better that they just said, "Okay, we're going to deliver to the pit. You've got to pay the full cost of getting out to the pit from your house". That's where NBN could save a pile of money today if they went down the road, instead of this obsession about delivering it right to the house, which no other service does.

**MR LINDWALL:** Yes.

**MR MANGANO:** I actually wrote this in my official submission to the Productivity Commission's review, is that lead in components should be 100 per cent funded by the property owner. It's got no benefit for anyone else but the property owner. If you go to underground power, you've got the same. You pay for any service, water. It's always that you pay for the cost. Why NBN decided that we've put fibre right the way to the house - someone in this room who had a lead in done, it took four attempts to get the service on. Four attempts, thousands and thousands of dollars to get the lead-in done of his house. Yes. I mean, it cost him nothing. He's happy, I'm sure.

**MR LINDWALL:** Yes, yes.

**MR MANGANO:** But the long and short is - - -

**MR LINDWALL:** The tax payer paid for it, yes.

**MR MANGANO:** The tax payer paid for this and now NBN, with this silly work around with FTTDP, we're going to spend a fortune putting this box in the pit and then we'll probably eventually have to rip it out anyway and put fibre in. But getting back to the rural scenario.

**MR LINDWALL:** This is the difference, the point of difference is, we have to dig up - to get fibre in the rural areas, there is no pipes to pull through. You've got to basically dig it all up. There's no option. It has to be dug up.

**MR LINDWALL:** Yes.

**MR MANGANO:** The only way to do it, without tax payers shovelling huge amounts of money, is that the owners of the property pay for that section within their property boundary which then, obviously, they can look after it. They know it's there, they had to put it in. So they're not going to go and dig it up and hit it, obviously, "I'm not going to dig there because I paid for that to go in". It's got benefits as well, yes, for - - -

**MR LINDWALL:** But they're not allowed to do that at the moment? Get into NBN and - - -

**MR MANGANO:** I think NBN wouldn't even look at it.

**MR LINDWALL:** No, that's all right.

**MR MANGANO:** They wouldn't even think about it. This concept would be too far off their radar. Their view is satellite only in the bush.

**MR LINDWALL:** Where the Telstra copper lines are currently running what type of conduit are normally - - -

**MR MANGANO:** They're not in conduit.

**MR LINDWALL:** No.

**MR MANGANO:** They're not in conduit. Only in the towns themselves. Once you leave town, basically, conduits end. There's no conduits beyond the end of town. It's all direct buried. Always has been. Yes. You could put this in pipe too, but it cost more.

**MR LINDWALL:** Yes.

**MR MANGANO:** If I told them to, yes, say - - -

**MR LINDWALL:** So fibre optic can be laid without a conduit?

**MR MANGANO:** Yes, yes. It normally is. In the bush, it normally is laid neat in the ground.

**MR LINDWALL:** How much do you think it would cost? If you're a property owner and you've got, say, I don't know, two kilometre run to take your fibre optic, how much do you that would cost to lay?

**MR MANGANO:** Well, the cable itself is worth \$2 a metre, so that's \$4000 of cable.

**MR LINDWALL:** Yes.

**MR MANGANO:** But it all comes down to who's going to dig the trench.

**MR LINDWALL:** Yes.

**MR MANGANO:** If the farmer has the equipment to do it himself great, he'll do it.

**MR LINDWALL:** He'll do it.

**MR MANGANO:** He'll just do it with his own machines.

**MR LINDWALL:** It doesn't have to be that deep, I gather?

**MR MANGANO:** It varies, 750 mil, yes, maybe 900 if he really wanted. The deeper you go the more protected it is.

**MR LINDWALL:** Yes.

**MR MANGANO:** Obviously, that specification would be - in rock it might be a bit less, because in rock you can't get that depth.

**MR LINDWALL:** Yes.

**MR MANGANO:** In tough terrain. But in typical terrain, yes. He's got the machine, he could do it. Otherwise, he could pay a local contractor to do it.

**MR LINDWALL:** Yes, yes.

**MR MANGANO:** It might take him a couple of days, say, to plough it in.

**MR LINDWALL:** Yes.

**MR MANGANO:** Yes. But at the end of the day, he's paid for it, not you and I.

**MR LINDWALL:** Yes, exactly. And he's getting a much better service than he would with the satellite.

**MR MANGANO:** Yes, exactly.

**MR LINDWALL:** Exactly.

**MR MANGANO:** Yes. For \$8000. If you gave me the \$8000 instead of giving it to NBN for Sky Muster, I know what I'd do with it, I'd put it in the ground. I'd put it on the optic fibre.

**MR LINDWALL:** Exactly, yes.

**MR MANGANO:** Yes. But that's what you're effectively doing, we're spending \$8000 of tax payers' money for something which we know in 15 years we're going to have to throw it away. Whereas this solution, basically, you won't be throwing it away. It'll be there for many, many lifetimes, I could put to you, yes.

**MR LINDWALL:** I think that's a very good idea.

**MR MANGANO:** Yes, yes.

**MR LINDWALL:** Thank you very much.

**MR MANGANO:** Thanks.

**MR LINDWALL:** Do you have any final points, Andrew?

**MR MANGANO:** Yes, just going back to the lead in thing.

**MR LINDWALL:** Yes?

**MR MANGANO:** I think you must also consider the metro areas, should the NBN really be doing lead ins? I think you should say to them, "This isn't right, especially when it's costing probably 20 to maybe - I don't know, what do you think, Robert, just sorry - how many percentage do you reckon it would be to do the lead in, of the total cost?"

**ROBERT:** I couldn't tell you.

**MR MANGANO:** Yes, couldn't say. It could be 30 per cent.

**MR LINDWALL:** Yes, but I get the point, yes, yes.

**MR MANGANO:** 30 per cent of the cost of what every NBN service is going towards the lead in front component. This FTTDP is probably going to cost the same, it's just putting the box in the pit. But, yes, I appreciate if you could take this onboard.

**MR LINDWALL:** No, no, I think - - -

**MR MANGANO:** This would be great, yes, yes. Thanks.

**MR LINDWALL:** The other point about the metro areas is that, I know there are limited numbers of contractors, but if you were responsible for your own lead in then you could find another contractor and take off strain from the NBN deployment as it's going out.

**MR MANGANO:** Yes.

**MR LINDWALL:** Because they can deploy their resources to spreading it quicker not to the home but - yes.

**MR MANGANO:** That's right. Again, they'll have skin in the game.

**MR LINDWALL:** Exactly.

**MR MANGANO:** The people who want the service, are paying for it, so they've contributed towards it, rather than - and bypass those people who don't want it and say, "Well, if you don't want it, we'll just keep going past you and forget you".

**MR LINDWALL:** Yes, yes.

**MR MANGANO:** "Then you can come back later and pay even more to get it connected down the track". It just keeps the job much tidier job. Eventually, we all know that fibre is the right answer. I think everyone in this room would probably agree that fibre is the right answer in the long, long term. That's why the title is 2030. We've got to think that far ahead, 2030, which is 15 years from now. Yes. Thanks. Yes.

**MR LINDWALL:** Thank you very much, Andrew.

**MR MANGANO:** Thank you.

**MR LINDWALL:** Yes, that's great.

**MR MANGANO:** Yes.

**MR LINDWALL:** I'll now invite Ted Jack. Good day, Ted.

**MR JACK:** Good day.

**MR LINDWALL:** If you could just state your name and who you're representing and say what you wish?

**MR JACK:** Sure. My name's Ted Jack. I am currently a community development officer for the shire of Coorow. I'm there in that capacity and also as a private business owner. Basically, here to summarise a lot of the well-said points today, a lot of very knowledgeable people in here, including yourself, that have done some good recommendations on this.

Basically, the Commission's findings have some good recommendations, but they'll require additional research and planning on a lot of the gaps, namely provision of satellite where there's currently ADSL and also, where there's inadequate or adequate Telstra mobile reception, that's to be determined. Obviously, recommendations based on your TSO and NBN infrastructure is pretty sound, excluding the satellite Sky Muster services. Obviously, there's going to be an inherent latency issue there and that's going to negate a

lot of the VoIP communications and if you're in an inferior Telstra coverage area, you're going to suffer horrendously under that.

Also, I'm going to be talking more about the data aspects of it, namely the speeds and also the data allowances that NBN Sky Muster is going to impose on a lot of these consumers and also public sectors. As others have identified, there's over 20 government authority areas that are going from ADSL2+ to Sky Muster. To answer your question before about why aren't these local government authorities going onto NBN Sky Muster, it's simply it's impossible. You cannot adequately service your constituents or your residents, even your own basic internal services, with 150 gigabytes per month, and a 25 megabits per second maximum throughput. It's just not possible, especially nowadays.

I mean, if we talk about consumer interests, we're in a global economy now. It's 24/7 economy. Everyone is interconnected and, obviously, digital communication closes that divide. If I want to talk to someone in America for example, I can. I can do that over VoIP or any sort of voice call. I'm going to have about a 400 millisecond inherent delay. If I go onto Sky Muster, I'm talking about a one second delay, because you're adding that 400 millisecond stack to it.

In our local government authority, there's a particularly weird issue going on because we use a virtual private network to connect two regional offices. We've got one on the coast, one inland. They mainly do that over ADSL connections. But, obviously, the one megabit per second upload speed is just horrendous. The other office, that the server is not located in they, obviously, have to remote into our server to work. You've got a little bit of a delay there just in movement and all that. But if you want to even open an email, you can literally watch the text scroll across the screen. It's just shocking.

Under NBN satellite, the five megabits per second upload, maximum upload, will somewhat appease that but, obviously, you're talking about huge data throughput there. I mean, when you're talking about thousands of gigabytes on our server having to be opened at remote offices across multiple desktops, the draw on it is just too much. One of these offices will be serviced by fibre to the node, so that will partly alleviate the issue. However, the server's not in that area. The server's on the ADSL line. So the upload restrictions is basically going to have, yes, a terrible impact. NBN won't help that at all for the other office.

Talking about Cloud services, obviously, for local government authorities we're moving more and more onto Cloud services. You can talk about things like remote desktops, like we use a lot. That requires a high upload speed from the sending end, from the server end. Basically, if you start adding latency from the NBN to that when you're remoting in, work and productivity drops a lot because every input has that point two to point six second delay on it. I know, personally, from working with such delays, it drives me insane.

I'm a very power-user, so I chew through my ADSL data allowances. I'm on a one terabyte a month and I'll go well over 50 per cent of that, even by just slow speeds. But

I'm just constantly pumping things out. I'm a content consumer and creator, so things like upload speeds are quite important to me. NBN Sky Muster will help but, obviously, the data restrictions - \$200 a month for 150 gig. I mean, 75 gigabytes of that can be used during peak. We can all schedule our downloads and uploads to be off-peak, but then you're forcing congestion onto the off-peak time. That carries then, onto peak time. It's a catch 22 scenario there.

You cannot expect the average household to be technically savvy to get inside this side of things and start really structuring their download speeds, download times, and things like this.

Other government departments are going to be severely hindered like these things, we've got things like DEC, NAC, all the NRM divisions, Department of Planning, Department of Transport. Transport has licensing centres in every government authority. A lot of these things have latency ceilings as well, so they'll time out if there's too much latency, especially EFTPOS sort of things. Some of them aren't too bad.

But, I mean, we can go onto Telstra mobile as well, but we've got our own separate issues there. I mean, we fall in one of those well covered areas. My house is under the very well covered area, I drop out completely. No signal. None. I'll switch between 3G, H+, 4 G. We have a 4G tower about four kilometres out of town. It covers everywhere but the town, literally.

There's about three farmers that have 72 x 40 megabits per second connection. Beautiful. They're happy as Larry. The other 200 people, nothing. We're on, if we're lucky, half a megabit per second on the 3G. This is pretty shocking. I mean, that's under the Mobile Black Spot Program. We can get into that later on. Obviously, there needs to be a bit of working around that and future considerations.

Telstra's now looking at doing a small cell in town. We've got an exchange about 50 metres from our shire office there. There's already a 90 metre tower there. They're just going to whack some equipment on that. Fixed. Done. That's easy. Why they couldn't have done that in the first place is beyond me.

We talk about alternative technologies for local governments. Having fibre running past the front door of our office and directly to the exchange. I mean, we've got three or four different fibres running up the route. We've got Western Power as well going past us. It's black, it's dark fibre, totally unused.

I sought a (indistinct) Telstra to get a dedicated fibre line into our office. We thought, great, if we can get some really good throughput on that and good band width, we can maybe propagate it out for part of the community. For a two megabit by two megabit service that started out at \$3500 a month. \$3500. I mean, I could get bonded ADSL2. It's going to be vastly superior to that at \$150 a month. They're the sort of options we're looking at.

If we wanted to go onto 4GX for data, we're just going to be paying thousands of dollars a month for 100 gig sort, or a few hundred gig, sorry. It's not really feasible to operate on that sort of thing, let alone from a private sector or a business point of view.

Putting on my business hat at the moment, but I do a lot of aerial surveying and things like this. I do a lot of photography and things. If I want to do a small area map, say, a few hundred metres by a few hundred metres, it might take two or 3000 aerial photographs. They've got to be overlapping for consistency things.

I can use a cloud based solution and I can rent a rendering server in America or any sort of data centre. If I wanted to buy it myself, it'd cost me a few hundred thousand dollars. I can rent it for a couple of bucks now, if I can upload my few thousand images to them in a timely fashion. On ADSL, it'll take a while. I mean, we're talking in the double digits of gigabytes. On Sky Muster, that would breach the fair use. Bang. Done. Out the door. Obviously, I'd break my data allowance very quickly. But, yes, obviously the first few gig would be great. Then you've got to process it. Then you've got to download it, download all the mosaics and DSMs and 3D emission, all these sort of things.

Then I've got to get them to the client. Now if the client's close by that's great, I can just drive the thumb driver over to them. If they're overseas, "Sorry, I'm going to have to express post you a thumb drive", which isn't conducive to good business, especially nowadays in the global competitive market, everything is digitally delivered, and especially when we start talking high resolution imagery and things like that, like 4K. I mean, they're got 4K Blu-Ray now and things, but that's a very high end cost again. It's not conducive for all the other users, "Now, I've got to buy a 4K player just to play this thing".

Overall, we need to basically ensure that these regional areas, especially government authorities and government services, like health and education, things like tele-health where you are doing video monitoring and video examination by specialists in Perth, New York, anywhere like that, they need very high resolution because if I'm using HD, which is 720P, that's classified as HD, if I'm looking at a skin cell or anything like that, it's going to be breaking up. It's going to, yes, pixelating things that's totally unfit.

We're going to be talking about two and 4K here, which is now pretty much the global standard for video. Everyone's got 4K TVs. That's all you can really see now. Computers, 4K monitors. Even your phones, 4K screens. The data consumption for 4K is, obviously, huge. It's massive. I can stream 4K Netflix at home on my ADSL on a 15 megabit second connection, sort of thing, but you can tell where it does tease out.

My current ADSL is quite good. I get about 20 by one. So that's really good, better than a lot of metro areas. However, if I went onto NBN satellite, I'm paying for a slightly better speed, I'm going to be paying twice as much per month for about one-ninth of the data allowance.

**MR LINDWALL:** But you'd be getting a faster upload speed, of course.

**MR JACK:** Yes, I'd be getting a slightly faster upload speed. As it is, I'm currently looking at, basically, just pre-paying 4GX mobiles and just doing that for my uploading. For video upstreaming and things, it's not that great. I mean, NBN satellite, you're going to have the inherent latency with that, but that's doable on a stream. However, you're going to be breaching that fair use policy all the time. I'm going to be speed shapes to 256 filters per second all the time. It's horrendous.

Everyone else that wants to do this, content creators, or anyone that wants to utilise upstream, is bugged under NBN satellite. ADSL2, it's painfully slow, but it will do it. I can set 20 gig to upload and I'll do it in a week or so, but it'll do it. I'm not going to get a message one day later going, "Bang, you've been shaped. Enjoy 256 filters a second for the next 29 days". Yes, that's where that is.

Things like education, we've got high schools. Obviously, they're going to be designated onto NBN satellite. I mean, there's going to be extra educational data allowances. You've got a high school of 200 students, and let's talk about an Ag College, for example at Morawa, they've got boarding students. So you've got people that are going to be constantly requiring connection. They're going to be away from their family and friends. They're going to be digitally divided. They need to communicate with them. They need to be entertained, all these sorts of things. They can't on NBN satellite. There simply is just not enough data there. I mean, you can put 10 services on it and it still won't be enough. But NBN won't even let you do that.

Also when we talk about data allowances on NBN, there's the 400,000 premises that are going to be served, and also the recent announcement by Qantas that they're now going to be providing in-flight via SAT and NBN Sky Muster. Specifically, he said, "This is not going to be just for checking for Facebook". This is for browsing, streaming content, obviously, video and all these sort of things.

When you're talking about an Airbus A330 or something, with 300 passengers on it, these are captive passengers. They've got no other choice but "I'm going to stream HD content". 300 people all streaming HD content and drawing off the satellite that is for only the most deserving people. I mean, how many extra users is that? Is that another 100,000 users, 200,000 users? Who knows?

Obviously, they're going to be going across spot beams, but that means for every spot beam they go across, all of a sudden congestion is going to go through the roof. People that are trying to do business or education services, or even just use it, they're going to be going, "Oh, my God, I'm one megabit a second".

I mean, talking of the user base, 135 gigabits per second throughput on the two satellites, you spread that across 400,000 premises, if you want to receive the maximum speeds, 25 by five, only 1.35 per cent of the users can ever be drawing on it at one time. 1.35 per cent, that is absolutely shocking.

To, basically, say to all these towns that aren't serviced by NBN fixed wireless or fibre to the X, Y, Z, "You're going to go from a one terabyte service at 20 by one at \$80 a

month to 150 gig a month. Only 75 of that you can use during business hours. You're going to have 600 milliseconds latency, or between two and 600 milliseconds latency. You can't use VoIP. You're going to have severe restrictions on what you can and can't download and upload", no one in their right mind would want to choose that service.

But if you go by the recommendation that everyone base it on the NBN structure as it is, we know that NBN Sky Muster is not really sufficient for future needs. It can barely contain current demands. I mean, for those that have never had a comparable service, it's the bee's knees.

For those of us that are on ADSL2 and have a decent connection, it's the worst case scenario because I'm being relegated to a vastly inferior service and I have no other options. I can choose to get however many thousand dollars a month slower fibre connection. I can go Telstra mobile and pay hundreds of dollars a month, or I can sit on ADSL and hope Telstra don't switch it off when they designate, "All right, the NBN rollout has been completed in this area, we're decommissioning the copper networks".

There needs to be some sort of enforcement or regulation to ensure that these towns that are on a better service than what NBN sell up would offer, aren't decommissioned in the future, there is some protective measures for them, especially for government department and education health services.

**MR LINDWALL:** I think you'll find that there's only a small percentage though. The 400,000 premises that are under this Sky Muster, I think there's about two or three per cent that have ADSL connection. That's, yes, 96 or so, or more, 97 per cent who had no connection at all before.

**MR JACK:** Yes. So they'll be finding this service great. But these two per cent, however, we might be providing services to, I don't know how many other percentages of those people that would be on Sky Muster because they can't get them on their current service.

**MR LINDWALL:** Yes.

**MR JACK:** So that two per cent is very important that we have a very solid, very good, reliable communication method. That's pretty much most of what I've got.

**MR LINDWALL:** Okay. All right. Thanks, Ted.

**MR JACK:** One more thing, with the future considerations, the original broadband scheme, it would be good to see consideration given to funnel and prioritise a lot of that funding into getting the cellar (indistinct) designated areas as it is with their Sky Muster service on the 15 year life span, onto an alternate service before that life span completes by 2030 or whenever it is. Also, the Mobile Black Spot Program, obviously, further consideration for that backhaul pro-use of NBN fixed wireless facilities and other private sector facilities, services, for example.

Just with the Area Switch Program as well, we sought a quote for an area switch, a Technology Choice Program. Unlike other areas which are on fixed wireless or fibres in the node and they want to choose fibre to premise, you just pay the cost difference. When you're on satellite, you pay the entire thing.

So for us to move to fixed wireless from satellite, over \$1 million just for one town. If you do the mid-west area, you're looking at 10, \$20 million under NBN. Private providers can do that for under a million. But we cannot basically say "We want to pay the difference between NBN satellite and fixed wireless". They just go, "No, we don't care". Even though, probably because they've already bought all the equipment for the subsidies (indistinct).

So those \$8,000 per premise, they're not going to subsidise us to go to fixed wireless and save us some money. They're just saying, "Too bad, you foot the whole bill". It's prohibitive costing. We cannot do it. There's no way we can justify \$1 million to go to fixed wireless which may be two megabits per second up to 50. There's no guarantees on that.

There needs to be some sort of intervention there to say when you're doing - and Technology Choice on Area Switch Program, especially for local government authorities and things like that, there should be a lot more consideration given to subsidies for that, especially if they're in a satellite zone because, as we've seen, there are no other choices. All the other choices are, how many tens of thousands of dollars are we willing to pay a month? Yes, it's just not feasible.

**MR LINDWALL:** Thanks, Ted. What do you think about Andrew's idea about users paying for the installation to their - - -

**MR JACK:** Brilliant. Definitely. I reckon that would solve a lot of problems. Someone like myself, and local government authorities, we have shown we are willing to pay more to get the service. But they've got to meet us halfway. Some people, like a lot of farmers I'll talk to you, they expect the service delivered to their door and just say "That's not viable. Why would you pay millions of dollars?" "Would you expect us to build a road all the way to your house and (indistinct) six lanes wide?"

**MR LINDWALL:** Yes.

**MR JACK:** So as long as you can get the backbone and the backhaul in place, like expanding the transit rings of NBN and utilising a lot of these dark fibre and unknown networks, once you get those out there, it's easy to propagate out. You can start using microwave links if you want. If a farmer is 30 Ks away, he can create a microwave link from a good fibre area. But unless that backhaul is in place, you've got no option. I mean, the closest NBN transit ring to us is Moora 90 kilometres away. I mean, \$2 metre, or whatever it is, or \$2000 a kilometre or so, yes, \$180,000 or whatever, it's not too much. But - - -

**MR LINDWALL:** Plus the laying costs.

**MR JACK:** Yes. Plus laying costs, et cetera, so it's not too bad. But if you extend these rings out a bit more, you can start getting those points of inter-connectivity and propagating inwards and creating all these other things. There can be a lot of private co-investment for that, especially for the lead ins for large properties. I don't mind putting five, 10,000 or something if I'm going to get a fibre connection. Brilliant. 100 by 100, 100 by 40 megabits a second, I love it. It'd solve all my problems and a lot of others as well.

**MR LINDWALL:** The Federal Government is going through with its Digital Transformation Office, I think it's still called or something like that, Agency, about making all Federal Government services be compatible with satellite service, as in not affected by latency, also use very low band width. I think banks are doing the same. Do you know if the shires and the Western Australian Government is doing similar things? Because it seems to me that, at the very least, I mean, sure, we're talking here about moving some part of the satellite spectrum to fixed wireless or fixed line, but there will always be some people in the satellite region.

**MR JACK:** Always, yes.

**MR LINDWALL:** They need to be catered with government and other services that don't use so much band width. Surely, that's an important thing of designer websites, so they don't actually use too much band width.

**MR JACK:** There is that as well. But, at the same time, 98 per cent of people shouldn't suffer because you've got to design things around two per cent. That goes both ways, obviously.

**MR LINDWALL:** Yes.

**MR JACK:** But you do need to have consideration. So even if that's a separate portal or separate, I don't know, anything basically, but you can't base an entire thing like that on all these things because you're going to be - a lot of the advantages of high band width websites and things like that, you're going to lose, especially with the Cloud aspects and things. But, yes, I'm not sure about Western Australian Government or things like that, basing their IT criteria around that, but it'd be good for consideration. But you've also got to think about bringing everyone up and not bringing everyone down to that level.

**MR LINDWALL:** Your shire, how many of the residents there would they pay rates electronically mainly now?

**MR JACK:** Decent percentage of them actually. Most of them will just ring up and say, yes, "Can I pay this by X, Y, Z?"

**MR LINDWALL:** Credit card, yes.

**MR JACK:** Use BPoint, all those sort of things.

**MR LINDWALL:** What do you think about the Mobile Black Spot Program and how it's worked in the shire and how has your interaction been with the WA Government and the Federal Government over that?

**MR JACK:** It's a mixed bag that one. The Black Spot Program is a brilliant one. Just in its current form, it definitely needs a lot of revision. Telstra has basically, nearly no transparency with it. As you can see with numerous towers throughout the mid-west as well, our one four kilometres out of town. I can see the tower. No reception. It services the farms, things like that.

We've been complaining for months. We've been going through all the processes, the local government authority processes as well, everything. They just stand there and go, "There's not an issue. There's not an issue". We say, "There is a bloody issue". And they say, "No, there's not". So what do you do?

Now they've recognised there's an issue and they're going to basically - because I'd constantly capture screenshots. I had to drive within 500 metres of the tower sometimes to get 4GX reception. That's sub-par to any sort of standard. When you're talking about hundreds of thousands of dollars and millions of dollars per tower to provide no service, it's shocking. There needs to be a lot of revisions and a lot more, I don't know, regulatory framework in place to make sure that they do report what was predicted and what is current.

**MR LINDWALL:** Yes, yes, yes.

**MR JACK:** Also provide a lot more services from these towers. We're talking about a lot of public funds, as well as Telstra funds, going into these towers. But we need to ensure that they're getting the most bang for their buck and the most service provided for public money.

**MR LINDWALL:** Got any other comments you'd like to share to conclude, Ted? Anything about pay phones, perhaps, in the shire?

**MR JACK:** Our pay phone has just recently upgraded to a Telstra Air Hotspot, which is great, except for all the businesses surrounding it already are Telstra Air Hotspots, so it's a bit of a done duck, that. They're good. In some regional areas, they are the only reliable source of communication, so there needs to be considerations for that. In our community, it's not an issue. No one really uses them. We'll get a few out of the low socio-economic demograph using them. That's about it. Mostly they're just, if it does rain, people go in there for a bit of shelter. That's about it. Yes, there does need to be some changes in that regard though, considering the costings.

**MR LINDWALL:** All right. Thanks, Ted, unless you've got anything else you'd like to say?

**MR JACK:** I think that's it. Thank you very much.

**MR LINDWALL:** You've covered lots of issues. Thank you very much. Yes.

**MR JACK:** No worries.

**MR LINDWALL:** Now, is it Kevin Lee, I think, wants to say something?

**MR LEE:** Yes.

**MR LINDWALL:** Hello, Kevin. Good to see you. If you could just say your name and organisation and then say what you wish?

**MR LEE:** I'll be reading from here.

**MR LINDWALL:** Yes. Yes.

**MR LEE:** Thank you for the opportunity to present to the Commission on the draft report on telecommunication. You also (indistinct) this obligation - - -

**MR LINDWALL:** You should start with your name and organisation first.

**MR LEE:** Yes.

**MR LINDWALL:** Okay?

**MR LEE:** My name is Kevin Lee, representing the Department of Regional Development of the government of Western Australia. The department works in concern with all Regional Development Commissions here to develop sustainable regional communities. The department also administers the Royalties for Regions F (indistinct) and has been funding and co-funding with the Commonwealth Government, programs to expand telecommunication options in regional WA, particularly the Mobile Black Spot Program.

The department understands the complexity in defining what is considered universal when communication is inherently an individual expression and it can also be private. In urban and sub-urban markets, market competition provides an environment that facilitates services improvement. In areas with sparse population where competition is limited or even non-existent, defining what is essentially all of our minimum human requirements, becomes essential. This definition also cuts across each range as data and statistics show a clear decline in voice services as younger generation gravitate towards online services with far less requirement for voice.

The department broadly supports recommendations contained within the draft report. Understandably, there has been a fair bit of attention on NBN satellite services, especially its limited data capacity and inadequacy as a replacement voice service.

According to NBN, there are 60,000 premises in WA that are or will be serviced by its satellite service, although there are no reliable statistics to show the number of premises not covered by mobile services. As governments have been part-funding their expansions, technology change, or growth population are the only variables left that could change the equation.

NBN has indicated that property owners who are in their satellite coverage, have the option to keep its fixed line service and they will be required to move to satellite. However, universality and utility services provide a sort of security blanket the community holds dear.

The department supports the concept of having targeted programs to serve different constituency according to their needs. This would include people living out in the bush, people out in pastoral stations, people with disability, people with life threatening health conditions, remote indigenous communities, people without permanent fixed address, and all the people with limited digital literacy capacity.

As such, a fair funding mechanism to support services for these identified groups of communities becomes essential, as is government's ability to digitally provide baseline services to its people. As technological change is accelerating and is increasing providing means for communities to come together as groups, this framework will also have to provide mechanisms that allow these groups to work with different technologies and their chosen service providers to achieve the needs of your own. Thank you.

**MR LINDWALL:** Are there any particular improvements that could be made to the Mobile Black Spot Program that you can - - -

**MR LEE:** Currently, the Commonwealth Government puts out, essentially, a very wide call to the industry and to groups, as to where they think coverage can be improved. Having seen the system work, it all depends on how best your voices can be heard. Also in WA, at least, the Royalties for Regions Program have been part-funding with the initiative.

**MR LINDWALL:** Yes.

**MR LEE:** In general, that works well. However, as has been previously noted, it's, in some sense, limiting competition in some areas, because we ended up finding the carrier that can best rollout the service at the lowest cost. So that aspect of it needs to be looked at. As I've said before, in the vocal submission, universality would define the areas where there is no market. But once there is a market, then competition would take over to service their needs. Yes.

**MR LINDWALL:** Yes. Exactly. Do you have any sympathy for the view that's been expressed to us about a large amount of dark fibre that's being under-used and it could be better exploited?

**MR LEE:** Definitely, yes.

**MR LINDWALL:** What could, say, the Western Australian Government or the Federal Government or individuals and community groups or local government, do to facilitate that?

**MR LEE:** My understanding is a lot of dark fibres here are owned by, essentially, different utility service providers.

**MR LINDWALL:** Yes.

**MR LEE:** If those utilities are still owned by government then, obviously, it is within the government's ability to change that. But, at the same time, there are a lot of new infrastructures that have been built and partially funded by government that are not required to either lay fibre or to make the fibre available. I think the government can do a lot more in changing that mindset, I suppose.

**MR LINDWALL:** In a sense, the government is double-paying. They're paying to have the fibre laid for a particular purpose.

**MR LEE:** Yes.

**MR LINDWALL:** And then they're paying again to have it for satellite or other usage, when it may - yes. It's quite interesting, but it's not unusual in government policy. Anything that you'd like to say about - well, it'd be hard for the department to say, I guess, but about the Sky Muster Service in terms of its roll out in Western Australia, and what have been the lessons and the quality of the workmanship and so forth?

**MR LEE:** We have limited exposure in that regard. Most of my experience in that area comes from when I was working for the Pilbara Development Commission in dealing with the pastoral stations.

**MR LINDWALL:** Yes, yes.

**MR LEE:** But then, at the time, it was issues relating to the interim satellite service, so I can't really pass judgment on what the new service would be like.

**MR LINDWALL:** Yes, yes. Okay. Did you have, Kevin, anything more that you'd like to say?

**MR LEE:** No.

**MR LINDWALL:** Okay. Well, thank you very much for coming today.

**MR LEE:** Thank you.

**MR LINDWALL:** Appreciate it. Now, I could - Elyce Donagy, I guess, is that right? Have I said it, pronounced that correctly?

**MS DONAGHY:** Yes.

**MR LINDWALL:** Great. Nice to see you. Just say your name and organisation and what you wish to say. Yes.

**MS DONAGHY:** My name's Elyce Donaghy. I've from the Isolated Children's Parents' Association of Western Australia. I'm a State Counsellor. I'm also the Communications Portfolio holder for the State and I'm also the branch president for the (indistinct) Branch so that centralises around Kalgoorlie as far north almost as Wiluna and out to (indistinct) and we have a member down near Esperance. We're quite broad.

My branch, personally, are essentially made up of distance education families. The majority of my branch members study with School of the Air in Kalgoorlie. I guess, that's where I'm coming from, more of a personal touch rather than a business touch. I'm in my fourth year of study, or as a home tutor for my daughter, studying via School of the Air. I had done two years with my eldest daughter, who's now at boarding school.

We are now a week into school lessons with our school and I would say probably half of the students attending classes have been connected to Sky Muster satellite. I'm in the process of trying to get my Ed-port connected. I have a personal connection, but I need to call them back and give them my NTD details.

We've found, in our first week of lessons, we've already had one day where all the students studying via Sky Muster were not able to attend lessons. I was able to attend that day because on the edge of broadband, mobile broadband, so we were able to connect ourselves regardless of whether the satellites up or down. But that's not the case for most of our remote families. On that day, I think we had about five students that could access their lessons and the rest of them were all waiting, obviously, to find out if their satellite could be reconnected.

We're also finding that we're having students drop out of lessons and also sound quality is an issue. We're having trouble understanding some of the students when they're speaking on their lessons. For us, I guess, with regards to the USO, having satellite as our only form of communication, would mean that those families would have no way to contact the schools or, I guess, make emergency calls if their satellite is down. That's a huge issue for us as a branch to only have that as an option. Of course, along with the rest of Western Australia, being under water in the last two weeks, the satellite has been very unreliable as the cloud cover has come across.

With regards to data, in regards to the education port, the 50 gigabytes per student up to 150 gigabytes for three or more students, it's certainly fantastic. We're very pleased with that limit being applied for students. I can't see that my daughter could use more than 50 gigabytes for her lessons. If there are families out there using more than that, then I would say then they're probably not just using it for lessons.

**MR LINDWALL:** Yes.

**MS DONAGHY:** That, I guess, becomes an issue for the Education Department to be looking into. But in a sense of a personal connection, we were connected to the 150 gigabyte per month top plan being offered with clear networks with a 60 gigabyte peak data and a 90 gigabyte off-peak data. We consistently used our 60 gigabyte in the four months we had it connected last year. We've since dropped our plan down. The cost was just quite high in the scheme of things. I just quickly had a look at our data usage for those four months that we had it running. July, we were able to access 60 gigabytes of our off-peak data and it dropped down to 30 gigabytes by October. We were finding it harder to use the off-peak data as we were going. And my husband is quite technical and able to set up time downloading, updating. We were finding that, more often than not, it wasn't connecting during the night.

**MR LINDWALL:** Wow.

**MS DONAGHY:** And we would come in in the morning and it will be using our peak data.

**MR LINDWALL:** It's started, yes, yes. Which is a bit of a surprise when that happens.

**MS DONAGHY:** It is, yes, especially when you're limited to a small amount for your peak data. We just found that the off-peak data was, effectively, unusable. So most of the time we were paying for, I would say, 80 gigabytes for the 20 or 30 gigabytes that we could use in the off-peak. So we were paying \$145 for 80 gigabytes of data a month, which is quite high in the scheme of things considering we come to the city and have buses with \$99 unlimited data caps. I certainly don't think we need unlimited, but being limited to that 150 really does cause your family to really look hard at what you're using the data for.

We, other than educating my daughter, run a small business. My husband's a contractor. It's basically emails and some social networking. We don't let our daughters download videos. We don't have the capacity. We don't watch Netflix. We don't do a lot of those things that you hear of other people doing. So, yes, we found that the Sky Muster is certainly not what it's been talked up to be, yet.

**MR LINDWALL:** Yes.

**MS DONAGHY:** My hope is that we don't end up with congestion with the options of a lot of people that are being given satellite where they're closer to large regional centres, that's concerning for me. I'm only 40 kilometres from Kalgoorlie, so I guess I'm quite regional compared to a lot of our member base, and luckily enough can get the broadband Wi-Fi.

**MR LINDWALL:** Yes, yes.

**MS DONAGHY:** But they don't. That concerns me that those families that only have one option will certainly have that possibility of so many people being on a system in the future. Yes.

**MR LINDWALL:** No, that's all right.

**MS DONAGHY:** That was just more a personal touch, I think, as such.

**MR LINDWALL:** No, no, that's quite good. Have you been using the interim satellite service previously?

**MS DONAGHY:** No, no. I came onto School of the Air when they weren't connecting anyone else to the interim. So we've used broadband up till now.

**MR LINDWALL:** Yes. But having travelled around people using it for the education portal they're pretty happy with it.

**MS DONAGHY:** Yes, yes.

**MR LINDWALL:** When it works of course, not when it's not working.

**MS DONAGHY:** Yes, when it is working. I think, I have certainly had members comment that it was more consistently usable than Sky Muster has been so far.

**MR LINDWALL:** Yes.

**MS DONAGHY:** Other than the fact that the data limits were so low. That's disheartening to hear that, "I would rather be back on the old one because I could use it most of the time", so that's a concern. Yes.

**MR LINDWALL:** Yes. I think the Isolated Children's Parents' Association, have expressed quite a good deal of information that we're giving Commission about the challenges of remote teaching. It's amazing what they can do, as I heard one example there, a student, a girl, has been taught the violin over the telephone.

**MS DONAGHY:** Yes.

**MR LINDWALL:** I'm not sure how you can learn the violin over the telephone, but - - -

**MS DONAGHY:** That's an interesting one. But, yes, the option's there are endless, really. Yes.

**MR LINDWALL:** Thank you very much for coming.

**MS DONAGHY:** You're welcome. Thank you.

**MR LINDWALL:** Now I could invite Amanda Walker. Good day.

**MS WALKER:** Hi.

**MR LINDWALL:** Have a seat.

**MS WALKER:** Yes. Thank you. I'll just grab my devices. So my name is Amanda Walker. I'm representing the Wheatbelt Business Network today. I just felt, listening to the other submissions, that there was just some critical issues that we should comment on. Just purely from the perspective of I am also a business owner, as well as chair of the Wheatbelt Business Network.

I suppose, telecommunications is an issue that we constantly battle with. It's something that is not easy in the regions. If anything, it's getting more difficult as technologies evolve, as options like Sky Muster, et cetera, come onboard, for a number of reasons, but partly because it's just so confusing and it's so misleading because it shouldn't be that hard to connect to the internet. I'll just start off. Apologies, I am going to read.

**MR LINDWALL:** That's all right.

**MS WALKER:** Just basically about the business association, the Wheatbelt Business Network, we are a member driven business association in the wheatbelt. We work for businesses in the wheatbelt, essentially, to build and grow the capacity of businesses across the wheatbelt. We have a network of about 300 businesses right now. They range from, in terms of location, Moora across to Dowerin, and across to Kellerberrin, into Merredin, down to Wagin. We've got quite a diverse range of businesses that we deal with on a day to day basis.

Essentially, just with regards to the draft report that we have been commenting on today, I mean, it is overwhelmingly obvious that telecommunications and the need and the way that they're employed across the country have changed. There is, obviously, the need to revise the USO and look at how it should be applied going forward. I mean, now that internet and mobile phones are our primary means of communication, access to these technologies should be universal.

We do have that digital divide in terms of affordability and accessibility that runs between every regional area and urban area across Australia. But, for us in the wheatbelt, it just costs so much more. It costs a lot more for providers to provide the service, but we argue that we actually generate significant wealth, particularly in the wheatbelt region more so relative to Perth.

In terms of what we want to say regarding the USO going forward, we would argue that deliver of equitable, affordable, and accessible telecommunications services is an investment. It's an investment in the region and it should be viewed as an investment, not a cost. When Julie represented earlier, she gave some figures around GDP and what we generate in regional areas. That needs to be taken into account. A serious amount of

business and economic contribution comes from regional Western Australia and that is often just put to the side when we're having to deal with things like telecommunications.

We also argue that the USO should also include internet and mobile phone services in regional and remote areas. We also would argue that government policy should not centre on the rollout of the NBN to contribute to accessible telecommunications, because we don't think NBN is, essentially, the answer.

Just some comments, just from the perspective of a business owner myself, and from the insights we gain by looking at various business industries across the wheatbelt and what they face on a day to day challenge, just some comments on what has been raised today. In terms of Sky Muster, I think it was raised earlier, Sky Muster has been launched as a household, almost a domestic use base. It's not really applicable to businesses. It doesn't have the service capacity and it doesn't have the reliability.

I can relate to - is it Elyce, our previous speaker - talking about that frustration of you see a cloud cover coming and you know you're going to be offline for the afternoon. That's just not conducive to good business practice. If you're working from home - I work from home as well as having an office. I've Sky Muster at home. I've got mobile data in my office, because I can't rely on either. I can't afford to primarily go with mobile data, but I can't rely on Sky Muster because it's just not reliable.

We also have an issue, which we have faced with quite a few of our members with, obviously Sky Muster, the satellite and the infrastructure is owned by NBN. But you've got the issue of the third party providers that come in to install the hardware, to connect you to the service. So you've got those third party providers.

We have had concerns from quite a few of our members in the inconsistency and just bad service, in terms of installing and connecting to the actual satellite service. So they've had providers come along to set them up. They've had to have a different provider come back on to set the router up, et cetera. Then this problem of they're still not connected.

I've got one business owner I was speaking to yesterday. They've had the satellite and everything put in three months ago and they're still not connected. So just there's this whole disparity between providers, who's responsible, who's accountable, where does the buck stop?

Obviously, the data issue with Sky Muster, I mean, we've spoke about this morning. That's a real problem in the business context. From the data perspective, I live in a town where we have got a Telstra tower. We received that last year through the Royalties for Regions on the Mobile Black Spot funding. If you're in town, it's fantastic. You've got strong signal, you've got great connectivity.

However, there is some issues around the maintenance of those towers. There was a drama with Western Power. So we've no actual power to the tower site, so it's a generator. But there's again disparity, who is responsible for the maintenance of the

generator and backup. We have had situations where the generator has gone flat and the batteries have run and therefore that, obviously, affects the tower.

**MR LINDWALL:** Yes, yes.

**MS WALKER:** Who's responsible for that? Telstra insists it's not them. Western Power says it's not them. So, what do you do?

**MR LINDWALL:** Buck passing.

**MS WALKER:** Yes. And that's just not good enough. It's just not good enough. It's not acceptable. It's business disruption. These are the challenges that we face on a daily basis, and it's just not good enough.

So there's also the issue of the Telstra towers which have rolled out. We've had a number rolled out in the Shire of Victoria Plains. I think we're on to our third tower going into Mogumber this year. The issue with the tower is it's being built around a 3G capacity. Why are they being built around a 3G capacity when we're already talking about the 5G network? What's the go there? I have spoken to Telstra about this and they have said it's a cost based scenario. Basically, I feel, from my perspective, we've been given the bargain basement run of towers. We have to wait then to demonstrate capacity in those 3G towers before we even get considered for 4G.

**MR LINDWALL:** 4G.

**MS WALKER:** Again, it's a challenge. It's not going to automatically happen because we're in the regions and that's how it has to roll. Again, it's not acceptable, okay. What else would I like to comment on? I would like to also, just from the Wheatbelt Business Network's perspective, we are very much aligned with the proposal that Juliet presented on behalf of Regional Development Australia Wheatbelt, in that the minimum requirement of the data speed - again, I heard you comment on the 25 gig requirement may be excessive, it may not.

But we would like to see equality. We would like to see businesses and household users in the regions, but particularly business users, have access to the same level, the same minimum level of speed, and of band width, of download and upload capability, that is offered to businesses running their enterprises in the metro regions.

I'm only 150 kilometres from Perth. I may as well be in the centre of Australia. For the ease and the access to the services that we have, geography doesn't really seem to matter. Once you're out in the regions, you have these challenges on a daily basis. It's really frustrating when you've got staff who are working on - I've got an online business as well as an office based business. We've got staff relying on internet connection for their productivity.

**MR LINDWALL:** Yes.

**MS WALKER:** I'm paying a wage bill which requires a core element of their work is dependent on consistent internet, because they can't do their job without internet connection. So that deters from my productivity, that deters from my bottom line, and I'm just one business. So I imagine that you multiple that across numerous business, bad telecommunications is eating into our productivity and it's also eating into our affordability and the money that we're generating back into our local economy. That's all I have to say.

**MR LINDWALL:** Thanks, Amanda.

**MS WALKER:** Okay.

**MR LINDWALL:** Just a couple of questions.

**MS WALKER:** Yes?

**MR LINDWALL:** You said that the NBN isn't the answer, so what is?

**MS WALKER:** I don't know. I'm not a technical expert, but I had resonated with - is it Andrew, yes - when Andrew spoke earlier about the fibre issue. I can see the capability for that. We have had businesses in our region, and actually local businesses in our shire, have tried to access the fibre. In our town, it runs through the main street, and we have had local businesses try to access that and tap into ourselves, fund it themselves. They have been declined, both from a local government level, both from a State government level, and also from Telstra. They've basically been told, "No, you can't tap into that network".

**MR LINDWALL:** So it's not the issue about not willingness to pay for it, it's more that  
- - -

**MS WALKER:** No. I think I agree with - I can't remember your name - Jack from Coorow. We will pay. We will happily pay for something like that. I think that is the sentiment in the regions. We are prepared to pay for those services exactly like connecting power or exactly connecting additional utilities.

**MR LINDWALL:** Yes.

**MS WALKER:** If we have access to that service and it's consistent, it's affordable, and it will enable us to continue doing our business where we are, I don't want to have to move because the technology lets me down. I don't want to have to relocate my business because the technology lets me down.

**MR LINDWALL:** Yes.

**MS WALKER:** I think that there's a number of stakeholders, but I certainly think that Telstra does have the monopoly in the regions and there's a whole other set of issues which, we can take up with Telstra. I do think that the government has a duty of care to

lift the level of access. We need to look at different technologies. We need to look at, possibly, local governments accessing fibre, creating their own hubs. We need to look at what people are doing overseas in remote and rural communities.

NBN is not the answer. Sky Muster certainly is not the answer. I think it needs to be outside the box thinking. We need to look at fibre, look at what's there, look at what we need, as opposed to just one set of parameters around a USO going forward.

**MR LINDWALL:** Yes. You've mentioned the Mobile Black Spot Program and the concerns about the 3G rather than 4G, so I can understand that.

**MS WALKER:** Yes. Yes.

**MR LINDWALL:** It is a bit puzzling why. You wouldn't think it that much more expensive to have 4G over 3G, once you've put the tower in.

**MS WALKER:** Yes.

**MR LINDWALL:** But anyway, I don't know about the answer to that.

**MS WALKER:** Yes. And again, the issue of the maintenance of the towers, because that is an issue in many towns across the wheatbelt.

**MR LINDWALL:** Yes. Exactly. It's the same as anything, even if you have fibre optic, the battery backup is essential.

**MS WALKER:** Yes, yes, yes.

**MR LINDWALL:** Well, is there any final point you'd like to make, Amanda?

**MS WALKER:** Just the talk of the digital divide. I mean, any number of government reports you read at the moment, they talk about this digital divide. That's applicable across Australia, not just in WA. I think that it's been talked about and it's been talked about. But, I think, the technology is there and I think it's just - I don't know what the answer is, but we need to keep the regions running and to keep business, particularly in the wheatbelt, we need to work on reducing that digital divide.

**MR LINDWALL:** But, couldn't it be argued, and I'm not trying to defend the NBN here because every infrastructure program has teething problems, maybe they're badly designed, who knows. But couldn't it be argued that it has reduced the digital divide in one sense, because there are 400,000 premises, maybe two per cent of which had ADSL, but the rest had no service at all, no broadband at all, and now they do have something.

**MS WALKER:** I agree. I think something is better than nothing. The NBN has certainly enabled a lot of people to access a higher quality or even, like you said, they may have had nothing before and it has enabled a lot of people to come online and to progress into that space. But I also think there is a large portion of regions, especially

small towns like where I live - I mean, we've only got a population of 50. We don't have the population that will attract. We're never going to have Vodafone and Optus and Telstra via for our customers. It's not going to happen.

I do think that whilst the NBN has made progress in diminishing that divide, I do think that it's still there. Given the geography, obviously, that's an issue. But, as I said, we're only 150 Ks from Perth and the service that we receive, it's just not acceptable. I would like to see businesses on the fringe of Perth be able to access better quality and more affordable internet access.

**MR LINDWALL:** Yes. Have you had any issues with, you know how the NBN is based upon a wholesale/retail split, communicating with a retailer? Are you happy with your retailer? You don't have to name it, but I mean - - -

**MS WALKER:** Well, I am now. But, initially, I experienced a lot of difficulty in getting technicians from that particular retailer to come and, again, do their technical stuff to get us hooked in, because there was two different contractors involved. It took a while. Then there was the billing because we again, we were hooked up for three months. We were billed for three months, but we haven't actually accessed any data usage for three months. So again that's another battle because - - -

**MR LINDWALL:** Yes, yes.

**MS WALKER:** It's just challenging and it's frustrating because the technology is there and, I think, it's just a matter of looking for what works for our region. I mean, the Sky Muster is great, if that's your first port of call. But, if you're running a business, I've got five staff who are online, well I just wouldn't - their plans and the data, it just wouldn't work for me anyway. Yes, we just need it to be better. We need it to be better.

**MR LINDWALL:** Yes, I can understand that.

**MS WALKER:** Yes.

**MR LINDWALL:** Would it surprise you that an assumption was made that people who had no access to the internet previously would use the internet less than people who lived in cities? That was the assumption that's been made.

**MS WALKER:** So people who? I'm sorry?

**MR LINDWALL:** So the assumption being made, that has been made, the premise behind a lot of the broadband going out into remote and regional areas was that people who have not had the internet previously, would systematically use the internet less than people who have had a long experience to it. Personally, I think that's a strange assumption, because if you haven't had it before, it doesn't give you any evidence of how much you'd want to use it.

**MS WALKER:** No, no. I think, if you've only just come onto the internet now, I think you need to look around the demographic of that as well.

**MR LINDWALL:** Yes. Exactly, yes.

**MS WALKER:** I mean, I'm speaking purely from a business perspective and I think it's been mentioned here today, it's things like business development, it's things like education, it's the E-medicine. It's all those critical services that we - the technology is there to deliver. As in, so E-medicine is there. Distance education is there. Even business development, I mean, we run webinars. We deal all the time globally with people. We hook up with commercial partners in the US. In our global economy, all those things are there. For us, it's having the channels to access them and to deliver them in a consistent way that ensures that they are accurate and are affordable.

**MR LINDWALL:** One final question and that's about how you've used the service. I mean, you've got the Sky Muster service. You've got mobile phone service. Do you also have a landline or have you given that - - -

**MS WALKER:** Yes.

**MR LINDWALL:** You do?

**MS WALKER:** Yes, I do, yes.

**MR LINDWALL:** You have all three?

**MS WALKER:** Yes.

**MR LINDWALL:** So you're paying for three services, effectively?

**MS WALKER:** Yes, yes, yes. So you can imagine my monthly data bills.

**MR LINDWALL:** Yes, yes.

**MS WALKER:** Yes. We do have. We use the landline. Well, we've got a store based business so we have to have landline.

**MR LINDWALL:** You have to have it.

**MS WALKER:** Well, we've got landline at home. Then we've got the satellite broadband at home for our household use, and then we've got mobile data driven internet for our business use.

**MR LINDWALL:** Yes.

**MS WALKER:** It's a very expensive way of doing it.

**MR LINDWALL:** Mobile is, yes.

**MS WALKER:** But it's the only - - -

**MR LINDWALL:** It's come down in price, but it's still expensive, yes.

**MS WALKER:** It has. It has. But we're still paying \$169 for 50 gig.

**MR LINDWALL:** Yes, yes.

**MS WALKER:** And that's only on one plan. We've got a plan per staff member, because we've got a quota per staff member. It all adds up.

**MR LINDWALL:** Of course, yes.

**MS WALKER:** Again, it diminishes into your productivity, but also it's a financial cost to running a business that, if we were a comparable business in an urban area, it wouldn't be an issue.

**MR LINDWALL:** All right. Well, thank you very much, Amanda.

**MS WALKER:** Yes. Thank you.

**MR LINDWALL:** Now, this is an opportunity, if anyone wants to have a brief word before we adjourn. Anyone else want to say anything? Yes?

**MR JACK:** Do you want me to come up?

**MR LINDWALL:** You have to come up, yes. Again, go through the process of saying your name, just for the record, so that they - - -

**MR JACK:** Again, my name is Ted Jack.

**MR LINDWALL:** Keep it brief, thanks. Yes.

**MR JACK:** I'm a development officer. Yes. Just something I forgot earlier was the NBN design considerations, that they go through for their service provision, namely when they were came to give the rollout presentation in our local government. We've got three communities, two on the coast, one inland. They went saying, "Yes, you're all getting fibre to the node". They're going, "Wait, except here, you're on satellites". A bit disappointing. But what they said then was, "Any town with under 100 premises will go to Sky Muster". Along the midlands route, for example, not one single town has under 100 premises. You go over one - not one town has under 200 premises for example, all relegated to Sky Muster, because it came down to financial feasibility for them, or return on investment. That's something that, when we're talking about the scope of consequence, that's a huge consequence for a minimal cost saving and that's what it should be seen as.

Like others have said, it shouldn't be seen as a cost. It should be seen as an investment in the regions and there needs to be more enforcement on those design considerations and saying, "Well you're basically not connecting this entire strip of towns because you want to save a buck. It's going against your own design considerations", and that's essentially what they're doing. If they remain unchecked and unregulated like that, that's going to continue on and they're not going to want to further propagate out their fibre connections and everything, because it's going to impose a cost to them that they're unwilling to pay.

That, basically, goes for all telecommunications in the regions who declare roaming. You're going to have increased competition but no - well, there's already a dead market anyway out there. But you can increase competition through your declaring roaming services, but that's not going to encourage any more propagation of coverage because they're going, "Well, everyone can jump on this tower. Why the hell would we want to service anyone else. It's all good". Basically, that's it.

**MR LINDWALL:** Thank you very much, Ted.

**MR JACK:** Cool. No worries.

**MR LINDWALL:** Anyone else? How about we start over here and go - whichever, it doesn't matter. But you'll have to keep it brief.

**MS GRIST:** Juliet Grist from RDA Wheatbelt. Paul, I just thought I'd comment on the Technology Choice, just a couple of bits of our experience, because you had questions around that.

**MR LINDWALL:** Yes, yes.

**MS GRIST:** We have been active in the Technology Choice request. Initially, when Sky Muster went up, no more Technology Choice applications were taken, because "That's it you're serviced". But NBN has been more amenable over time. So we have been working alongside groups of towns and shires to look at the Technology Choice. The process takes an extremely long time, months and months and months. When you get a quote, it is usually with a - it might've taken six months to get this quote and it's 1.5 million plus or minus half a million, and "Pay some more money and we'll get it more refined", because you have to pay, of course, to get to the quote.

**MR LINDWALL:** Yes, yes.

**MS GRIST:** We now, after six months of trying, have an agreement with NBN that they will reconsider repurposing the \$8000 towards the Technology Choice as a co-contribution to lower the outlay. So if a group of communities want to go fixed wireless, that foregone cost of fixing can be part of that. So it took about six months to agree that, and I think we're about four or five months in the process of waiting for a quote, which

we have still not received. Of course, every month that goes by, people attach to the satellite, because there's no other service.

**MR LINDWALL:** Yes. Exactly.

**MS GRIST:** So even though, in theory, it may allow communities to upgrade their service, if they're not satisfied with the minimum required under the satellite, in practice it doesn't actually work that way. So I just wanted to share that experience.

**MR LINDWALL:** No, I know. Good. That's very much appreciated. Thanks, Juliet. Anyone else? Yes, please?

**MR BEBBINGTON:** Bruce Bebbington. Five points which have come out from today, one is the 150 gigabyte data limit that NBN imposes is actually a rolling month limit. So if you use 120 in the last few weeks of the month, you only get 30 for the next month, even if you pay for 150. That's what a lot of people aren't aware of.

**MR LINDWALL:** That's right. You're right. Yes, it is rolling.

**MR BEBBINGTON:** With the change from ISS to NBN, all data is now incorporated in your plan. So whereas previously your uploads were not part of what you paid for, it is now and particularly impacts on agribusiness where they having big downloads, big uploads of data.

**MR LINDWALL:** Uploads, yes.

**MR BEBBINGTON:** All fixed and fibre equipment at their premises have a shelf life of five or seven years. We need now to start working out the processes for the replacement of that, so there's no interruption of services, because there's a 90 day remote area requirement for NBN currently. 90 days, once your modem fails is not acceptable. We also need the processes and to implement the safe guards to do continuity of service.

There is no incentive for NBN to expand the fixed network, as the \$9.8 billion that's expected to 2040, is actually subsidised by all active fibre superfast broadband services. Currently the report indicates \$6.80 per month per wholesale customer, which has to be added to current fibre plans from July.

Finally, the minimum baseline for satellite fixed and mobile fibre, the benchmarks need setting. It's interesting, the majority of submissions to the draft, and responses, have referred to the serviceability of Sky Muster, it's appropriateness for voice. Most people are expecting that 25 is what they're guaranteed. I think, if the Commission had said, "We suggest a baseline of five for satellite, 25 for mobile, and 50 for fixed", you would've got a significant response, because I think that has not been picked up by people.

**MR LINDWALL:** No, that's a good point. Thank you. Anyone else?

**MR BROWN:** Afternoon. Boyd Brown, area manager for Telstra in WA. I've just got two quick points. Gary spoke earlier about fixed wireless NBN and said Telstra didn't have a business product. I just wanted to clear that up, because we do. We launched a product back in May 2016, which is Telstra Business Broadband, which is available on the fixed wireless.

Second point was, Amanda talked about 3G and 4G and 4G not being available on Black Spot sites. That's not correct. The sites are built with both 3G and 4G so they'll operate with 850 and 700 megahertz Spectrum on them. It's right to say though that the sites built under the previous RMCP, the Regional Mobile Communication Program, that was 3G only at those sites. It's not threshold based, it's those sites will be upgraded progressively with 4G. We're at about 60 per cent completion at the moment, with a plan to have those pushed out in the next six months. That's just a rolling upgrade. It'll just upgrade. It's got nothing to do with capacity throughput.

**MR LINDWALL:** That's great. Thanks.

**MR BROWN:** Yes, thanks.

**MR CRIDDLE:** Jamie Criddle, CEO, Shire of Westonia. I just wanted to give a bit of an insight. I'm one of the members of one of the small towns. We have about 150 people in our town.

**MR LINDWALL:** Yes?

**MR CRIDDLE:** About 300 in the community. Up until about 18 months ago, we didn't have any internet service. We didn't have mobile service. Basically, you could say that we were cut off, being 50 kilometres from Merredin and 300 Ks from Perth. We've since, 18 months ago, have had part of the first roll out of mobile phone tower put into the town, which has been great, so the 3G service. It has enabled us to, yes, basically, do some extra work.

We had no access really to any internet. We were getting a bounced wireless network bounced, BBNNet, I think it was called, which was very unreliable. We were going three weeks without any sort of internet at times, because somewhere along the line there was a tower that was out and, before people could fix it, there was something else going on somewhere else.

With the Sky Muster, we've managed to get on there. Initially, it's been great, I suppose. I'll say that the first 20 days of the first month, it was great, until we used up our data. Basically, we were shaped and are constantly being shaped. I think it was a 50 or a 60 gig plan with 80, I think, on the off-peak.

**MR LINDWALL:** In the off-peak, yes.

**MR CRIDDLE:** We've tried to move all our stuff so that all our uploads are done after hours and off-peak.

**MR LINDWALL:** In the off-peak, yes, yes.

**MR CRIDDLE:** That's still not really helping a lot. What we've basically had to do is limit people from even uploading, or updating their mobile phones during office hours. You have to go and do that at home. We had an instance where we had a new employee move into a new house, which the shire provided an internet service for them. They just purchased a smart TV, set that up, and used the whole data in the first day setting up the TV.

They're small things, but being able to say - you know, we were talking about Netflix and whatever else. I have a small family which talk to their cousins in Perth and they talk about what they've been doing and whether it be watching, yes, something on Netflix, and my kids ask me, "What is Netflix?"

**MR LINDWALL:** Yes, yes.

**MR CRIDDLE:** To me, that's unacceptable. For a divide of 300 kilometres from Perth, it is unacceptable and it's almost to the point of third world. In terms of how we go from here, I love the ideas that have been going around. Whether they get traction or not, that's from here on and further pushing, I suppose, down the line.

But we heard earlier about the digital divide, whether the NBN has been able to close that. All I think it's really done is given people in the rural areas a false hope. We talked about the people that have been able to get on and use the internet, yes, that's been great. But the frustrations involved with it all is just too overwhelming and all it is, is setting up this false hope of, "Yes, we've got internet but we just can't use it". I just thought I'd give a bit of an insight.

**MR LINDWALL:** No, no, that's great. Yes.

**MR CRIDDLE:** We're probably one of the smaller communities in WA. Yes, I just thought that would be, yes, interesting for - - -

**MR LINDWALL:** No. We will look at some of the ideas that have been raised today.

**MR CRIDDLE:** Yes. Thank you.

**MR LINDWALL:** Anyone else? Well, that concludes it. I adjourn the proceedings. This is the last hearing for this inquiry. I think I mentioned earlier that we'll present the final report in late April to the government and then they have 25 sitting days to table it. You can still put in submissions, if you wish, if you want to clarify anything more and thank you very much for your participation. Have a great afternoon.

**ADJOURNED AT 1.09 PM**