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TRANSCRIPT OF PROCEEDINGS

PRODUCTIVITY COMMISSION

INQUIRY INTO RADIOCOMMUNICATIONS

DR D. ROBERTSON, Presiding Commissioner
DR N. BYRON, Commissioner

TRANSCRIPT OF PROCEEDINGS

AT MELBOURNE ON TUESDAY, 23 APRIL 2002, AT 10.45 AM

Continued from 18/4/02 in Canberra

DR ROBERTSON: Good morning. Welcome to the public hearing for the Productivity Commission inquiry into the management of radiocommunication spectrum. My name is David Robertson and my fellow commissioner is Dr Neil Byron. The inquiry started with a reference from the assistant treasurer on 16 July last year. This required the commission to review radiocommunications acts and the market based reforms and activities undertaken by the Australian Communications Authority. It is part of a national competition policy legislation review process.

Our draft report was published at the end of February with the aim of promoting further public discussion, and the draft report asked specifically for information on a number of points. The purpose of this second round of hearings is to provide an opportunity for interested parties to make further submissions and to place their views on the public record. We shall take these into account in preparing our final report to the government. Last week we had hearings in Canberra and we have further hearings here in Melbourne both today and tomorrow.

We would like to conduct all the hearings in a reasonably informal manner, but I remind participants that a full transcript will be taken. For this reason comments from the floor are not appropriate during the session. At the end of today's proceedings - or indeed tomorrow, time permitting - I will provide an opportunity for anyone who wishes to make a brief presentation. Participants are not required to take an oath but are required by the Productivity Commission Act to be truthful in their remarks. Participants are welcome to comment on the issues raised in other submissions, so not just their own. The transcript will be made available to participants and will be available from the commission's web site following the hearings. Copies may also be purchased and there's an order form you can obtain from the staff here today.

Speakers are invited to summarise the main points of their written submissions, and in fact I think their interest should be in picking out the major points so that the discussion can be as free-running as possible. Would you please introduce yourself so that the transcribers can identify your voice subsequently.

MR WATTS: Hello, it's Tim Watts. I'm the director of OzProspect.

DR ROBERTSON: Thank you.

MR WATTS: Would you like me to start off?

DR ROBERTSON: Yes, please.

MR WATTS: Just to review my submission, I broke my submission into three

parts, not necessarily because I think my submission is comprehensive; it's just that these were three themes I thought were worth getting on the record. The first section I title The Big Picture and how to think about spectrum allocation. The reason I start off with this is that I think a lot of the public discussion and policy debate about spectrum allocation is grounded on the wrong set of conceptual frameworks, and I think it's worth having a real hard think about defining spectrum as a resource first before we start thinking about the various industry participants and citizens groups and so on who use this resource.

The major point I suppose I make in my submission is that property is not a good analog for this particular resource. It's basically a statement that doesn't seem particularly controversial but, when you look at debates around spectrum allocation, you find that property and references to property rights, and our regular understanding of what property and what a property right is, colour all the discussion. It seems to be the sort of touchstone point that everyone has reference to, and that feeds into discussions about the appropriate way to manage this resource.

I suppose my major point about spectrum is we should be thinking about this resource and focusing on it as a platform for flows of traffic, flows of communication, flows of information, rather than a sort of standing repository of stocks of something. We should think about it more in the way we think about managing a highway or another platform that has traffic on it, rather than a sort of set reserve, sort of stock of something, like perhaps a natural gas reserve or a particular piece of land. The reason I say this is that there has been an evolution of technology of late which has really revolutionised the way you can use this resource, and this new technology is still evolving.

I'm not proposing a set hard and fast rule for the way we ought to manage this resource, given this new technology; I'm just saying the technology is evolving and we can use this resource in a different way now. I think new ways of using this resource will emerge in the near future on the basis of technological evolution, so I propose that a particular approach to spectrum management ought to be adopted, and I sort of call this an open platform, open access approach. I don't get into a lot of detail trying to explain what that is. I refer to a book by an American academic called Lawrence Lessig, and that book is called the Future of Ideas, and I suppose I take much of my thinking about what an open access, open platform management approach to spectrum would be from that book.

In section 2 I very briefly, I suppose, endorse to some degree the market based approaches to allocating spectrum that have been adopted in Australia over the last decade but insert a sort of proviso that I don't think we should lock in long term this market based approach. I think the market based approach through auctioning and so on is an effective, efficient way to manage this resource in the short term but I don't

think it will be the only way and the best way necessarily in the future, given the evolution of technology. So I propose a way of using the market mechanism in the short term that doesn't lock us in to particular kinds of technology and particular kinds of use of the spectrum.

In the final section, section 3 of my submission, I pick up on a couple of things that I felt were sort of lacking or that were weak in the Productivity Commission's draft report. I suppose the major chunk of that final section is a reference to the television broadcasting industry and the licences for the spectrum which are part of that industry. I flag a new technology which is fast growing and is in roughly 250,000 homes in North America now. It's called a PVR and this technology, I think, promises to greatly undermine - potentially to completely undermine - the commercial broadcasting model, so there's a statement in my submission that there is a strong likelihood that by 2005 the current advertising-driven business model of Channels 9, 10 and 7 will be untenable. This particular technology, the PVR, which is owned and has been developed by a couple of companies - one is called Tivo, one is called Replay TV - I think will have that impact by 2005, perhaps a little bit later.

The implications of that technology are that we can't think about the future confident that Channel 7, Channel 9 and Channel 10 are going to be around and prospering and the commercial broadcasting industry for television will be around in the shape and form that we know it now later in this decade. So our decisions about policy now perhaps ought to take pretty serious note of this impending development, and I suppose in the latter half of section 3 I go through a bit of discussion about how in fact we might now start thinking about the best way to govern the part of the radio spectrum which has been allocated to television broadcasting and the licences there, given these coming technological changes, and I again advance this open platform, open style regime. I haven't gone to the trouble to explain it and fill in the details of how that would actually work in practice. This isn't the right forum to do that. I suppose my purpose in putting a submission in is to really strongly support and put my support behind this type of approach, and then hopefully spark a debate about how this sort of open access, open platform model might work.

My overwhelming bias in all of this, and the reason I'm advocating an open access, open platform model for much of the spectrum is I think that approach is pro-innovation first; that's the value, innovation. That, I think, is most important when we're thinking about this resource because the spectrum is such a valuable piece of enabling infrastructure for innovation, for the exchange of information, for communication, for the collaborative creation of knowledge and all sorts of media technology activity, and these activities which can occur in any society are themselves feeders into economic value in all sorts of other industries, in the creation of all kinds of extremely valuable, intangible assets, that if one pursued this approach to managing the spectrum and in the process perhaps disadvantage the existing

industries which directly use the spectrum, Australia as a whole wouldn't necessarily lose out. The benefits that would be gained from adopting this open access, open platform model of spectrum management would be greater than the potential, perhaps, losses to the television and radio industries which now utilise this asset.

DR ROBERTSON: Thank you. I suppose I have one fundamental question, which is, how do you think you're going to get investment in radiocommunications if you've only got a three-month licence?

MR WATTS: I think that point has been exaggerated. I think we're already seeing a lot of companies investing in technology, like WiFi, for example, where there is no guarantee really of any long-term - I mean, those companies are investing in this part of the spectrum which they don't have a licence for. They have, I suppose, access to and certain terms on which that access is possible but they are, on the face of it, at risk of - you know, if enough people use that piece of spectrum where they want to use it, they'll be shunted off. But these companies are realising how valuable this is and are investing anyway, without investing in a licence.

Perhaps three months is too short. I think there is a long way between the three-month and the 10-year licences that have been established. Maybe it has to be longer than that. I suppose all I'm saying is that I think there's more danger in locking us in with these kinds of privatised sort of chunks of spectrum than there is in scaring off investment with too short-term management regimes.

DR ROBERTSON: How do you think we would have gone with radiotelephony if in fact the licences had only been allowed on some short-term basis? They could be resumed in three months. How do you think Vodafone and AAPT and One.Tel and all the others would have felt about that?

MR WATTS: I'm not going to speculate. It could have completely discouraged them from investing in Australia at all. I doubt it. This is too valuable a market. You're reinforcing this three-month point. I've made the point that perhaps that is too short. Maybe there needs to be a one to two-year grace period if you have a lease to a particular licence, but once the government or whatever authority has given you that notice that you must vacate the spectrum in one year's time and find an alternative way to serve your customers, I think that's enough notice. These technology companies are certainly investing in infrastructure, but this infrastructure in my view - and I've seen it in action - is tweakable, is adaptable to new allocation and management regimes in the spectrum.

DR ROBERTSON: But you're not offering any degree of certainty at all to any investor.

MR WATTS: I think there's some degree of certainty. An investor in a mobile phone service-providing company isn't just basing their investment decision on security of tenure to spectrum.

DR ROBERTSON: You don't think so?

MR WATTS: No.

DR ROBERTSON: Do you think they would invest hundreds of millions of dollars if they knew they could lose it tomorrow?

MR WATTS: I'm not proposing that they lose it tomorrow.

DR ROBERTSON: Three months, you said.

MR WATTS: In my previous comment I discussed the idea of it being perhaps two years. I think two years perhaps would be - - -

DR ROBERTSON: For hundreds of millions of dollars?

MR WATTS: Yes, I do.

DR ROBERTSON: I doubt it. Neil?

DR BYRON: I was interested in your comments about the land or real estate not being a very good metaphor for spectrum. I appreciate that the problem is more about managing flows, but I'm not sure that your highway example really helps us very much. Highways also become terribly congested, and we are actually looking at - in another part of the commission - proposals for road pricing charges as they have brought in in Singapore as a way of dealing with the congestion that arises when you've got a valuable right to use which is not being charged for and leading to congestion. We were told in the hearings last week in Canberra that there was a lot of concern about these new technologies that you're talking about - the ultrawide band and so on - increasing the background noise level, so that increasingly signals need to be stronger to rise above the background noise level.

We're very sympathetic to the new technologies that can use the public parks - oops, I've flipped into the land metaphor again! - the open space common areas, but I do see a serious risk that if that really takes off, then the public parks become terribly congested, in which case you either have to set up a lot more parks or someone will start proposing admission charges to get into the park or someone will set up a privately-owned park and, with some of the WiFi and those sorts of things it's quite conceivable that a company that is marketing particular technology would want to acquire the rights to a piece of spectrum to go with that technology and then provide an integrated package to their clients, but not just selling them the hardware, but

being able to say, "Well, here's a piece of spectrum that we can guarantee is uncluttered, uncongested, because we actually have acquired the rights to that piece of spectrum."

Now, coming eventually to the question, even if we do see ultrawide band and common areas as the way of the future, we do have an awful amount of, if you like, old-generation equipment and systems out there - the fixed-links microwave and all the rest of it. Any ideas on a transition path from where we are now to where we might be in 10 or 20 years' time?

MR WATTS: I think more public parks to start with, if we're going to use that metaphor. I would continue on with the market mechanism way of allocating licences to mobile phone service providers but, as I say in there, maybe three months was a not thought-through time frame, but I would definitely make them a lot shorter than the current terms that have been established. I suppose my thinking about this is mainly informed by a bias towards promoting innovation and experimentation. I think the bias to date over the last few decades in managing this resource has been towards the status quo.

DR BYRON: I think in the draft report we're very sympathetic to the idea that technology is changing very very rapidly. In 10 years from now we may be using devices that we can't even conceive of at the moment, and for applications that we can't even conceive of today. That suggests to me that we need to have something that is very open, flexible and adaptive. I don't necessarily have great faith in the ability of government departments to decide what the right technology is and to be prescriptive about that.

MR WATTS: Picking winners isn't a good approach, I don't think.

DR BYRON: I think we're in agreement there. We're still left with the problem of how do you devise a system that allows this innovation to occur and rewards it? Your comments about the Tivo and the PVRs: I've seen them, I've read a lot about them, I know that they're taking off in the US and I think your conclusion about the impending demise of commercial TV as a business model is quite plausible. But if that's the case, who would want to set up a new commercial TV station, which is the recommendation at the end of your submission, if you really see commercial TV as a business model that is likely to disappear in the not too distant future? We don't go around setting up more TV stations just because there may be some surplus spectrum available. To me the conclusion is, there will be a lot more spectrum that will be available to be reclassified for other uses, not just a plethora of commercial TV stations of delivering unknown or unknowable content.

MR WATTS: I would agree. Free-to-air TV through the airways might disappear and it might be not commercially viable. I think there will be some version of the datacasting combination type service developed, and I have faith in the dynamism and the innovation ability of the Australian business community that they're going to

come up with a model which can make money. But I would reinforce what I said in the last section. Really people who either have licences or have the networks which can use the spectrum are infrastructure owners. They're like Macquarie and the toll roads. We shouldn't be trying to think about our highway network as a nation in an effort to try and provide support to the road construction industry. We should be seeing the spectrum in the same way as we see our highways - as a way to facilitate all this other commerce - and provide amenity to our citizens.

We shouldn't be thinking about how we can find a way for people in the media industry to make millions of dollars. We have to leave it up to them and create an environment where there are low barriers to entry and new entrants are encouraged to innovate and make money in new ways and provide really good services and really good content by attracting consumers with quality.

DR BYRON: Spectrum licensing, though, is not necessarily inconsistent with that, because the market enables the reallocation from some dinosaur who happens to own some spectrum and if some brilliant new application comes in they can buy the spectrum licence. So having a system of 15-year spectrum licences isn't necessarily inconsistent with having a system where people with great new ideas can come in and acquire the spectrum that they need from somebody who has an obsolete business model.

MR WATTS: Absolutely. But I think about this with my consumer's hat on and I find out about things like the ABC's new Spy Channel. The ABC has this new channel called Spy. It's run by youth aged 15 to 25. You might have heard about it. I can't get that in my area unless I develop a commercial relationship with Optus or Austar or I shell out an incredible amount of money on a soon-to-be obsolete digital receiver. That is beamed out, it is available now; why can't I get it? If the ABC can do that on hardly any money at all - if you look at how much they're really spending - there have to be business models out there and media makers and media companies who could deliver great stuff to Australians in that same way, using these kinds of technologies. Why aren't we seeing it now?

Yes, we have to worry about the current infrastructure; yes, Australia and businesses have invested in creating all this stuff. But I think this resource is big enough and flexible enough for us to start creating spaces for experimentation and innovation and starting to issue new licences, if that's the way it needs to go, or different kinds of licences, or opening up the terms of existing licences to enable perhaps the incumbents to start being more flexible in what they do with the spectrum that they control. I'm not coming to you with a coherent solution, but I'm trying to put forward different values that should be put alongside the current set of values relating to efficiency and so on that you mention in your draft report.

DR ROBERTSON: Have you heard of the Tragedy of the Commons?

MR WATTS: Yes.

DR ROBERTSON: Don't you think the same thing would happen to spectrum if it was just left wide open?

MR WATTS: The piece of the spectrum that WiFi uses - that 80211b uses - that's the perfect candidate for a tragedy of the commons. Everything is using that part of the spectrum. It's a tiny little sliver in the spectrum, and yet we use it every day throughout the world for our cordless telephones, opening our garage doors; now we're using it to connect to the Internet at superfast rates. Why hasn't that tragedy of the commons happened? Well, we had some really good rules at the start. Those rules govern the way you can use that tiny, little but very very important asset. Good rules, in my view, will overcome that problem.

DR ROBERTSON: Those are all fairly cheap pieces of equipment that use that. That's why you can do it. I come back to my example of mobile phones. Anybody in this room will tell you I'm not a fan of mobile phones; I never switch mine on, even though I'm forced to have one.

MR WATTS: Yes.

DR ROBERTSON: But it is something that has become absolutely essential for everybody under the age of 25 to have pinned to their ear walking down the street. That is a very expensive arrangement - to have the infrastructure to enable people to do that, not only in the city but even in the country.

MR WATTS: It's actually not that expensive.

DR ROBERTSON: But the capital equipment is very expensive.

MR WATTS: If you take away how much these people pay for their licences originally, it starts to look a lot cheaper. If you talk to someone like a character called David Gold who started an Internet business called dstore a while ago, he has now moved into the telecommunications game. He wants to be a telecommunications company without buying any licences to spectrum, and he's doing it through WiFi at 80211b. He's setting up a network throughout Australia. The company is called Azure Wireless, and he's starting off by providing broadband connectivity, but he wants to be a telco as well, and he's going to do this through these very, I suppose, local nodes which work on this standard and going in and basically setting up these nodes in an array of locations throughout cities and airport, and wherever - just location by location. It costs $500 maybe for him to set one of these up.

He has an ongoing relationship with a broadband provider, and he's going to provide the same kind of service you get from - perhaps a slightly diminished quality

of service that you would get from someone like Optus or Vodafone or Telstra, the mobile phone service I'm describing here. But he's going to provide that through Internet protocol, voiceover Internet protocol. This company is supported by Hudson Conway, it has a very innovative, ambitious bold plan for a national network, but he's doing it by using this narrow little part of the spectrum. He hasn't spent any money on special licences and Hudson Conway isn't afraid of this tragedy of the commons. They're confident.

I haven't read the business plan. Maybe it's all going to fall in a heap but David is a smart fellow who has a good track record. He wouldn't be doing this and wouldn't be spending the millions of dollars he's spending on all this if there wasn't some blue sky ahead. I can't remember exactly what you asked first but it's not as expensive as Telstra might tell you it is to set up these kinds of services.

DR ROBERTSON: I wouldn't ask Telstra, but there are a whole bunch of companies who do have these infrastructures across the globe, and I don't know this gentleman you're talking about. Clearly he has found a way of competing. The question is, will it actually compete or is it only a marginal thing? Where has he got these things set up?

MR WATTS: It's very very new. He's aspiring to have them set up everywhere, all over. Basically he has arrangements with people who own or control, through a lease, central pieces of high-traffic real estate - so street corners that are important, airports, hotel lobbies, all that kind of thing - and once you come within one of these azure zones, and if you are company and your whole building is an azure zone everyone is in it at all times, as is the cafe down the road and the airport lounge that you sit in before your flight and all this other stuff, you can access these services.

I suppose what David is doing is demonstrating that this model we have in our heads that telecommunication providers have to be big and have incredible capital costs up-front - and we're talking billions and billions of dollars, not several tens of millions of dollars - he's demonstrating, I think, and will demonstrate that you can put that model aside, that that's one way of doing telecommunications but you can do it in other ways.

DR ROBERTSON: I wonder if you could do it without the infrastructure. He's picking up little bits of it that he can make a profit on, but in terms of the overall picture he's not going to give the coverage that the other people do. So he's just complementing really.

MR WATTS: I would like to see a lot more complementers. I think you're right, we don't want to take away the licences that the existing mobile phone companies have, but if we're going to start issuing new licences maybe those licences need to be

issued in a different way, the terms of the licences need to be different, and maybe alongside those, for every new, old-fashioned mobile phone licence that we hand out or we auction, maybe some allocation towards another commons ought to be made.

DR ROBERTSON: What you're really saying is that we need to have as much competition in the marketplace as we can.

MR WATTS: Yes.

DR ROBERTSON: And there isn't really a barrier to that, except that some people do purchase lumps of spectrum and they then acquire a property right. To obtain that would require somebody of equal size to spend a lot of money.

MR WATTS: Yes.

DR ROBERTSON: As the technology changes the value of those licences will come down. So the market would work, you see, without reducing it to three-month licences which seems to me to be extremely short and is most likely to discourage innovation, in the sense of the adoption of new ideas. But there is also this problem - and a number of experts have raised this with us - which is that the so-called class licences or what Neil chooses to call "public parks" are getting crowded already and then it becomes a question of how many more can be created, and indeed whether or not having free access to these areas may not in the end destroy them completely.

DR BYRON: In relation to that I'm wondering whether the spectrum commons would work equally well for all the spectrum uses that we have at the moment when you think of broadcasting, satellites, microwave fixed links, et cetera. At the moment at the current scale the use of the ISM band in the class licence areas for WiFi and so on in the wireless LANs doesn't seem to be congested yet, but does that necessarily argue that you could have a spectrum commons approach all over? I've been told that there is a remarkable degree of incompatibility between our broadcasting and mobile phones, for example.

I guess the Defence Department would say that there are certain applications and certain areas of the spectrum where they have a zero tolerance for interference. So while recognising the great virtue of the spectrum commons for some applications I guess the question is, how widespread can that model be? Is it a general model that we could use right across the whole spectrum from low to ultra, super high, or is it only ever going to be a great idea for small fragments of spectrum?

MR WATTS: A difficult question. In the short term and the medium term I think they're all going to be really important applications that simply can't be managed - applications like defence, and perhaps TV broadcasting in the short term, which we

rely upon and we need, and we shouldn't threaten them by throwing them into a commons. But given that there's a process of reallocation of spectrum going on all the time I think a sensible approach would be to increase the proportion of the new allocations that are being made that are a commons of some form or another.

I think it was in the early 90s while Clinton was still American president that he established this national information infrastructure program and created a public park in the commons, the biggest one that anyone had ever seen, and basically threw it to Silicon Valley and said, "Come up with a way to use this." Quite a lot of squabbling went on and basically it ended up being a fight between telecommunications companies and companies like Apple for the set of etiquette and set of rules that would govern this particular part of the spectrum. The telecommunications companies won, and effectively won by neutralising that particular part of the spectrum for anyone to use, and now it's barely used at all.

They did this by establishing a usage fee sort of structure that basically made it impossible for anyone who's in the PC end of the market to make money doing it, using this part of the spectrum, but the purpose of it really was to create some kind of longer range wireless networking-type standard, and the spectrum rules that came out of that sort of squabble process I described are widely regarded in the United States as really good rules. But there are a couple of other attendant agreements that were made, and the people from the Silicon Valley side of things claimed that they were basically bludgeoned into accepting these rules by the telecommunications companies; that those extra rules really make it almost useless for these applications. So it's all sitting there not being used very much at all.

That process went on in the mid-90s and a lot of people who were in this area regret that it happened and they're now returning to that part of the spectrum and thinking, "What can we do with it?" I know the ultrawide band companies are thinking about it and proposing things to government, and all that kind of thing, but that was an interesting process, I thought, when I read about that.

DR ROBERTSON: It wasn't really left to the market, was it?

MR WATTS: No.

DR ROBERTSON: Because if there were that large an area then one would think that it could be allocated by price because there would be many users.

MR WATTS: Except that the price mechanism just simply might not have been possible. I think certain assets, certain types of resource - the ones where there are functioning effective commons-type management schemes working out there - actually don't work very well if they're governed by a single private property baron

who is trying to find the most profitable way of allocating use amongst various people that use it. That isn't necessarily the most efficient way of managing that resource. It sometimes is, but I can conceive of some developments in that process I described, that squabble I described, that would have come to a really good outcome and there had been an agreement, and it would now be the centrepiece of an incredible array of services.

WiFi that we know now wouldn't have happened. There would have been some other standard which would have been developed earlier and would have taken place using this particular part of the spectrum, and that would have had implications for Australia because all the technology would have come out of the US but wanting to use this part of the spectrum, and we would have to be thinking about it. But it didn't happen and WiFi has emerged, perhaps, instead. So I'm confident and I think the WiFi example, and that part of the spectrum that it uses, shows you that the price mechanism and private property approaches aren't necessarily the ultimate efficient way of using these kinds of assets. You can establish effective commons which are very efficient.

DR ROBERTSON: Until you reach these noise levels where it becomes expensive, because the costs go up as the level of noise goes up.

MR WATTS: Interestingly not only is the usage application technology evolving quickly but the ideas and technology which allow you to police and monitor spectrum is evolving very quickly as well. So in my submission I talk about a guy called Eli Noam who is a professor of tele-information at the University of New York, I think it is. Anyway he has got a model that he described, hoping that technology would evolve to the point where the model could be implemented, which is this packet pricing sort of toll structure for managing a commons in the spectrum, where you would have a spectrum manager entity which monitored what was going on in the spectrum at any one time, intercepting the signals just so that they could assess who was sending them, and there would be some kind of structure that you would have to register to use this part of the spectrum, but the spectrum manager would effectively be pricing your use through this monitoring, policing - - -

DR ROBERTSON: It would also be a Big Brother.

MR WATTS: Eli Noam doesn't think so, and I suppose it depends on the technology. Some people say this is a pie in the sky model, it expects things of technology which simply aren't possible, but he's an engineer, he's confident that we can do it and wants to see more experimentation, and he would almost envisage - you know, in the way that a toll company runs and makes money and funds a highway, he would see that as a way to have efficient management of a reasonable slice of spectrum too.

DR ROBERTSON: That's what I would have thought would have happened to this spectrum that Clinton released, but obviously it didn't.

MR WATTS: Yes, it didn't.

DR ROBERTSON: On the question of broadcasting, you obviously haven't read our draft report on that because we have some fairly strong views, and it's evident that the broadcasting industry is aware of some of these problems you've been talking about. That doesn't stop them being defensive, but it means that some of the things you're talking about are certainly acknowledged by these people. The question then becomes, how do you handle the licensing of it? That's our big point really, which is that broadcasting has such a LAN band of spectrum and no-one else is allowed in because it's managed by the ABA, but there are now proposals that this should change. Have you read the Cave report, the British one that has just come out, which is trying to catch up with Australia in fact?

MR WATTS: No.

DR ROBERTSON: They're talking about having a joint broadcasting and spectrum manager as a way of at least getting the spectrum into a single distribution rather than having a chunk hived off. But on the other hand there are lots of other areas that have to be hived off, like defence and community use. So we're always going to have the problem that we can't have the whole spectrum open, and one of the problems is how you have somebody who manages those special interests without interrupting the use of spectrum for commercial interests. A lot of people get frightened when you start talking about commercial interests. They think that means you're going to sell it all. So that can create its own problems.

MR WATTS: So do you propose the creation of new licences, broadcasting licences, in the report?

DR ROBERTSON: That digitisation should in fact lead to narrower bands which would leave space for further broadcasting companies, if they thought it was appropriate, but from what you've said you wouldn't believe it's appropriate.

MR WATTS: No, I think that's misinterpretation, or perhaps it's just inaccurate. What I was trying to focus on in that section in the broadcasting bit of my submission was the problem that we're seeing in America and we're seeing here; the idea that these incumbents are acting like squatters on the spectrum and it's in their interest because of their oligopoly power to, you know, basically act as barriers to entry, prevent innovation - basically stall the regulatory process - and there would be the creation of new opportunities for new entrants. I'm really concerned that the

transition to digital television - more efficient use of Spectrum to deliver more channels with the same spectrum - that process is going to just be spun out by these incumbent interests and be delayed indefinitely.

We're already seeing this kind of activity going on in the US and it's very very concerning. Perhaps I need to go back and read the section more closely in the report. Perhaps you're proposing exactly the right kind of solution, but I'm certainly not seeing any indication from the powers that be that they're going to take any steps to prevent this kind of incumbent stalling going on.

DR ROBERTSON: Well, as long as there are regulations in place that prevent it, then of course the incumbents are protected, but one of the things that seems to us that could well happen is that the new technologies you're talking about are going to weaken their position and other people are going to realise there are other ways of doing it. I mean, we're not going into detail about saying there should be two or three or six - I think you suggest - new TV channels. If they're like the present ones, we wouldn't want to wish that on anyone, but the technology itself will tend to break down the rules, which is what they are, which hives off a chunk of spectrum to the broadcasters.

Now, that's not going to happen overnight. We're not going to make some great revolutionary change, because it's not for us to decide anyway. We'll make recommendations and the government will decide that, but I think your argument is on the technology. We do appreciate that the new technologies are going to be alternatives and a lot of the traditional services provided by incumbents are going to come under attack through the marketplace, and one of our concerns of course is to make sure that the market appears as efficient as possible. So your comments on broadcasting are not out of keeping with our own views. The question is whether what we recommend becomes accepted.

DR BYRON: Just coming back to interference, my understanding is that the whole licensing system exists because of apprehension of interference and mutually destructive signals, et cetera. In your talk about spectrum commons, you seem not to be terribly concerned about interference. Is that because you think that it can all be managed through the right technology?

MR WATTS: No. I'm optimistic that interference problems can be minimised to the point where there is only an occasional problem, not the overwhelming problem that we saw prior to the creation of licences originally back in the 30s or 40s or whenever it was. I think technology has evolved to the point where, with the right rules, many applications using the spectrum can operate, not encountering interference problems, but the kinds of areas I would be worried about are things like this ultrawide band technology. It's extremely exciting, people are promising a lot

with it, but a lot of engineers are also extremely concerned about what it will do to every other user.

I think that has to be absolutely a priority before any major sort of concessions are made to those who want to use this technology, but surely we need to give the technology a chance. Those who want to push this technology who are prepared to invest in it - and there's a lot of venture capital money invested in ultrawide band companies, which have the capacity and own the rights to use some of this technology. So there are a lot of people betting on it.

I was contacted by a member of a Liberal Party advisory panel on this a couple of weeks ago and he claims that, if Australia goes ahead of the curve and is more open and embracing of ultrawide band than the rest of world - he claims that America and Europe have both basically just closed the door on ultrawide band recently. The industry had been lobbying for the chance to try out this technology and Michael Powell, the head of the FCC, and equivalent entities in the EU have basically said, "No, it's too early, we're not going to do it."

This guy is claiming that, if Australia goes ahead and establishes experimentation programs and so on - perhaps using our remote areas - Australia could be the world centre of this technology - the first place where it works - and he's doing blue-sky projections around the idea that Australia would be the Finland of this and develop a company like Nokia and use this technology. He thinks it's that important. It's the kind of technology that you've really got to see in practice. You've got to see how it's going to work, but interference is the one thing you hear talked about on that issue.

DR ROBERTSON: What sort of power do they use? What's their range with this ultrawide band?

MR WATTS: Again, I think it depends. People are proposing, I think, ranges of a few kilometres. Some people are proposing even longer - city-to-city or town-to-town type links. Really I think they want to basically try it out and demonstrate it and I think they were going to start up small and then use expanding amounts of power and see where they can go with it. Unless you establish a program and experimentation with plenty of use and see how it works, I don't think anyone is firm in their projections.

DR ROBERTSON: What sort of uses would there be for ultrawide band? I can understand the software-defined radio, but ultrawide band is for communication of individual messages.

MR WATTS: From the sounds of it, it can be two-way. Basically its competitive

advantage seems to be that it's a really fast, very very cheap way of downloading incredible amounts of 0s and 1s and so that allows you to do video on demand. It allows you to do all sorts of networking applications, Internet and so on. Because it's low power, but long distance - if you know what I mean - it has application, they think, in some kind of short-range broadcasting as well. So you could have nodes within your city which were sending out signals, whether they're videos that you would just quickly download for five minutes and that would be the whole movie for you or whether it would carry applications like videoconferencing perhaps. So people all over the city could witness a lecture that someone was doing or that kind of thing.

DR ROBERTSON: So this is still broadcasting? This is literally a broadcast rather than a direct link.

MR WATTS: Though it is two-way. I'm trying to think through the list of things that you read in their projections of what you can do with this technology. They also talk about the same kinds of applications that WireFire can provide, which is that two-way Internet exchange of information. So they're promising everything, the companies which are investing in it.

DR ROBERTSON: That sounds dangerous.

MR WATTS: Very.

DR ROBERTSON: Do you have anything for Mr Watts?

DR BYRON: No, I don't think so, not at the moment.

DR ROBERTSON: Do you have anything further you'd like to tell us?

MR WATTS: Not that occurs to me.

DR ROBERTSON: All right. Well, thank you very much.

MR WATTS: Thank you.

DR ROBERTSON: We will now adjourn until after lunch.

(Luncheon adjournment)

DR ROBERTSON: The meeting is reconvened. This afternoon we have Prof Reg Coutts from the Centre for Telecommunications Information Networking, CTIN. What I would suggest we do is if you would like to make an opening statement of some kind and we will pick up on questions. If you have any comments on any submissions that you might have read, we're happy to have your comments on those too.

PROF COUTTS: Okay. Just a bit of background: before I joined the university, the centre, I was with Telecom or Telstra at the time of the original Scott Hodgke report and the whole moving of the legislative regime to spectrum licences. One of the activities that was involved in the centre was the birth and the growing up of spectrum licences both in Australia and overseas. So from that background, both as providing advice to government from time to time but also private clients involved in spectrum options both here and overseas, that's the background on which I give this advice.

The main area that I wanted the opportunity to comment on was the problem I do see in terms of really an effective secondary market operating, and that has exacerbated the problem of large variation in spectrum value corresponding to just when the auction was held. The classic example that happened in Australia was the two times separated 1800 megahertz auctions, and much of the assumption behind the effectiveness of spectrum auctions is to have an effective secondary market operating. From the evidence I've seen, that isn't operating, and in Australia that has been further exacerbated by the Australian Taxation Department taking a view as to what tax would be appropriate if spectrum is transferred between one party and another, and that's treated as an initial capital gains. So again that's just another barrier to an effective secondary market working.

The second issue is the comment in the draft report about using a combinatorial approach. I wasn't clear, I must admit, from the draft report as to the compelling evidence of the need to go to that approach which to date is untested and, being a bit of an innovator, being untested doesn't necessarily scare me, but I expect to see a body of evidence that the problem is of sufficient magnitude that warrants going down that track. The concern I'd have is that if parties bid and saw that they required a combination of lots to satisfy their business interests and they didn't get it, then they wouldn't have to pay the potential opportunities for gaming in that scenario. I must admit it would probably be quite good for consultants, but I'm not sure that it would actually be fruitful in terms of solving the problem.

The problem as I see it is that yes, there have been problems of people getting the lots together in the right aggregate for what they want to do. The alternative approach taken - certainly in relation to 3G auctions - in a number of overseas countries of course is to actually auction lots of spectrum, but they're not specific

lots, so the issue of allocation on specific lots happens after the auction is complete. So rather than designating specific lots where you take your chance whether you actually get the lots together, or in the exact location you wanted them, the first issue is how many do you want and how much are you prepared to pay for them. That was reasonably appropriate in the 3G auctions because the block size of the spectrum to be allocated was quite clear; it was amounts of five megahertz. So there was no fine grain nature of the allocation of the lots. That could prove problematic with other spectrum licences where there was a lot more variation involved.

The third area which I commented on was that there has often been a lot of discussion about what we mean by the efficiency of this allocation process, and what are the objectives. Needless to say, governments are often prepared not to be too open about all of the objectives of a spectrum auction. Until the heady auction days of 99-2000 the stated view, anyway, that revenue raised was an incidental benefit to an efficient allocation process. But unfortunately as we've seen in, for example, Germany, government said quite specifically that one of the objectives of the spectrum auction was to retire East German debt. And of course in the auctions in Australia there was obviously, at least, a financial target on the table.

The concern I'd have about that is the potential for that to distort the auction process and the way the rules are designed. While I'm not suggesting that the regulator here is deliberately constrained to the amount of spectrum to be allocated just to increase the price, there is a danger that those sorts of pressures, if they're not made as transparent as possible, can occur. But my general conclusion, however, given spectrum for certain applications, such as mobile, is high demand and where demand exceeds supply - and we have a whole myriad of technologies, because I'm a reformed technologist, so to speak, so it's a true acronym, SOUP, all the different technologies - that the administrative approach was really not an effective way to allocate spectrum in a time-efficient manner; in other words, yes, we need to make spectrum available and we want to get it into the hands of players who can make the best economic use.

I think, certainly from the US experience and Australia, on the whole it has been an efficient process for putting that spectrum out in the marketplace to operators. That's not to say there haven't been problems, but overall I think it has been a successful policy approach. It's unfortunate that many commentators pick on two particular auctions - in Germany and the UK - and the extraordinary amounts that were raised there to essentially disparage the whole spectrum auction process. There was also an auction in the US that had similar distortions, but again in the US case that was when you try and superimpose a very complex social objective on an auction; things can go in directions you don't expect.

My response overall to the report is, in terms of the preference for moving to

spectrum licences, I'd agree with that. My reading about moving to combinatorial, my concern would be - I think it needs to be looked at, and it does worry me that perhaps, given the pressures on the regulator, the temptation is to, "Please, it's too complicated. Can't we stay with what we've got?" There just needs to be an ongoing assessment of how effective the methods are. I do wonder whether perhaps the answers are more from, "We don't really have the resources or the time or the energy to assess this." So that's my interesting opening gambit.

DR ROBERTSON: Well, I don't think we'll play queen to pawn four or something. No, that's very interesting. It's interesting that you've given support to a lot of the things that were behind some of our early conclusions. One of the problems about valuing spectrum, which is one of the things you were talking about, in a way we haven't had a period that's long enough, I think, to establish what we would mean by the right price, in the sense that in 99 and 2000 we were going through this boom period in terms of money being poured into telecoms and spectrum generally. So until we can work out the technical cycle effect, I guess we're not going to know what the right prices are. I guess if the German and the British ones were taking place this year the prices might have been a bit lower. So it is difficult to establish the right values, and that's one thing that is bothering us all along.

I suppose one thing we could ask is, what do you think about the rate of release by the ACA, the regulator in this case; whether the rate of release of spectrum for auctions could have been faster rather than giving two-year gaps between, which is what has been happening - well, it's happening at the moment; whether we should get more onto the market so that we have got a real market rather than having the committed supply.

PROF COUTTS: The problem is in the reality. When we say it's a market based system it is inevitably a mixed administrative market based system. So the question is if you try and move it faster into the market, then you potentially short-cut the administrative consultative process. The argument there is that consultative process can be, shall we say, captured by the particular players, but on the other hand that's also part of the regulator's assessment of the market and the development of the market plan. So I think the rate at which the regulator moved to put spectrum on the market by comparison with other regimes has been quite satisfactory. I wouldn't be critical of the time scale, because most of the time is taken in that lead-up to: we are going to move this piece of spectrum to a spectrum licence and then the development of a spectrum plan through a series of industry consultation.

The industry consultation process is perhaps not as transparent as it needs to be, and why I say that is again to avoid this danger of capture by the parties that have obviously quite clear commercial interests in outcomes. So that administrative process, I think, has to be as transparent as possible and tested because one of the

other criticisms is if you get that capture, although the government talks about spectrum licences being technology neutral - I think that's more in the appearance than the reality- the marketing of spectrum is inevitably maximised by linking to technologies that are available on that time scale that are going to, essentially, fit the business plan of those that are on the ground lobbying for that outcome.

That actually may not be what the government wants to achieve. For example, in the 1800 megahertz auctions there were suggestions it should have canvassed the option of a variant at 1900, which was the case in the US, whereas that wasn't even entertained to the mildest degree, but of course there were no particular parties lobbying sufficiently hard for that. So I am just saying that, although it seems to take a long time, there is a lot to do developing that marketing plan and I would say really the attempt should be to introduce more transparency into the development of the marketing plan.

DR ROBERTSON: Thank you.

DR BYRON: Your opening comment about the problems with the operation of the secondary market and the particular interpretation that the ATO puts on the values for capital gains tax and so on, do you think that has been the major impediment to the development plan of the secondary market or is it just naturally a very thin market?

PROF COUTTS: I think it's naturally a very thin market, and the nature of the secondary market will depend on the spectrum under consideration, but certainly I'm aware that it was difficult even before that taxation ruling. It wasn't exactly straightforward, but that was just another barrier put in the way to it actually working.

DR BYRON: I guess we've been told by a number of players that they bought the spectrum they wanted with the intention of using it and they basically got what they wanted, so they're neither buyers nor sellers. The role of the secondary market, I think, is fairly critical and there are a number of ramifications for our whole report. But turning to the combinatorial auctions, would it be correct to say that if the secondary market was alive and well and flourishing the exposure problem would be much less of an issue and we wouldn't even be thinking about combinatorial auctions?

PROF COUTTS: Yes. Part of the reasons for looking at combinatorial is that it is overcoming the lack of a secondary market, so people feel as though they've got these assets. They're not exactly what they want. You've got some people over here that would actually like - and there is no way to actually unlock that.

DR BYRON: So if there is greater liquidity and flexibility, then the problem is

greatly reduced and there would be much less of a case for even considering combinatorial?

PROF COUTTS: I think the emphasis should be on looking at trying to get the secondary market to work rather than moving to a combinatorial auction approach.

DR ROBERTSON: That would mean releasing more spectrum, wouldn't it?

PROF COUTTS: Yes, potentially, because of the thinness of the market problem.

DR ROBERTSON: Yes.

PROF COUTTS: This is the danger of how much spectrum you do release and it comes back to those objectives. Anyway, a spectrum regulator naturally will try and hold back in releasing spectrum, because as soon as it is released essentially the whole dynamic starts and it is out of their control.

DR BYRON: Precisely.

PROF COUTTS: Yes, but they naturally find that a bit uncomfortable. Maybe they won't in another 50 years, but I would say the current generation would.

DR ROBERTSON: Are we breeding a new set of regulators?

PROF COUTTS: They're all getting older, so I hope we're breeding some new ones.

DR BYRON: Are you aware of anywhere internationally where the system works with more flexibility? My understanding is that there aren't many places that have developed the spectrum licensing system to the degree that Australia has, after New Zealand perhaps?

PROF COUTTS: Don't get me going on New Zealand. No. I think one of the problems of being out in front is that you try things and there's no really comparable example to learn from. I think Australia has been a leader in terms of spectrum licences without service prescription and particularly our requirements on the users of spectrum to satisfy certain service requirements. That's still unusual by international comparisons. Usually they tie it to a particular service notion and coverage and roll-out.

DR BYRON: Yes, okay.

DR ROBERTSON: Interestingly, in your notes which you sent us yesterday - and indeed you effectively mentioned this when you were making a little presentation

there - you talk about this alternative of bidding for spectrum quantum but having the specific lots allocated. You mentioned Italy in this particular instance.

PROF COUTTS: Yes.

DR ROBERTSON: The first thought I had is the dimensions of a spectrum licence of frequency power and the - - -

PROF COUTTS: Location, yes.

DR ROBERTSON: - - - location - how big your area is. In Italy, presumably, they would give a national licence.

PROF COUTTS: That was my point. In the case of Italy, UK, in the case of 3G, there was only one area. It was the nation.

DR ROBERTSON: Yes.

PROF COUTTS: And also the spectrum lots were in five megahertz, so it was relatively easy to do that.

DR BYRON: All the lots are the same?

PROF COUTTS: All the lots are essentially the same, whereas in our case where you are auctioning two and a half megahertz lots - so really quite piecemeal - and regions as well, then you potentially have that problem. But maybe we have gone too far down that direction.

DR ROBERTSON: Do you mean that we should have gone for bigger licence areas?

PROF COUTTS: If you go for bigger licence areas you are starting to make an assumption about a service prescription.

DR ROBERTSON: That's right, especially here, with density differences.

PROF COUTTS: That's right. The notion of a spectrum licence, where you split it down to the smallest amount of spectrum lot possible at two and a half megahertz and the region is as small as possible, is to some degree perhaps overly ideologically driven, because the reality is for a business that there'll be usually very few technology options available to use that spectrum. So to call it technology neutral is really a bit of a sham, and the amounts they need are reasonably well known beforehand.

The exception to that of course was the One.Tel case, where One.Tel didn't participate in the first auction; picked up two and a half megahertz - which is not usable effectively - in the English outcry, right, but then were essentially potentially held to ransom - or could be - in the ensuing 1800 megahertz auction, because everyone knew they needed to get spectrum at that auction, otherwise they just weren't going to be operational. Those sorts of dynamics, to just approach it with, "We'll split it down to the smallest increment possible and we'll just put it out there and the market will decide" - as I say, I think it's a bit of creativity and I don't think it quite works that way.

DR ROBERTSON: What you're saying is we should come back a bit - - -

PROF COUTTS: I think so.

DR ROBERTSON: - - - in the sense of allowing bigger chunks and maybe even bigger areas.

PROF COUTTS: But again it depends on the band - it depends on the band - because the other issue in spectrum licences is the technology usually dictates a go and return.

DR ROBERTSON: Yes.

PROF COUTTS: It's interesting that it didn't go as far as saying, "Well, we'll just auction the two directions quite independently." Again that would have been a great opportunity for consultants in gaming theory.

DR ROBERTSON: That's right.

PROF COUTTS: But they didn't, so there's inevitably a compromise reached, and where that compromise is reached will depend on the band under consideration. But perhaps we have gone just a little too far in that dissection.

DR ROBERTSON: Comparisons with Europe are always a worry to me because they are so overregulated anyway - you know, both with Brussels and - - -

PROF COUTTS: I wouldn't go down that, no.

DR ROBERTSON: No.

PROF COUTTS: The Brussels phenomenon.

DR ROBERTSON: Yes, exactly.

DR BYRON: Can I take you off in a slightly different direction that you didn't cover in your presentation. There is an issue of the renewal of spectrum licences generating a lot of discussion in this round of hearings. Do you have a view on how far ahead of the expiry of a spectrum licence the future of the licence needs to be resolved? I think the current situation is two years. We were talking about three years and we've had a number of submissions saying five or seven years in advance.

PROF COUTTS: Yes.

DR BYRON: And also about how that future use of the licence might be resolved. It seems that we've got three options. One is that it will be auctioned or a public tender process; there would be some sort of administrative or ministerial decision. We've had some suggestions that it should be automatic renewal to incumbents. Do you have any thoughts at all on that?

PROF COUTTS: Probably that latter one, because in your draft report you're essentially suggesting an administrative but a transparent one, though only in one direction, I noticed. I'm trying to remember the words - the issue of, if it were not to be granted, the reasons had to be given. I guess you can ask the question, if it is to be given the reasons ought to be given as well. I think an argument would have to be put why you would go to an auction process, because the problem of going to an auction once an incumbent has actually used that spectrum and presumably - this does raise the question of, should there be some test of husbandry or use of the spectrum? Currently there is no such test at all.

If you have spent a lot of money putting in infrastructure that makes use of that spectrum, again there's potential for another party to make it extremely difficult but, on the other hand, the incumbent would be prepared to pay a lot of money to hang on to it. It just worries me about the distortions that could potentially lead to - the gaming potentially by several parties - so I tend to favour the middle one, as you have got in your draft report.

DR BYRON: The other option is that the incumbent should be able to outbid almost any other contender.

PROF COUTTS: And generally that has been the case.

DR BYRON: Yes, and the question arises that, if you don't hold an auction to determine who has it in phase 2, how do you actually work out what the price is for the second term of the licence? Do you just give it to the incumbent for another 15 years on the same terms and conditions?

PROF COUTTS: The problem is spectrum auctions have just been with us for so short a period we've got no real experiential base to make those judgments and, particularly again, where there's no secondary market, so you get to this point in time where you have an auction; it goes to some players and then, if you don't actually again have some transparency of process to raise that again, 15 years on, you're having this illusion of market pricing, but it's just at one particular time point and it's then locked into a new set of incumbents. I recognise the problem. I don't have strong views about the solution other than some form of contestability should be considered on the length of the licence.

I remember the discussion at the time and that ranged from five to 20 years in the discussion and it was finally decided 15. I think in practice that is probably less of an issue than what's going to happen near the end. Five is certainly too short, but whether it's 15 or 20 didn't seem much of an issue. There is an argument that some people would say they should get the licence in perpetuity, but it seems again, without a secondary market working, you do have to test it.

DR BYRON: There would be far fewer problems with a perpetual licence if there was an active, thriving secondary market - - -

PROF COUTTS: That's right.

DR BYRON: - - - but there may be a chicken-and-egg problem there, too.

PROF COUTTS: Yes.

DR ROBERTSON: The other proposal for these licences is that there should be a public interest test, which seems to me to be a dangerous course to take, but do you have any observations on that; in other words, that the ACA or the minister would review the situation as to whether this should go to auction or whether it should be renewed automatically for the incumbent?

PROF COUTTS: That is what I'm suggesting, as long as that process is transparent and it's not just a ministerial decision.

DR ROBERTSON: I get uncomfortable when people talk about the public interest.

PROF COUTTS: That's why I was waiting to hear what you said about the public interest, because it usually means some particular people in the public's interest.

DR ROBERTSON: That's right, yes - like the national interest.

PROF COUTTS: Yes, don't get me going there.

DR BYRON: In your notes you talk about the different policy objectives that governments have about new entrants, new technologies or the interests of incumbents, and revenue targets, of course. When it comes to assessing the performance of the ACA over the last 10 years or so, one could argue that they seem to have done reasonably well in balancing all those competing interests, especially since it's not clear to us and there's no explicit government statement of what the dominant explicit interest ought to be.

PROF COUTTS: No.

DR ROBERTSON: So if it's something like some mix of all those different competing claims that the ACA had to try to balance, you could argue that they had reached a reasonable balance in all those competing interests and claims.

PROF COUTTS: Yes, I think that's true. They have certainly been resistant to a revenue maximisation objective.

DR ROBERTSON: They certainly had the potential to pursue that far more resolutely.

PROF COUTTS: That's right.

DR ROBERTSON: One of the things we propose of course is to do away with competition limits in auctions of new spectrum. I notice you've talked about Europe. How did they deal with this question of ensuring opportunities for new entrants?

PROF COUTTS: The approach they've taken there - the 3G auction case - and I think Italy is a case of where they got it wrong; they sort of made this decision between incumbents and new entrants. A new entrant could actually have access to more spectrum, another five megahertz, than an incumbent. The only problem in Italy is that the two new incumbents, so to speak, were hardly incumbents. They had really just started, because Italy has been extremely resistive to competition in Europe.

So they had just started and suddenly they found themselves lumped with the incumbent, and being restricted in terms of what they could have access to out of the spectrum, and that distorted the whole auction process because what it means is it was actually better to sell out to someone who was a newcomer, have access to the five. So competition limits have got to be carefully done, and I wouldn't look to Europe as any sort of benchmark of how to do it.

DR ROBERTSON: On competition in any case.

PROF COUTTS: No. The argument goes something like, for example, the ACCC - on not spectrum per se but related; on intercarrier roaming - did a review and came to the conclusion that they wouldn't mandate, that they used what I would call the shotgun over the bow approach, and said that if they were to be made aware of difficulty of players being able to negotiate, then they would. So it was more the threat. The problem with that is that if you threaten too many times and you actually don't do it, then the threats become rather hollow.

The competition limits in the Australian case at times have produced distortions in the bidding process, particularly in the 98 case in the amps band, and Telstra was kept out of one of the amps bands and of course the other players could sort of happily dive in there in the auction process knowing that Telstra couldn't follow them, so to speak. So competition limits, on the one side of the argument, do distort the auction process and the way the players can play, though the result was not a problem. It was just a worry during the auction what might happen.

The problem is, however, if you don't have limits and unless you make it very clear how potentially there's going to be intervention, then you're trying to unravel a situation, and it can take years to unravel that. If, for example, the incumbent were to purchase all of the spectrum and there were no new players introduced, then, okay, who's going to actually do the objecting, and even if there is another player and they object the actual court process to go through to apply section 50 and - - -

DR ROBERTSON: Yes.

PROF COUTTS: So being a pragmatist I would say on balance there should be some retention of competition limits, but very carefully. I think the government's decision to prevent Optus and Telstra bidding in the wireless local loop spectrum, 3.4, was just overregulation on competition limits. Actually excluding a party from bidding altogether, I think, is going too far. I think limits on the amount of spectrum they can acquire is a good principle but excluding parties from bidding, from the experiences I've seen in the UK, for example - early on of excluding British Telecom from doing things - just produces a huge distortion in the marketplace and often the incumbent will find a way around it, which is then another distortion in itself.

DR BYRON: When you've got opportunities for post-auction trades anyway.

PROF COUTTS: Yes.

DR BYRON: So ultimately you will end up with something like a section 50 Trade Practices test.

PROF COUTTS: And that has got to be clear at the beginning, so it is a mix. There is a role I think for limits but then you've still got the section 50 afterwards.

DR ROBERTSON: Do you think there should be reserve prices on spectrum?

PROF COUTTS: I think reserve prices in the Australian case have worked quite well. In the Italian case they didn't, and that comes back to that revenue maximisation. When you start to get revenue maximisation there's a temptation to have larger reserve prices and, in the Italian case, the very high reserve price has really prevented the auction process from going through what I would call the natural stages of an auction - phase 1, the players get to know and understand each other's strategy that I talk about in my paper.

Reserve pricing, again if they come out of a "let's get this over with quickly and maximise revenue" objective, they're quite useful. It sets a benchmark. I think businesses need to know when they go into this that this is the ballpark they're playing in. If you set the bar too high you're really creating a dangerous dynamic.

DR ROBERTSON: Yes, I can see that. One of the other things we're trying to do is to clarify the act itself. Did you happen to see that bit in the draft report?

PROF COUTTS: I can't remember now.

DR ROBERTSON: What we're trying to do actually is to make an overriding objective of efficiency and allocative processes and things and to reduce some of the other things which are included in, I think it's five categories - things like community users and that kind of thing, defence interest, national interest - to a secondary role.

PROF COUTTS: A challenge.

DR ROBERTSON: Do you think that would help?

PROF COUTTS: Again I think if you look at the act it is a balance, that obviously community interest and defence interest are an important part of what the national asset spectrum is about. I wouldn't really want to see one taking overly a priority over the others.

DR ROBERTSON: We would probably move that up into the first paragraph, as it were, and have the others as secondary.

PROF COUTTS: It's not something I have strong views on.

DR BYRON: Can I ask if you have any views on the idea of selling encumbered spectrum licences or a spectrum licence with a sitting tenant, in the form of an apparatus licence that hasn't been vacated prior to - - -

PROF COUTTS: A vexed issue, yes.

DR BYRON: I think related to that is the idea that a spectrum licensee would actually be able to come to a commercial agreement with somebody who wanted to run the equivalent of an apparatus licence embedded within the space and frequencies of the spectrum licence.

PROF COUTTS: Yes, now I recall.

DR BYRON: We were trying to get some sort of feedback on whether that has actually happened at all; whether spectrum licensees make the equivalent of an apparatus licence, allowing somebody to use a particular slice of spectrum.

PROF COUTTS: Again, you probably have to ask the operators what their experience has been. I know there is a lot of concern by the fixed-link operators about how that was going to work, and I don't have any particular experience with clients that either it has or it hasn't. The impression, however, is that the fear was worse than the reality, that accommodations have been reached, but both the fixed-link operators and the mobile operators would be in the best position to comment on how it's actually worked and practised. As in your draft report, I thought that was clarifying the issue and an approach that should be looked at, because the idea of the way it works at the moment is that potentially it just creates a lot of fear and uncertainty of, "Like you've got two years, you're mandated to get out. If you're lucky somebody is going to come along and give you a deal to buy you out but if you don't you're just stuck with the problem." It's a bit like an ultimatum. So I think some revision is called for there.

DR ROBERTSON: It's sort of a pivot problem, in terms of shifting towards a market based approach. It seems to me that apparatus licences are quite different from spectrum licences and the apparatus licences are usually annually renewed, and they're not marketed for that reason. I mean if you don't want it you don't pay next year. They are small sums of money; you can always get another licence from the ACA by an application.

PROF COUTTS: And when they're fixed link the actual spectrum space they're going to make use of can, with coordination, work with a spectrum licence holder.

DR ROBERTSON: Yes.

PROF COUTTS: So it's quite workable. Therefore the sort of an either/or type situation is often unnecessary.

DR ROBERTSON: The only problem is that people with apparatus licences like them.

PROF COUTTS: Yes.

DR ROBERTSON: If you try and move to a market system then you're stuck because they're going to have these bits everywhere that you can't deal with.

PROF COUTTS: Yes.

DR ROBERTSON: It's one of the difficult things about trying to get the market into place at the moment.

PROF COUTTS: Yes, because the spectrum market for a use like fixed is radically different than it is for mobile or broadcasting.

DR ROBERTSON: Yes.

DR BYRON: There would need to be someone emerge who is willing to be a band manager - - -

PROF COUTTS: That has been suggested from time to time, yes - - -

DR BYRON: - - - and coordinate all those individual apparatus licences.

PROF COUTTS: - - - but they haven't emerged.

DR ROBERTSON: No, and probably rationalised down the frequencies used for apparatus licences, which again would create a huge administrative problem.

PROF COUTTS: Well, that's right and of course they have got an argument then about the costs of actually shifting the equipment to another band.

DR ROBERTSON: That's right.

PROF COUTTS: And usually many of those players, like utilities - it's an incidental cost for what is their core business and they see this as just a cost pressure that they don't need.

DR ROBERTSON: That's right, yes. No, we're aware of the problems.

PROF COUTTS: That's why I'm being very cautious.

DR ROBERTSON: Yes. Well, we have to make some recommendation on this. Neil?

DR BYRON: I don't think I have anything else.

DR ROBERTSON: No, I think that's all been very useful.

PROF COUTTS: Thank you.

DR ROBERTSON: Thank you very much. We've got people eagerly taking notes over there, so we'll make the necessary changes as time goes by. Thank you very much. We'll take a short recess, I think.

DR ROBERTSON: We're now going to move on to Ericsson and Mr Alex Gosman. This is very convenient today. I've only had one person sitting over there, so we don't have to ask everyone to introduce themselves. I can manage that. You're used to this. What I suggest is that you make some introductory comments and perhaps comment on some of the other things that have been said.

MR GOSMAN: Thank you, Dr Robertson. Look, I've just got some fairly brief comments to make, in the context of Ericsson as one of the major - if not the major - mobile systems providers. We are, as a company, in general support of the directions that the Productivity Commission has taken with its report. We believe that the existing arrangements in general have worked well and that the ACA has been at the leading edge in introducing a number of changes, particularly the concept of spectrum licensing and auctioning and that, by and large, those have worked well. We also believe the ACA has been consultative, transparent and open in its processes.

Just to briefly touch on some of the major issues in terms of the Productivity Commission's inquiry, we strongly agree that the primary objective of the Radiocommunications Act should relate to maximising the efficient allocation and use of spectrum and, whilst it's not covered in any of the secondary objectives, we certainly believe that looking at selling spectrum to maximise revenue should not be an objective at all. It should be the efficient use. We support following the ITU allocations and processes. We also support the recommendations made by the Productivity Commission in terms of introducing a presumption of renewal for existing apparatus licence holders, recognising however that, at the end of the day, the government should hold the power to override any decision on future allocations if band plans should change. So we support the existing mechanism.

We support the recommendations of the Productivity Commission that competition limits should be repealed and that they should actually be administered under the Trade Practices Act. We support that compensation should not be payable. One area where we do have some degree of disagreement is in terms of the renewal of spectrum licences and we note that the commission has moved away from the current provision of two years before spectrum licences expire to making a decision on the reallocation process and that the commission has noted three. We believe that needs to be at least five for certainty of investment.

I believe that the existing arrangements already do provide for secondary trading of spectrum and also that the charging for spectrum by the ACA should very closely relate to the actual costs of administration. Also we support the recommendations of the Productivity Commission that, in terms of non-commercial users of spectrum, the cost of making use of spectrum should be provided out of the budget. Also we support the comments in terms of broadcasting. So generally

Ericsson is very supportive of the thrust of the Productivity Commission's report into radiocommunications.

DR ROBERTSON: Thank you. We're very pleased to have that support. You probably noticed that we've made a comment recommending that spectrum licences be more widely used and become more of a default rather than apparatus licences being the main regulatory mechanism and with a small number of spectrum licences operating. Do you have any particular view on that - that we should be moving faster - on a greater scale - towards spectrum licensing?

MR GOSMAN: I suppose that comes down to the tension between administrative processes and letting the market forces apply. I think I'd say, in the current difficult environment in the telecommunications industry, probably spectrum licences won't get a great take-up and that there wouldn't be tension in the bidding processes for those areas where they are allocated, and that probably it lends itself to a continuation of apparatus licences in most bands, at least for the short term.

DR ROBERTSON: With spectrum licensing, we've had proposals that the licences should be perpetual rather than 15 years. Do you think that that would create rigidities in the system or do you see that as a sensible next step or perhaps a step that shouldn't be taken for another 10 or 15 years or further down the track?

MR GOSMAN: I note your comments that that might be something to be aiming for, but there are a number of administrative arrangements that need to be in place before we could move towards that and I would tend to agree with that. I would think a system where you maintain a 15-year spectrum licence, but put in place renewal processes that - as I mentioned before - probably look at making decisions six to seven years out rather than two to three years out, would be at least sustainable in the next 10 to 15 years, before we could move to perpetual spectrum rights. I still think that there are a lot of issues to do with interference and so on that make the idea of perpetual spectrum rights an objective out there, but not sustainable in the short term.

DR ROBERTSON: Yes. The renewal conditions are, I guess, where I was heading to. I guess our thinking of three years was trying to find a sensible balance between maintaining the incentives for the incumbents to invest and maintain the systems and so on, while also offering a reasonable lead time for potential new entrants or a lead time for incumbents to get out, if they are to be got out. One of the things that worries me about resolving the future of the licence second phase, when there are still five years or seven years to run on the first phase, is that it seems to me quite possible that the technology or the company that would be ideal for years 15 to 30 may not even exist in year 10 or in year 7 and, if you make the lead time too great, you're really entrenching the incumbent and making it much less likely that a

new entrant would appear to stick their hand up.

MR GOSMAN: I suppose I think technology is not changing that rapidly that you won't have an idea about what's out there. It's been very rare that something has come along in, say, five years - brand-new technology - that will apply in a particular band. So I think to an extent there's usually a fair degree of foresight out there in the market, but I do understand there is that tension between I suppose guaranteeing continuation of supply and service to existing users of a particular band - and I'm talking about particularly those bands with a lot of usage like the mobile bands - and in terms of introducing potentially a different user or increase competition.

I suppose that's why I believe the issues to do with the public interest vision were sort of established there - that that might provide a mechanism by which you could examine that - but I think the reality is no government wants to be in a position where it turns off a service and I suppose there needs to be really a trade-off between potentially introducing a new service and potentially depriving a large bunch of consumers of an existing service for which they get a lot of utility.

DR ROBERTSON: But either the ACA or the minister might well decide that, yes, it's in the interests that there continue to be a mobile phone service in this spectrum and this geographic space, but it doesn't necessarily apply that the company that currently provides that service in that place needs to be continued. So there's the question of whether you make it contestable, in that somebody else could offer to provide a similar or a better service using the same spectrum over that place, and I guess one of the advantages we see of having a public auction or tendering process to determine who gets to provide that service in years 15 to 30 is having some value.

MR GOSMAN: I suppose one thing is, I wouldn't necessarily have said 15 to 30. We probably envisage more of a renewal as being on a five-year basis once you've got past 15 years. So it's not as if you're suddenly doubling the length of the licence. But, yes, there are a number of processes. Another process might be that you would give the existing incumbent first rights - and there would obviously be a charge associated with a continuation of providing that service - or, as you suggest, you could move towards an auction. I would think, given the state of industry now, if you were to put it out to tender you'd probably find you're only having one party coming to the tender.

DR BYRON: That also answers the question of what price, terms and conditions for the second period of the licence. If it turns out that there's only one party that's interested in operating that licence, then both the resource allocation question and the pricing question would be solved fairly quickly.

MR GOSMAN: That's right, yes.

DR ROBERTSON: What about preconditions for shifting towards perpetuity? Presumably by that you mean the secondary market has to be fully developed. Is there anything else?

MR GOSMAN: No, I think that would be the major activity. I don't really see a hindrance with the existing arrangements, I just think again the market environment has meant that there's not a great provision - not a great interest in secondary tender. I note that Macquarie Bank set up a spectrum - whatever you wish to call it - and I don't think that was a rip-roaring success.

DR ROBERTSON: No.

MR GOSMAN: I know that the Cave inquiry in the UK has certainly come down that same way as well.

DR BYRON: How long, approximately, would it take to roll out the infrastructure for something like a mobile phone network? I mean, the five-year lead time, is that going to give new entrants an advantage or disadvantage?

MR GOSMAN: I suppose there are a couple of comments I'd make. If you look at, say, some of the global allocation processes, as occurred in Australia with the GSM roll-out, going back to the early 1992s, part of the licence condition was you had to achieve certain roll-out targets. But I would say now there is a tendency not to move towards - and certainly in Australia there haven't been any such requirements if you're looking at a service such as 3G, which service can start to be provided from October this year. I think you will see the first couple of years will be very much a concentration on the CBDs. For example, in Sydney you would see North Sydney, the city, Parramatta, Chatswood picked up. You would be probably getting towards the periphery of the major cities after four years, and beginning to pick up major regional cities.

In terms of regional coverage that's a different matter. In terms of highway coverage, I think you would see that being achieved over the first four to five years. But that's picking the major areas to actually do the build-out - it occurs over the next - you know, year 5 to year 12. That's where the uncertainty - if you're staying with the two-year or the three-year - starts making people decide at year 7 or 8, "This is where we stop." So potentially you won't get the build-up in the CBDs to support the high levels of capacity. Potentially you won't get the regional roll-outs either.

DR BYRON: Just to clarify, what you're suggesting is that about year 10 you could have a review and then if the incumbent is being retained, they would then get another five years added on to - - -

MR GOSMAN: I'd say between year 8 to year 10. So between five to seven years out, and yes, then they'd get an extra five years.

DR ROBERTSON: What about the next time around? I mean, you've got a 15-year licence. Let's suppose for the sake of argument you do the review after 10, so you've then got another five and another five, making another 10 years. All right, you've got five remaining of the original - - -

MR GOSMAN: Yes, five on top of the original 15 - - -

DR ROBERTSON: - - - and five on top.

MR GOSMAN: Yes.

DR ROBERTSON: Do you then do a review at the end of the first 15 years as to whether they get it at the end of the next five - I mean, make it a rolling process?

MR GOSMAN: Yes, that would be one option but I think as you're beginning to look out into extended periods of time - that's what Neil talked about - in terms of technology change coming into place it will begin to occur. But in time, for example, with 3G currently the concentration globally has moved to the two gigahertz band. In time you may see there being product available on the 1.8 band. There's nothing under a spectrum licence to actually stop somebody making use of the 1.8 band for 3G services but you may get that kind of changeover time. Whether it would ever come back down to some of the lower bands is quite debatable. They're really decided on global allocation bases.

DR ROBERTSON: The problem then is that at the 15-year point you've possibly got a new technology that you would use and the whole picture would change from the tenure one.

MR GOSMAN: Yes.

DR ROBERTSON: I can see.

MR GOSMAN: But again it's really a balance between continuation of service, potential enhancement of service as against denial of services basically.

DR ROBERTSON: Yes.

DR BYRON: We were having a discussion this morning about these new technologies that are using the class licence space, ostensibly with promises of very

little interference, although we've been told that that's contestable too. Do you see the rapid emergence of these sorts of technologies in using the spectrum where the service provider doesn't have to acquire their own licence to operate something that may actually compete with mobile phone networks.

MR GOSMAN: We actually see wireless LANs and mobility as being complementary. You commonly talk campus environments or hotel environments or airport environments; you may get this build-out of wireless LANs but at the end of the day the limitation of that wireless LAN is, once you move out of that area, you lose your service, you lose your mobility. Looking to the future, some of the issues with the wireless LAN services if they're providing a public service, they're caught under - you know, carry a licence condition, and that may be where you end up looking at some of those issues. But certainly the interference issue is a major one, and I understand in this city there have been a couple of services that have caused interference.

DR BYRON: Just on the subject of the class licences and the wireless LANs and so on, are you aware of any cases where companies actually market a combination of the hardware, the technology, and the spectrum to go with it as an integrated package? It seems to me that at the moment if somebody wants to set up a service to the public, they come to you or some other equipment supplier to buy the hardware, they go to the ACA to get the spectrum, and they put them together. There are sometimes, we've been told, risks - that you buy the hardware and you don't get the right spectrum to go with it or vice versa. I was wondering if there were cases where an equipment manufacturer, for example, would go out and actually be the licensee for the spectrum so that you could then go to someone else and say, "Here is both the equipment and everything you need; it is a complete package ready to operate."

MR GOSMAN: I'm not aware of those cases but I think if you go back and have a look at that in a more general principle and not just in the case of a wireless LAN, there would be nothing, for example, to stop an equipment vendor purchasing spectrum in a 3G auction, the two gigahertz auction, and then maybe provide a common network. But certainly Ericsson and, I believe, many of our competitors' views would be that we would never want to move into the space where we're seen to be competing with our customers. We provide equipment and no way do we ever want to be considered a carrier. That's our customer's space.

DR BYRON: I guess one of the other aspects of that that I was thinking of was if all these ISM bands and so on started to get really congested because there were so many people operating in the public park, whether it might actually pay for an equipment provider to go and get a licence and set up a private park down the road, so to speak. I know I'm not supposed to use these real estate metaphors and analogies, but the equipment provider might say, "Well, we realise that the public space down here is highly congested but we've got this other piece of space where

our equipment works perfectly and the charge that we make for the use of the spectrum licence that we've acquired is very very reasonable."

MR GOSMAN: I could see that being feasible or you could potentially even do that - you know, maybe go in behind a carrier, where a carrier could provide that as a private network or whatever. So there's quite a range of options in terms of doing that. In a sense it's possibly no different than now where you may want to look at say providing in-building coverage. You can provide an in-building coverage service that three or four carriers can operate off the one service and improves the coverage within a building. I think there are a lot of models out there in terms of how the vendors and the potential spectrum holders operate.

DR ROBERTSON: One of the things you've suggested, I think - and it's probably in this RCC report which we haven't yet seen of course.

MR GOSMAN: But I understand you will get a copy shortly. It's a never-ending story.

DR ROBERTSON: One of the proposals is that there should be perhaps a three-year review of spectrum planning to give apparatus licensees better notice of likely changes. This impinges on this balance between apparatus licensees and spectrum licensees which, as I said earlier, I think is a pretty contentious area to be dealing with.

MR GOSMAN: Sure.

DR ROBERTSON: But who would do the review, do you think? Would it be a committee of industry and the ACA or would you leave it entirely to the ACA?

MR GOSMAN: I think I'd probably see it as being an ACA process but I think it would be open to public consultation. So probably your main sort of advice would be the outcomes of the World Administrative Radiocommunications conferences, but then there are options for say equipment vendors to provide information on where they see some of their technology going, or whoever else may have particularly voices But I think at the end of the day it would make sense for the ACA to be coordinating it and in a sense I don't think that would be significantly different than the process they have now, where they put out their spectrum bands for comment and seek industry view. I think also, within that scope of that sort of three-year review which is very much tied towards the WARC conferences, I think you would also be looking at annual notification of changes that might come up for whatever process in terms of where a band may be changed.

DR ROBERTSON: I can see the institutional link to the WARC conferences. It

just struck me that three years is really quite a short period. But if that is the rationale, I guess that - I mean, there wouldn't be a big change in three years in expectations on technology, I wouldn't have thought.

MR GOSMAN: No. In a sense I think possibly our expectation is looking out - the last decade has been a period of rapid change, that it may actually again, because of the economics of the current environment, be a slower period, as we all introduce 3G which isn't being taken up as rapidly as was forecast. I might have talked about it before but the example of INT 2000, first identified at a 1992 WARC, previously mentioned, so in October 2002 it will come into effect, so there's a 10-year time frame.

DR BYRON: I was reading in the London Financial Times the report of the take-up of 3G - the Fumo, is it, in Japan?

MR GOSMAN: Yes.

DR BYRON: The headline was An Expensive Toy for Maniacs - or Workaholics, sorry.

MR GOSMAN: A lot of comments. There are now over 80,000 subscribers and they are beginning to see the graph beginning to move up but they are below what they expected.

DR BYRON: And a far slower uptake than the 2.5G the IMO had.

MR GOSMAN: Yes, very much so.

DR BYRON: I wanted to follow up David's points about the three-year reviews. Would that replace or have any effect on the two-year notice to quit if an apparatus licence was to be cleared for a spectrum?

MR GOSMAN: It would be complementary to that process. But what would be happening as part of that three-year process, if, for example, you're looking at fourth generation services, as part of that process based on a WARC meeting, you might be saying, "It has been forecast that this spectrum has been used." The time will be indefinite as to when it will be used, but at least you would be in a position to provide notice to those holders, but the two years wouldn't come into effect yet. It would be waiting until it was much more definitive in terms of a likely commencement date. The ACA has quite an extensive process of consultation before the minister can enact that two-year clearance provision.

DR BYRON: So it gives a longer period of soft warning.

MR GOSMAN: Yes, that's right. Yes, user beware type - - -

DR BYRON: Yes.

DR ROBERTSON: I can understand where you're coming from. I'm a little intrigued by this idea that there is going to be a slowdown in demand for spectrum licences, which means that apparatus licences will become the instrument by default. As I said earlier, and I think you were here, if we're aiming at making market forces the driver for spectrum use there is an incompatibility between more and more apparatus licences and how much spectrum gets caught up there.

Do you have any ideas about how to deal with that? I mean the first question is about what happens if you've got occupied spectrum with apparatus licence: do you sell it off and leave the apparatus licence-holder to find his own salvation or do you try and protect some areas and leave them entirely for apparatus licences? They're scattered so much that it seems to me it's something that we've got to deal with. We've really moving towards a market, otherwise we're going to have these two separate groups.

MR GOSMAN: I suppose I feel that at the end of the day there's only probably a small sector of the industry worth a lot, where the market forces are going to really play, and that's going to be the mobile telephony area and that the existing arrangements, the two years' notice, has worked in the past. The broadcasters will say it has caused great inconvenience but they have been able to relocate. I think experience has shown that the ACA has done a good job in attempting to assist where possible, so I think it has been a good compromise in terms of getting new services to market; maybe not minimising the disruption to incumbents but balancing the demand for new services as against existing holders.

DR ROBERTSON: So you see us living with that indefinitely?

MR GOSMAN: For a period of time. I suppose you've got to come down to is it worth going to all that trouble to convert it, and I suppose I would sort of argue you're probably going to have a slower period of change for spectrum allocation over the next few years. Maybe now is not the time.

DR ROBERTSON: The worry I have is if you issue more apparatus licences you have got a bigger problem in the future. It might be better to - not put a ceiling on the number but discourage it, should I say. Put the price up, maybe?

MR GOSMAN: I would have thought a lot of the apparatus licence-holders now have a greater awareness of what the issue - I mean they've been through a process of dislocation, so they're more aware of what the likely process is than they were in the past, because we've just had, over the last decade, some very significant changes in

spectrum usage.

DR BYRON: In the submission you talk about how current industry conditions have constrained the development of the secondary market. You're mainly talking about mobile or telcos generally, or are you talking about industry conditions right across all the users of radio?

MR GOSMAN: No, mainly the telco industry, and I think you can't sort of distinguish one sector from any other sector of the industry. I think most parts are doing it hard and what it really comes down to is then how the financial markets perceive the industry, and I think they tend to perceive the industry as one amorphous mass and they're not as free with their capital as they were before, and they're very quick to mark down share prices if you come in with a loss, as a couple of companies here could probably attest to, and so I think there will be the unwillingness to potentially have access to capital that would facilitate a secondary market into the future. I think a lot of people are very much sticking to their knitting. A lot of the newer carriers who have tried to introduce newer services have been badly burnt. So people will be a lot more conservative and cautious going into the future.

DR ROBERTSON: What about the ACA's proposal for a single licence?

MR GOSMAN: Yes, I probably tend to agree with some of the comments that the Productivity Commission has made. I mean I think there is some merit but I probably come back and tend to support the existing arrangements for what we've discussed before.

DR ROBERTSON: Because we find that a confusing proposal, as you would have gathered from what we've already said. Do you have any more questions?

DR BYRON: Coming back to the renewal of spectrum licences and the famous public interest test, if there was going to be a public interest test what might it contain? What might be the variables over which it's defined? Do you have any thoughts on that?

MR GOSMAN: I think, having been privy to seeing the RCC working group paper, that has got some pretty good points that you will get to see shortly but, no, I think some of the issues there - to do with the coverage of the service, the uptake of the service, therefore the utility of the service to consumers, the value of the service - will be some of the things that would be looked at, but I think you would also be wanting to pick up the comments you've made earlier in terms of any potential new technologies that may be making use of that band, but I think it really comes back to again the public interest. It would be very much that trade-off between maintaining a

service or looking at changing a service.

DR BYRON: There's a possible bias in favour of the incumbent because you know what you've got but you're not sure of what the alternative, the future new application, might be, and so there may well be a bias to say, "Well, we will stick with the devil we know rather than take a punt on some other different company or different technology or different application." It's very easy to measure what you've actually got now, in terms of number of subscribers signed up and all the rest of it, whereas it's much more speculative about what we might have instead to contrast the known with the unknown.

MR GOSMAN: Yes, I agree. That's a valid point that you make, and again that's an issue of judgment for the minister to make.

DR BYRON: I guess it's equally possible that we over-estimate the glories and beauties of the potential new entrant and then be disappointed by it. So we could be either excessively optimistic or excessively pessimistic about the alternative, the unknown one.

MR GOSMAN: Yes, I think it's hard to forecast now what might be the situation in three or four years when you might be considering some of those renewals.

DR BYRON: There was one point that I didn't quite understand. I was wondering if you could explain or clarify it a bit. On the fourth page of your submission, in the paragraph just above the heading Competition Levels, it says:

> Ericsson believes some of the suggestions by the PC in respect of allocating spectrum licences, even when there's only one prospective buyer, rely overly on the supposed benefits of market forces.

I wasn't quite sure what you were getting at with that sentence or if there are some words left out.

MR GOSMAN: I suppose, yes, that's right. I think I was talking there in terms of further introducing spectrum licences into some of the areas where there are apparatus licences, and I suppose I've just come back saying I didn't think there would necessarily be the demand. So there would only be potentially one prospective buyer and so really then the issues are sort of the market forces coming into play - they wouldn't come into play because you wouldn't have the competitive tension.

DR ROBERTSON: You would finish up with a recommended price, presumably.

MR GOSMAN: Yes, an administratively determined price.

DR BYRON: But if you end up with a band manager looking after a whole lot of apparatus licences in that piece of spectrum rather than the ACA acting as the band manager does it really matter whether the band manager is XYZ Pty Ltd or the ACA if they do the same sort of job? One argument is that the ACA is just the band manager for all the bits of spectrum that haven't been sold off as spectrum licences, which at the moment is still the great majority, but if there was somebody else who was willing to manage a piece of spectrum and to coordinate and orchestrate all the apparatus licences, the point to point, and manage the interference and all the rest of it, and collect the fees from their apparatus licence tenants - if there's only one organisation that wants to do that it might still be an alternative, mightn't it?

MR GOSMAN: Yes, in a manner I can see some merit, I suppose, but at the end of the day whether somebody wants to take on that role, I suppose the market would determine.

DR BYRON: At the moment I gather there are a couple of spectrum licensees who have basically made contracts which are virtually the equivalent to an apparatus licence, where a third party uses a bit of spectrum for a fixed-link or something and pays a fee to the spectrum licensee. To me that's just like an apparatus licence except that the landlord is not the ACA, but in terms of managing interference and all the rest of it the landlord is the spectrum licensee.

MR GOSMAN: Yes.

DR BYRON: I keep coming back to these property metaphors, I'm sorry.

MR GOSMAN: Don't do it, Neil.

DR BYRON: I know it's imprecise.

DR ROBERTSON: He has been corrected several times. We've had some people making submissions who adopt what I would regard as an imaginative approach, with the idea that we don't need licences, we don't need to limit access to spectrum because there are new equipments which mean everybody can be on the spectrum. As a representative of one of the big equipment providers can you tell us how likely that is?

MR GOSMAN: Not likely.

DR BYRON: These spread spectrums are going to - the technologies are going to remain in relatively small fragments of the overall spectrum.

MR GOSMAN: I think in time they will come but I don't see any immediate demand and so therefore it's not really gaining, so it's still very much a case of following the ITU allocative processes and protecting particular bands and particular uses.

DR BYRON: So superabundance of spectrum and the death of licensing is a bit premature?

MR GOSMAN: Very much so.

DR ROBERTSON: On that degree of certainty, thank you very much, Alex, for coming.

MR GOSMAN: Thank you.

DR ROBERTSON: I will suspend the discussions for the moment.

DR ROBERTSON: I declare the hearings back in session. This afternoon we have representatives from Telstra. Perhaps you would each introduce yourselves so that you can be identified on the tapes for transcription later.

DR LANDRIGAN: I am Dr Mitchell Landrigan, group regulatory manager, Telstra Mobile.

MR WALLACE: Stewart Wallace, manager of radio networks for regulatory.

DR ROBERTSON: I don't have to explain what we expect to you two as you are both very familiar with it, so if you would like to make some introductory comments and we'll go from there.

DR LANDRIGAN: Thank you. Let me on our behalf at the outset express our general support for the commission's draft report and for many of its draft findings and recommendations. In our view the commission's analysis has revealed a commendable depth of understanding of many of the issues facing industry participants and investors, as well. We are particularly supportive of the commission's expressed preference to rely on general competition law with respect to bidding limits and for the increased use of market-based solutions rather than regulatory impost.

In our more detailed remarks we would like to discuss really just three major issues. Firstly, the over-arching importance of fully considering the implications of converging technologies and services in the radcoms industry, which we will just touch on briefly, if we may. Secondly, our support for the commission's draft findings and its draft recommendations relating to the removal of the bidding limits and, thirdly, our ideas for a mid-term review with a view to reissuing of spectrum licences on public interest grounds as an alternative that should be available in addition to late-term re-auction of spectrum licences.

After that we would be more than happy to discuss other aspects of our submission with the commission or respond to other questions, as well. At the conclusion of both this statement, those questions and answers, if we may - I know that my colleague, Stewart, has three or four issues that he would like to raise specifically with you concerning information coming out of other submissions and other evidence that we have seen on the transcripts before the Productivity Commission.

Let me, if I could, just mention briefly some views on convergence generally. In our original submission to the commission we maintained, and continue to, that in a convergent environment laws must be flexible enough, as must policies, to allow for the evolving use of spectrum over time for different purposes of alternate

substitute and perhaps currently unknown technologies. We again urge the commission to look forward to the implications of this review in relation to the optimal utilisation of emerging technologies and services and, as we have stated previously, and as we, for the record, state again, it is certainly not inconceivable that convergence may require in the not too distant future a complete rethinking of spectrum allocation, reallocation and spectrum management, as well.

Our view is that in such an environment maximum flexibility is necessary to ensure that the market is readily able to efficiently utilise emerging technologies and products. Certainly arbitrary or artificially constructed policy settings which constrain the acquisition of spectrum in order to facilitate new entry or foster greater competition tend to underestimate the changing market dynamics that convergence brings. Government and regulatory offices, not to mention policy-makers, no matter how talented, are not necessarily in the best position to determine the optimal use to which spectrum may be put.

They're certainly not in a position to be and remain fully acquainted with developing technologies and services which may be supported by that platform. They are not necessarily the best arbiters of market demand either. In contrast, commercial operators working in a system designed to provide certainty as to the conditions on which and period for which spectrum will be available are generally best able to determine its worth and its most efficient use. Given the appropriate confidence to invest and maintain that investment we believe that industry participants will be able to drive Australia through this very exciting period in radcoms development.

Let me mention briefly, if I could, our support for the commission's position on the removal of bidding limits. We strongly agree with the commission's draft finding that the limitations imposed on bidding for spectrum at auction are unnecessary. We believe that the existing spectrum auction format seeks to artificially structure and constrain the natural development of the market. We understand that it is a political and policy decision to promote new entrants over incumbents and yet there is no mechanism - or at least transparent mechanism - to ensure that conferring that preference results in economically efficient outcomes.

To that extent we fully endorse the commission's draft recommendations in relation to removing the power in sections 60 and 106 of the radcoms act that permit the minister and the ACA to impose competition limits. Instead, as Telstra originally submitted, reliance can be placed on the limits in section 50 of the TPA, which will operate to prohibit mergers or acquisitions of spectrum at auction or post-auction, which would have the effect of substantially lessening competition. We believe that this move is entirely consistent with the government-stated telecommunications policy to rely on general competition law, where possible. Certainly those

sentiments were reflected in some of the policy statements that came into effect with the 97 reforms.

Removing the artificially-imposed constraints would, in our view, allow the market to operate subject to the competitive regime established by the Trade Practices Act and, in particular, the merger and acquisition provisions, rather than any less-well-considered special provisions that were devised for particular spectrum auctions. These principles, in our view, also apply equally to the geographic parcelling of spectrum lots. We consider that separating urban centres from regional and rural or remote areas does not allow for maximum efficiency in utilisation of spectrum.

We believe that this is more readily achieved when a carrier is able to manage its network deployment costs according to the particular circumstances. Economic efficiency, in our view, is best achieved when network deployment costs can be amortised across a wide geographic area, including a mix of urban and non-urban service areas. The relative cost of delivering services in regional, rural and remote areas, where traffic densities are low, can be substantially offset by linking those areas with nearby higher density urban areas. Such cost averaging ensures a wider variety of services to regional or rural areas at tariffs lower than the marginal cost of delivering those services to such outlying areas.

If we could then just briefly speak about licence renewal. As stated in our submission and, I think, observed by the commission, as well, it is our firm belief that licence renewal conditions are more important than the licence period per se in ensuring appropriate investment incentives and efficient use of spectrum. With respect to the renewal of apparatus licences, Telstra fully supports the commission's recommendation to amend the act to provide a statutory presumption that apparatus licences will generally be renewed unless licensees have failed to comply with licence conditions or spectrum reallocation declarations affecting the licences.

This accords with industry opinion and will go a long way towards removing the uncertainty surrounding planning and investment in reliance on a short-term apparatus licence. Although it may only formalise in legislation an arrangement that has long occurred in practice already, making specific statutory provision for this presumption is, nevertheless, in our view, most appropriate and a very, very welcome development plan.

In relation to spectrum licences, we - and I think this view is to some extent reflected in the draft report - believe there is a troubling lack of commercial certainty surrounding reissue or reallocation of spectrum licences. The predominant and urgent issue is the need to provide far more effective investment certainty for licensees and their financial supporters. Essentially we believe this requires reform

in two areas: firstly, the time at which a decision is made about reissue or reallocation and, secondly, the process itself for that reissue or reallocation.

In the absence of perpetual licences and the full and free operation of market forces to effect reassignment of licences, our view is that reassignment should not be limited as suggested by the commission to an auction process at a set period, perhaps three years, prior to expiry of a licence. Instead we suggest that as an alternative an additional process of a mid-term review for licence renewal by reference to a public interest test should be available and considered for use before recourse to an auction.

As for the question of timing, we think there is a very real risk that unnecessary constraint in ongoing investment in infrastructure and technologies may result from uncertainty of ongoing licence tenure. Our view is that this must inevitably undermine the benefits that might otherwise be received by the community as a whole. We agree with the commission that if reallocation occurs too late in the term then the incentive for the incumbent to appropriately maintain infrastructure may be weakened in the absence of certainty of continued incumbency. On the other hand, reallocation of the spectrum too early in the term may not attract sufficient interest.

The commission has clearly recognised that investment may be deferred if an incumbent does not know until two years prior to expiry whether a licence will be reissued. However, we don't agree that the commission's extension to three years of the period for reassessing licences is adequate. We don't consider that one extra year will make a substantive difference in the degree of uncertainty faced by an incumbent. Rather we consider that arrangements to reissue spectrum licences or to reallocate them by other methods should be put in train at least five years prior to the expiry date of the licence and, preferably, about mid-term, at say seven years.

In terms of the process that we recommend, we fully support the commission's stated preference to move ultimately to market-based allocation of spectrum-based property rights, but we also agree with the commission's observations that the market is not yet mature enough to do so. The full and free operation of the market would necessarily involve indefinite spectrum licence tenure and the ability to trade in the market at times suitable to the trading parties.

In the meantime, however, we don't believe that an auction process imposed at a predetermined time prior to the expiry of an incumbent's licence will either replicate the true concept of a market-based assignment or represent the best transitional path to that longer-term goal. We also do not agree with the commission's reasoning that the act necessarily does or should require reissue or reallocation of existing licences on the open market, using a price-based procedure, such as auction or tender, nor do we agree that re-auctioning a spectrum licence at a predetermined time, whether at the end of the licence or at a specified time

beforehand, will necessarily ensure the most efficient or best use of limited resources.

What we suggest is what we believe is a valuable way forward, which may in fact have its genesis in the act. We refer to the issue of reissue on public interest grounds. We believe that the commission has potentially seriously understated the potential role of the public interest test for licence reissue. With respect to the renewal of apparatus licences the commission has recommended a statutory presumption of renewal, provided certain conditions or preconditions are met. With respect to spectrum licences, whether or not a presumption of renewal could or should be adopted, a mid-term review could still be conducted with a view to reissuing the licence, if specified tests and conditions were met.

What we suggest is that a public interest test, appropriately modified, could provide a more effective way of reallocating licences in an efficient manner. This could be coupled with a requirement that the spectrum in question is not the subject of reallocation under IT rules, ITU rules or ACA planning, and the Australian Radio Frequency Spectrum Plan. We recognise that there needs to be greater statutory guidance as to the application of the public interest test and we note for the record that the RCC working group has considered the subject and, with one change, Telstra endorses and supports its findings.

To that extent we recommend that to assess the public interest the act should provide that the ACA should have regard to the nature of the services operated under the spectrum licences, the number of customers using the services operated under the spectrum licences, the geographical reach of the facilities operated under the spectrum licences, the importance of the facilities operated under the spectrum licences to the national economy and, finally, a catch-all discretionary element: such other matters as the ACA considers relevant.

The test, in our view, should be applied by the ACA in its role in allocating spectrum licences and not, as the act provides now, by the minister's power to make a discretionary determination. We also suggest that, where the ACA considers that it would be in the public interest to do so by reference to this test, it should be able to reissue licences to current licence-holders within a designated group not just to individual current licence-holders.

Finally then, on the issue of price, we recognise that, if not going to auction or tender, consideration needs to be given to the method by which the price payable on reissue should be determined. We suggest that the commission consider specifying a formula to establish prices for reissue on public interest grounds such as the original auction price adjusted for CPI and adjusted by an index for movement in retail prices of services provided through the use of the particular spectrum.

Now, clearly this thinking is a little fluid and we put it up merely for consideration by the commission, but our objective in doing so is to achieve continuity of the business fundamentals surrounding the acquisition of that licence itself. Of course, where application of the public interest test indicates that reissue to present licensees is not the best and most appropriate course of action, we support the commission's recommendation that reissue or allocation should be by way of auction, with such to be held straight after a decision not to reissue in the public interest, ie at around mid-term.

Can I just thank you, if we've not explicitly already, for the opportunity to make these comments and to participate in this inquiry generally and to offer our broad support for the general direction in which the Productivity Commission's draft report appears to be headed. At the outset of our statement, I did suggest that my colleague would want to discuss four other disparate issues, so I'd appreciate if, at the end of the questions, we had an opportunity to raise those with you, because we think they're important.

DR ROBERTSON: I wonder if it wouldn't be better to do it now. I mean obviously there are questions on what you've said, but I suspect there may be some overlap too.

MR WALLACE: Yes, okay. I'm happy to do that. Basically these points have arisen in the course of evidence presented before you just latterly and also from some of the submissions that have gone in. As Mitchell indicates, there are some disparate issues. Firstly, there was a comment or a suggestion made in relation to a proposal to convert GSM 900 megahertz licences into spectrum licences and I think there was a comment made that carriers by and large were very happy with the technical framework for that and in fact I think it was represented as being an ideal example of spectrum licences.

We would, in fact, not agree with that. In fact, the proposal to convert GSM 900 megahertz licences has just been withdrawn by the government and they've advised us and the other carriers involved that they would not proceed with that and that certainly was possibly influenced by some fairly serious concerns and difficulties that we at least had - and I'm sure some of the other carriers also had similar concerns - with the technical framework. We believe there were some major flaws in that framework. So just to put that on the record, that we would not hold that up as an ideal technical framework for a spectrum licence.

The second issue is concerning a representation by Unwired in their evidence, wherein they stated that they "support the idea of a public register of spectrum licences that identifies a licensee, the area of coverage and the frequency band of the

licence and such other details as are necessary to define the rights of the licensee to use the spectrum" and I emphasise those last words. We actually find this a curious way of looking at spectrum licensing. The technical conditions associated with a licence, in our view, are not explicitly to define the rights of the licensee but rather are to define or to ensure effective management of the spectrum and to enable proper interference coordination and that's quite different to defining the rights of the licensee, as you'll understand. So that's rather a curious way of looking at licensing, which we think is possibly not borne out by the framework.

The third issue that we had - again from some comments made by Unwired, where they have some concerns relating to the fact that both the base station and the subscriber terminal are required to be registered under the current rules. This is in fact, in our view, a very curious interpretation of the subordinate legislation and we would not agree with that interpretation. Subscriber terminals, which can often number many thousands, are in general not required to be registered, in our view and our interpretation, unless certain conditions hold and that is, for example, the antenna is more than 10 metres above the ground, which is a highly unusual circumstance. So I'd just like to put that on the record, that there do seem to be some rather curious interpretations of the legislation by Unwired.

The fourth one is concerning a statement that - the current regime requiring interference impact certificates and I think the comment that I've got notes of here is that this framework is described as a technical farce. We would certainly not agree with that. We think that the current technical framework is essential to enable full maximum utility of the spectrum to be derived by all spectrum licensees and that includes enabling your spectral and geographic neighbours to maximise the utility as well as yourself and we certainly believe that the current structure and the current elements of the technical framework are very crucial. In fact, we've suggested that to the ACA very recently - and the ACA agrees - and suggest that a workshop on these would be very much in the interests of the industry rather than to take any of these suggestions any more lightly. So just those four comments I wanted to put up there. I think that was all the ones. I think that that's it, yes. Thank you.

DR ROBERTSON: Okay. Thank you. This public interest question is one that has concerned us since we read your submission, because it seems - as described - to have more to do with the interests of the service providers than the service recipients. As I said earlier this afternoon, people who use the expression "public interest", it seems to me, have a need to describe exactly what they mean. As someone who has spent a lot of time on trade, it's usually about the national interest and both of them I find difficult terms. Could you see how this could be applied? I mean, would it be a case of the service provider justifying that they are achieving some set of objectives themselves or would it be left to the ACA or would it in fact be left to the department and the minister to decide these issues?

MR WALLACE: Look, in our view, it is a case of the service provider justifying that he has met certain hurdles or thresholds which are set external to that service provider's particular business interests and that should be undertaken by the ACA rather than left to the department and the minister. Whilst we've suggested a basic framework, there's certainly a bit more work to go into it, but we don't see that as being a difficult problem to define what those thresholds might be. Given the degree of competition in the industry and the thresholds that we are already required to achieve in many other areas of it, we think that that approach to service providers having to front up and prove themselves is quite a reasonable approach to the issue.

DR ROBERTSON: In fact, it wouldn't usually be one licence, would it? It would be several. So it would be more than one provider, for example.

MR WALLACE: Yes, and it might turn out that three out of four providers can demonstrate that they've met the minimum criteria and one of them hasn't. So it might turn out that one of them may be up for re-auction and the other three are reissued.

DR ROBERTSON: And the conditions, you think, would be determined by the ACA in some sense.

MR WALLACE: Yes, I think so. In consultation, as is their usual practice, yes.

DR ROBERTSON: You see, one of the problems I have is that what appears to happen is that you get an auction and you win the auction for a licence and then it's up to everybody else to decide you're not doing it properly and what we have here is that someone gets the licence and then justifies that they're doing what they said they would do. Now, if we believe in the market, then presumably re-auctioning the licence might allow a new competitor to come in who was unsuccessful 10 years earlier or whenever the licence is reviewed. Whereas, if it's just a question of saying, "Well, look chaps, we've done pretty well," then that new competitor is not going to have a chance, unless - as you've just said - one of the, let's say four, licence-holders isn't as good as the other three. It's always going to be a qualitative judgment, you see.

MR WALLACE: I wouldn't have seen it in terms of them demonstrating that they've done what they said they were going to do. I would see the thresholds as being somewhat dynamic things that change with the times and the service provider is going to be constantly measured as to whether he is achieving what the community expects from him today and whether he continues to do that next week and next month and next year and he's going to feel this hanging over his shoulder all the time. So, at the time of the review, the thresholds that have been set through

consultation with all the various stakeholders, including ACCC or whoever else - the Productivity Commission can certainly help in this area - should reflect the community expectations of the time and not necessarily be the same as those that prevailed at the time of the initial auction.

DR ROBERTSON: Yes, I can see how that would change, for example, with new technology coming in. I mean I suppose one of the questions then would be how well equipped is company A to pick up that new technology and achieve whatever efficiency gains there are in it.

MR WALLACE: Or is to wed to technology which is heading for a sunset.

DR ROBERTSON: Yes.

DR LANDRIGAN: I think you may have raised it in earlier discussions, but the whole issue of having a fixed-tenure licence period - it really is designed to ensure that, as technologies evolve and emerge, at the end of that - whether it's arbitrary or not - 15-year period, there is the opportunity for new technologies to be utilising that spectrum and for it to be put to different uses. The tension, as we've identified it - and I think you've identified in the draft report as well - is that, if that is being efficiently utilised, then you reach a point towards perhaps the end of the tenure period where you start to wonder about whether you're going to have it at the end and so what we've sought to do is to recommend a process that provides a degree of certainty that overcomes that lack of certainty towards the end of the tenure period about whether it's wise and prudent for you to continue to invest essentially.

DR ROBERTSON: I don't think we have any real problem over the need to review the situation well short of another, say, 15 years. Whether it's seven or five isn't really a big issue, but the issue of whether that licence ought to be made available to somebody else is the issue.

DR LANDRIGAN: Yes, sure.

DR ROBERTSON: It's the public interest, as you use it, and it's the definition of that qualitative standard that bothers me a bit.

DR LANDRIGAN: Yes.

DR BYRON: What you've cited in the submission about the nature of the services, number of customers, geographical reach and the importance of facilities, they concentrate on what exists at present and I would have thought to be an unbiased assessment of the public interest one might want to compare what exists at present with the alternatives. It's not just to say how good the service is operated at the

moment, or how many customers you have, but how many customers might there be for a different service that could be operated by somebody else using the spectrum over the next 15 years or so.

DR LANDRIGAN: We're certainly not recommending the criteria that we've outlined as being the perfect measures. However, as I understand it, these criteria were developed after some considerable deliberation by the RCC which comprises a range of different interests and at least within that body - I mean Stewart could speak in more detail on that - but at least within the RCC body this does represent a consensus view on how to actually overcome these.

DR BYRON: As I was saying earlier before the tea break, there may always be an unintended bias towards the status quo in that we know what exists today.

DR LANDRIGAN: Yes.

DR BYRON: You can count it, you can measure it, whereas comparing that to a hypothetical of what might be instead, we may not fully appreciate how fabulous the alternative service might be. Alternatively we might be overly widely optimistic about the new service.

DR ROBERTSON: We've had some people come that way, too.

DR BYRON: So there is attention and again we're trying to look at a system to make sure that the most efficient user gets the spectrum, which has due regard for the need for the incumbent for lead times but also the opportunities for potential new entrants to not be excluded, and one of the things that concerns me is that if the process for determining who uses the spectrum in the second phase, if that occurs too early, then the potential new entrants may not even exist yet. They may not be in a position to put their hand up and to bid seriously at an auction or to articulate a case for why they should be the occupant of the spectrum, viz 15 to 25, wasn't it?

DR LANDRIGAN: Yes.

DR BYRON: So that's the juggling act that I think we're facing.

DR LANDRIGAN: I might just mention, on the question of optimism, that I recall, not so long ago actually, that some representatives from One.Tel appeared at the Productivity Commission hearings and outlined a very very ambitious and exciting view of the future of the telecoms industry. It was visionary actually. Sorry.

DR ROBERTSON: It sounds like a good word.

DR LANDRIGAN: Stewart.

MR WALLACE: Yes, I think the - how many is it? - five points, or four major suggestions that we made in respect of the public interest test, I don't think they should be considered as somehow being a snapshot-type thing. You say, for example, "the nature of the services operated". To my mind you could do that in a comparative way. You compare the nature of the services being operated today, compared to what is on offer just down the track, the emerging technology. For example, we're looking at the emerging broadband scenarios, and I don't think that anyone in the industry is completely unaware of that.

It is possible to look ahead and compare, for example, the nature of GSM today compared to the nature of 3G services. We know them pretty well, and so it might turn out that the current incumbent has no prospect of shifting into 3G, for example, whereas a new entrant does and therefore the current incumbent may well lose or not meet that expectation in the nature of the services being offered because there's something better which is clearly seen on the horizon and that some other entrant is proposing, and the new entrant you can bet your bottom dollar is going to be up there waving their flag as hard as fury to say, "I've got something better." Similarly I think the other points, the number of customers being served, again that can be measured compared to other technology offerings and so on to say, "Is this reasonable?" or, "Is there a potential new entrant or a potential new technology which offers better utilisation?"

So in that sense I think these thresholds are dynamic or more dynamic than being static measures and they will shift as the times move and the ACC is well positioned to be able to look forward and to know what kind of technologies are coming up and what kind of other potential participants have made themselves known. But I take your point, certainly, that there is a time frame within which the new entrants may not have yet formed, and that's something that probably needs some further thinking; how to overcome that problem.

DR BYRON: Could you give us an example - I'm trying to find out whether it's a hypothetical or a real issue - of a service that might be considered to be in the public interest but where the licence might not be reissued or where the incumbent may not be able to earn it at an auction? Is this a real problem or are we just debating a hypothetical?

MR WALLACE: If I've understood your question correctly, I think an example of where a hypothetical licence might not be offered on a rolling basis into the future is, for example - and I say this with some hesitation - the GSM situation where the structure of the spectrum supporting GSM is such that it doesn't truly offer a long-term opportunity for any other alternative use, and we get into the area here of

technology neutrality, which is a very key element of the structure of spectrum licences, and if GSM today were a spectrum licence the structure of the spectrum underlying GSM is not very useful for anything else, and GSM no doubt will eventually have a sunset, and we have ideas on that, which we might not publicly state, but it certainly has a sunset as a technology at some stage, and yet you couldn't readily take that spectrum and apply it to anything else.

So in that sense those kinds of licences might well be thrown open to new aspirants and new uses in the future. I think you could possibly raise questions about the future role of 1800 megahertz spectrum licences and what it may eventually be used for. Does that sort of thing address what you were after?

DR BYRON: Yes, basically. If we're talking about different processes for determining a renewal or non-renewal for the spectrum licence, I was trying to work through under what sort of conditions you get wildly different answers - something that would come out looking fabulous under a public interest test and yet if you went the auction route it would be unsuccessful, or vice versa - but if the two different criteria were going to give you similar outcomes most of the time then we're wasting our breath arguing about it.

MR WALLACE: Couldn't it go either way because under the hard glare of having to place their money on the table auction participants may well scale back their business plans which otherwise might be painted as much more rosy if they're simply asked an opinion of what they think this spectrum could be used for. So the views or the outcomes of an auction process actually may be somewhat less than what's envisaged if an auction process is not there.

DR BYRON: But the closure of the analog mobile system may not be a good proxy or indicator for what would happen with the spectrum licences because there was only one analog operator, wasn't there, whereas there are three different mobile spectrum operators?

MR WALLACE: There was one network operator but the services were resold by other carrier service providers, yes. So there was a degree of competition in the retail market.

DR BYRON: But with the current - the GSM or whatever - you've got multiple different licensees, so that even if one licence - not only that the licensee ceased to be the licensee but even if the whole network was disbanded, then you've still got the other two as alternatives. So it's a slightly different context to the analog switch-off, wasn't it? I won't go any further than that.

DR ROBERTSON: I just had some naughty thoughts about how this could affect

other bits of the spectrum if it was applied there, without thinking about telcos, but I will keep those thoughts to myself.

MR WALLACE: If I may offer one next comment?

DR ROBERTSON: Sure, sorry, go ahead.

MR WALLACE: We briefly touched on this question of flexibility in the policy framework and then leading into the technology neutrality and the ability to turn over spectrum to alternative uses during a licence lifetime. I think this question of technology neutrality of spectrum licences, and in fact the technical framework surrounding spectrum usage overall, that needs to be kept in the limelight a little bit because there have been questions raised, for example, about whether such technical components as boundary conditions and particular other technical conditions are relevant, and I think that's where you would come back to this question of technological neutrality.

If you don't have those things very carefully and rigorously defined you will not have technological neutrality and in fact you will get more problems then of - similar to the GSM spectrum - where it does not have alternative uses and it tends to become awkward and it loses utility and it loses value to the community because it's not structured to enable continued optimisation of its usage.

DR ROBERTSON: Couldn't they redefine the boundaries?

MR WALLACE: When I talk about the boundary conditions here, these are the conditions attaching to devices which are used under a spectrum licence, and the boundary is in relation to its effective propagation boundary of a device.

DR ROBERTSON: I understand that, but couldn't they - when I say "they", the ACA - redefine that? I accept your point is not technological neutral because there are certain things you can't do, but if the ACA changed those boundary conditions then would it become more valuable?

MR WALLACE: I think at the moment this is certainly a topic for the mooted workshop that we've mentioned and talking with the ACA about, and I think that that workshop is probably going to occur in the latter half of this year, but those are the questions which are destined to be asked in that workshop and we're certainly open to those questions and to study, but I must say that we're quite comfy with the current arrangements and technical definitions of the current boundary structures, and we believe that they work well, but if someone can come up and give us a genuine proposal for improving the way they work now we would be quite happy to entertain that and to look at that, and ultimately, possibly, even to change.

But we can't see anything better at the moment ourselves, and we don't think that they should be necessarily relaxed at all, simply because we pay a lot of money for those spectrum licences and we really need to ring out every last ounce of utility, and we think that the few suggestions for what we see is relaxing those technical conditions will detract from out utility and will cause us grief, but we're open-minded.

DR ROBERTSON: But in due course if you're going to withdraw from that area of spectrum and move elsewhere, then presumably that would be the time to change the boundary conditions because then it would allow someone else in there. Is that not right?

MR WALLACE: Sure, that's right, and I think that that will always occur simply because there is going to be evolution of use to things that we cannot ever foresee at the moment, and the ITU will do reallocations and things to different usages. So that will happen over time, yes.

DR BYRON: Just going back to the conversion of the GSM 900 from apparatus to spectrum. Was that a problem with agreeing with the technical conditions or was it a pricing issue?

MR WALLACE: It certainly was a bit of both. We didn't see any particular - I speak for all the carriers here - benefit arising from the conversion. The licences work well for GSM services nowadays. It was a question of, what are we getting for our money? Why should we change? We're being asked to shoulder a financial up-front burden which brings forward all of our expenses, which is not exactly helpful to our operating costs, and we get nothing in return. There's no particular benefit.

Then it came down to the technical conditions where there were certain time frames and schedules associated with the process, and we kind of felt that that happened a little bit too quickly. Telstra, for one, at least went back and reviewed the technical conditions and we had a submission ready to put into the ACA to go into the technical shortcomings and flaws in great detail, and the letter from the government withdrawing the process came out right on the day I was due to send that analysis, so it didn't actually go in as yet, so it was a little bit of both.

The concept of offering a long-term spectrum licence on a bit of spectrum that only supports a single use, which possibly could have a sunset before the end of that licence so we couldn't use it for anything else but we were going to be asked to pay for a long-term holding of this, we thought, "This doesn't make sense."

DR BYRON: There is a fixed term on the GSM 900 apparatus licence, isn't there, or is that purely a year by year - - -

MR WALLACE: It's simply year by year.

DR BYRON: Just like all the other apparatus licences?

MR WALLACE: Yes, and they're issued on a national basis, so nobody else is operating except for the carriers in their own bits of spectrum. But, yes, they're just year-by-year apparatus licences, subject - if I might also note - to the minister deciding what the spectrum access tax should be each year.

DR BYRON: That might be one advantage in paying up-front.

MR WALLACE: That was the one and only benefit that we found.

DR BYRON: So we don't need to go into that.

DR ROBERTSON: I was quickly looking through your second submission here to try and remember something and I can't, so this question may be irrelevant. Perpetual licences: are you in favour of that happening at some point or do you think that that is something that's pie in the sky for the moment?

MR WALLACE: In careful terms we support the principle, but we think that it needs a lot more thinking about. There are a lot of aspects of that that need very careful planning and there is a question of how do you transition into that. So we do but we're not in a hurry to implement it without a lot more thought about it.

DR LANDRIGAN: This is something that Stewart and I and others within the company - and I'm sure I'm not disclosing any trade secrets here - did wrestle with for some time earlier in this inquiry and subsequently, as the mind tends to focus for these kinds of forums, more recently as well, and Stewart is exactly right. It is something that conceptually we don't have a problem with, but just don't think that now is the right time.

DR ROBERTSON: No. I think there are certain preconditions that are going to be necessary, and one of them is an active secondary market - - -

DR LANDRIGAN: Yes, absolutely.

DR ROBERTSON: - - - because otherwise it's not a point - - -

DR BYRON: Just on the secondary market, on page 9 of your submission under

"other matters" there is the spectrum leasing and you are taking us to task about the comment that spectrum leasing is rare. I found that very valuable additional information. My understanding of what you are talking about there is a bilateral commercial arrangement with a third party. What you're offering in effect is something that is very very close to an apparatus licence to the third party, except that they make the payment to you rather than the ACA and you are responsible for managing any interference that affects the rest of your spectrum licence or outside of that.

MR WALLACE: It is very similar and, when you say we are responsible for managing interference, we are to an extent but we also, as part of the agreement that we have with users, reflect onto them the responsibility to comply with the radcoms act generally but, inevitably, if there is any breach, we'll be the first to know when the ACA rings us up. But, yes, it is basically like an apparatus licence.

DR BYRON: What I find particularly valuable about that information which you have offered there is that it confirms that what we were thinking about wasn't purely a hypothetical, theoretical possibility, but it is actually already happening.

MR WALLACE: It is, yes.

DR BYRON: But there's no requirement to report on that at the moment, so the ACA may not - - -

MR WALLACE: No. About the only requirement there is to report is that we certainly have to register all those devices, so they're recorded in the database and the ACA is aware of them as third party users within our spectrum, so that's about the only thing, I think. It is also a bit similar to the private spectrum manager that you mention in your report, too. It's very similar to that. I must say we're a fairly benign spectrum manager.

We don't put too many harsh conditions - or no harsh conditions - on users of our spectrum and we're a bit concerned that if that was more broadly taken forward and all spectrum was opened up to that kind of arrangement, there is an opportunity, unless it is carefully managed, for people or organisations to come in and simply do it in a banal kind of way - just for profit-taking alone. I must say that the costs that we charge the users of our spectrum are below our cost and don't even recover our administrative effort on a lot of these things, which is a topic of internal conversation from time to time.

DR BYRON: I was going to ask, why would somebody make a commercial arrangement to use a piece of your spectrum for say a fixed link rather than go to the ACA down the road and buy an apparatus licence over the counter?

MR WALLACE: I must say that a lot of it has been because of their legacy operations and it was too difficult for them to move, so a fair bit of it was because of that. They may ultimately move or they may stay on. Certainly out in the remote areas they may well stay on because we have less demand ourselves for that spectrum - usage density is not as high - and so we can comfortably support them for the foreseeable future.

DR BYRON: When we were talking before about the requirement for confidence of spectrum access for investment, presumably you couldn't have a commercial contract with a third party that extended beyond the life of your spectrum licence.

MR WALLACE: No, that's correct.

DR BYRON: Your master licence puts a limit on the duration you can offer them.

MR WALLACE: Yes.

DR ROBERTSON: You say you're in favour of this market approach that we are putting forward and we are delighted with that. Do you think the ACA could have released more spectrum; in other words, could we have got further down this route of having spectrum in private hands and markets trying to work or do you think they've done it about right or, indeed, overstepped the mark? I suppose in terms of your comment that if there's only one person interested then it's not really market price.

MR WALLACE: We're warm to the idea but we think it needs a bit more consideration; in fact, we have addressed it here in some of our briefing notes for ourselves. Maybe, if you'll allow me, I might just read out the little note that we have got here. We feel that efficient allocation and use of spectrum is not fostered by delays in gaining access to spectrum while waiting for demand to build or to exceed supply and, although such a delay may increase auction revenue at a later date, auction of spectrum licences should not be a revenue-raising exercise. So there are pros and cons about it, but we think it is worth exploring. I guess that's about as far as we can go without actually putting quite some effort into thinking about it, but we think that it ought to be looked at at least.

DR ROBERTSON: That's fine, because we don't think revenue raising is the right way to deal with spectrum obviously, because that is not the way to get a market.

MR WALLACE: It's a bit self-defeating in our view because ultimately who pays for it?

DR ROBERTSON: But on the whole you think the auctions have been a successful way of releasing spectrum?

MR WALLACE: Yes, indeed.

DR BYRON: Just on boundary conditions, have you ever negotiated with your neighbours, either in space or in frequency, some mutually agreeable adjustment to - - -

MR WALLACE: Indeed. We have a number of such agreements in place with some of our competitors, in fact, and it is usually quite an amicable discussion because we all have the same sort of problems. I must say, by and large, that the current methodology for boundary conditions works so well that's it's probably more the exception than the rule. We can work within our boundary conditions and maximise our utility and it is only by exception that we would need to deal with our neighbours, but we have done that in certain circumstances, and that is one of the reasons that we like the boundary conditions at the moment - that negotiations are more by exception - whereas there have been some proposals which would tend to suggest that negotiations with neighbours become the general thing, and we haven't got time to do that. We prefer to have a clear and firm framework within which we can work, maximise our utility and, from time to time, just negotiate these exceptions.

DR BYRON: Good fences and good neighbours.

MR WALLACE: Yes.

DR BYRON: We had some discussions this morning about the use of spread spectrum and so on and the ultrawide band and how these new technologies are going to basically lead to the end of spectrum scarcity as we have come to think of it, and that there would be a super abundance of - do you share that sort of optimism or do you think that is a long way ahead?

MR WALLACE: I would like to be able to say this is Mitchell's question.

DR LANDRIGAN: I think the highest we can put it is that there is a great deal of uncertainty about what is going to happen into the future and the whole issue of whether there is going to be the right demand conditions for roll-out of say a 1XRTT overlay or 3G or 4G. Our experience in Australia, and I think replicated to some extent overseas, is that even with a modest array of services, such as GPRS - I mean, there is not a lot of certainty about whether you can actually build a viable business case on a product like that.

To some extent in Australia I think the industry generally has benefited from not having to outlay a huge amount on 3G licences. To some extent that puts us ahead of perhaps our UK and European neighbours, but the question as to what is

going to happen in the future - I mean, whether the array of wireless broadband or whatever it is, is going to be adequate, whether it's going to be super adequate, whether it is going to be inadequate.

We just don't know. Really until the carriers, and the carriage service providers for that matter, start to tap into what consumers actually want - I mean, do they want something beyond what they've got now? Do they want something beyond simple text messaging? Do they want video on demand? Do they want to be able to see Big Brother on their mobile handset? Nobody knows, and so how this will be replicated in what is actually rolled out and what is acquired by way of spectrum, we just can't say. As a company we are clearly grappling with these questions now - not Big Brother, but the more general issue of what consumers want, and they are very very difficult questions with huge costs involved.

DR ROBERTSON: I am going to treat all your questions as if they're rhetorical, as to what we want.

DR LANDRIGAN: Yes.

MR WALLACE: I think, from a slightly more technical perspective on the specific question of ultrawide band - and it in itself is a very embryonic technology - there is a kind of a natural limit simply in the population densities of the areas you cover. So whether the introduction or allowing ultrawide band into the air, so to speak, without constraint will somehow eventually choke up the airwaves, there's just going to be a natural limit simply because there's a natural limit to the population densities that we have here and therefore the density of ultrawide band channels that you might get will saturate at some point, based upon population density. Whether or not that level is such that it produces unmanageable interference - I mean, it certainly adds to the background noise - I'm not aware of us having done any particular studies, but I suspect that studies are going on down at our research labs at the moment.

The other slightly more technical aspect of ultrawide band is it's not exactly interference-free from narrow band. It does have the potential to interfere with narrow band services and therefore will inherently have some kind of technical regulatory controls, because it does produce some line spectral components that will interfere with other services. So, in that sense, I can't imagine a completely carte blanche scenario emerging that allows ultrawide band without constraint whatsoever. I just can't imagine that happening, given my knowledge of the technology as it stands at the moment. There are some problems with it. As I say, there are going to be natural limits applied simply because of the environment in which you deploy it, where it may not raise noise levels to some kind of unmanageable level, but I'd have to check that.

DR ROBERTSON: Thank you. Well, there are lots more questions we'd like to ask you, but I'm afraid Vodafone is sitting over there and wants to come have its time without being kept here too late. Look, thank you both very much. Is there anything you would like to say in closing?

MR WALLACE: No.

DR ROBERTSON: There are lots more questions we could have asked you, but thank you very much for coming in.

DR ROBERTSON: We're back in session. I wonder if you'd introduce yourselves for the sake of the transcribers, so they know which of you is speaking, and then if you'll introduce your comments and then we'll discuss them afterwards. Thank you.

MR KENNEDY: Okay. My name is Sean Kennedy. I'm the manager of regulatory policy for Vodafone Australia and this is my colleague, Ian Wilson, who's a policy analyst for Vodafone Australia. We'd just like to make a short opening statement and then happy to take any questions that you might have.

MR WILSON: Yes. Vodafone welcomes the opportunity to discuss our submission with the commission on its draft report. Spectrum is one of the most critical inputs for Vodafone. Without spectrum, Vodafone would be unable to offer the range of mobile products and services to Australians. Given the critical nature of spectrum, it is important that it is allocated and managed efficiently with transparent and consistent processes in place. Vodafone broadly supports the commission's draft report and the emphasis on market based reform to the regulatory framework.

We'd like to make the following specific comments. Vodafone considers that the objectives of the Radiocommunications Act should be to maximise the overall public benefit by the efficient allocation and use of spectrum. One clear objective is preferable to primary and secondary objectives, which can lead to a heightened risk of subjective decision-making. The greater the number of objectives, the greater the chance of conflicting outcomes or confusion as regulators cherry-pick objects. Vodafone supports the ability to impose competition rules when allocating spectrum. In limited circumstances, for a transitory period, it may be more effective to impose ex ante competition rules for spectrum auctions in circumstances where competition law cannot sufficiently deal with potential problems, such as in markets that do not yet exist.

Spectrum licences should have a fixed initial period of sufficient length to justify capital intensive investment, with the ACA to conduct a review of the spectrum use at a fixed period prior to expiry. During this review, some form of presumption of renewal subject to a public benefit test could apply to determine whether the continued use of the spectrum would be the most beneficial use for society or whether some other use is more appropriate. We also support the current three-licence structure, but would be supportive of changes to improve the processes to ensure that the proper incentives exist for the most appropriate licence type to be allocated. We also support the issuing of spectrum licences in bands, even if only one party is interested in using that bandwidth.

Vodafone advocates the conversion or sale of unencumbered spectrum where the licence-holder may subsequently allocate parts of the licensed spectrum to third parties. Where this is not possible, we believe that - as part of the conversion process

- if agreements are negotiated with the incumbent licensees so that their current utilisation of spectrum will not alter, then this should minimise any new interference issues. We had some concerns about the commission's draft finding that no compensation be provided to apparatus licensees whose licences are cancelled or not renewed as a result of spectrum reallocation. While we support the argument in principle, in practice this would mean that we would be prevented from receiving compensation if the government decided not to renew our GSM 900 apparatus licence which constitutes the foundation of our GSM mobile network in Australia.

We agree that, where shadow pricing of apparatus licences is implemented, it should be undertaken in a transparent and predictable manner that incorporates necessary adjustments to make comparisons meaningful. The 900 licence fee increase was not transparent and results in increased investment risk for GSM 900 operators. Vodafone would support changes to our existing 900 apparatus licence that would restrict the ability for the government to impose ad hoc non-transparent licence fee increases in the future.

Vodafone supports the commission's draft finding that, in some cases, the ACA has set the reserve price too high in some auctions. We believe the reserve price should not determine the final price of the spectrum. We also support the draft recommendation that responsibility for the broadcasting service spectrum bands should be transferred to the ACA and be managed under the Radiocommunications Act. We're keen to elaborate further on our submission if you have any questions. Once again, thank you for the opportunity to appear.

DR ROBERTSON: Thank you. Sean, did you want to add anything?

MR KENNEDY: No, that's basically the key points.

DR ROBERTSON: That's it? Okay. Fine. You'll have heard, from what I was saying earlier, that one of the concerns we have is this public interest test, where Telstra have tried to define it. Did you have any comments on that? Did you think their definition was appropriate?

MR WILSON: I was part of that RCC working group process, where they came up with that sort of four or five criteria. I mean, we certainly acknowledge that it's not easy to really pin that down. We actually perhaps take this a little further. Sort of what seems to be coming through in discussions is this concern that the incumbents will just sort of, you know, walk through this and so we're actually advocating some sort of presumption of renewal where spectrum has been allocated for mobile use and an operator has demonstrated use to a set of criteria and can do so for the future. Some renewal process will occur for them, but public interest really comes in where it can be decided that spectrum is better used for another purpose or perhaps to

introduce more competition and to allow new entrants in. I think it can be an open test as well to allow change as well as for an incumbent to continue spectrum use.

MR KENNEDY: I think the key thing here is that this is actually a second-best solution to a problem where artificial scarcity has been created through government allocation of spectrum. I mean, in a perfect world, we would support all spectrum to be allocated in the marketplace and for a robust secondary market to deal with any market allocation problems. What we're really saying here is, given that there is a second-best allocation procedure in place - that, given those circumstances, there is perhaps a role for a process that gives us greater investment certainty when we're investing on these long-term markets and long-term investments for our infrastructure.

DR ROBERTSON: I'm not quite sure whether I'm interpreting you correctly, but are you saying that you wouldn't only consider incumbents, you would also consider potential competitors, as to whether they would meet these hurdles, if you like - the public interest test - or would it only apply to the holders of licences?

MR WILSON: I mean, I think your first process may be to decide what is the best use for that spectrum and you may decide that there's some complete use, in which case it may not necessarily be something that the incumbents are best suited for.

MR KENNEDY: And they may suggest an auction process.

DR ROBERTSON: Yes, exactly. So what you're saying is that you make a decision first about potential use. I mean, you've got a 15-year licence. After 10 years, it's reviewed and the review says, "Well, actually this equipment is out of date. There's a much better use now." Therefore we treat not only the four people that are licensed - or three or whatever it is - but we will also look at new competitors and you're saying that only if there's going to be a change of use do you do that or would you do that anyway?

MR WILSON: I think if you decide to continue use or some - you would still continue with, say, mobile spectrum. Things to take into account are perhaps whether the same amount of spectrum is still required by an operator. You may decide that, with new technologies, you may be able to use that spectrum more efficiently, in which case you would either reallocate part of that spectrum or whatever.

MR KENNEDY: I can see a scenario where potentially the spectrum gets reallocated to the incumbent on public interest grounds, and those are that to allocate it through an auction process would create too much uncertainty in that five-year period; that actually the investment that we make perhaps declines, and that's a bad

outcome for the community.

DR ROBERTSON: Sure, yes.

MR KENNEDY: So it really is driven by investment certainty. If there is more spectrum out there, if more spectrum is allocated, then there is potentially less need to have these ex ante-type processes in place.

DR ROBERTSON: Yes, that's true too. So it's not a contained problem in that case, is it? I mean, you've got a bit of spectrum, block A, and you've got three incumbents. There may be another bit of spectrum B which could be used by somebody else to do something, or you could allow them into spectrum A. Then you would have the three existing users of spectrum A plus a potential fourth, and you would look at the way they meet whatever these conditions are that we call the public interests test. And you might find that one of those incumbents got knocked out by the new one.

MR KENNEDY: Ian can answer this. I wasn't involved in the RCC group but the way I would think about it from a first principles perspective is that if you were actually thinking that new entrants could potentially use this spectrum better, then you would test it in the market. You wouldn't test it through the ACA deciding to allocate it to a new entrant; you would go through an auction process. But there may well be instances where you would actually decide not to do a market based allocation for public interest because there is a public interest in actually reallocating and dealing directly with the incumbent.

DR ROBERTSON: But you don't really know that, do you? The fourth one might be super-duper in some sense and could knock off any one of the three.

MR WILSON: I probably should have clarified. I think when you have this review process and this public interest test, if you decide there is a better user or someone else out there who can do the job better, then it's a case of them having some sort of auction of allocation process where the incumbent may very well go in and bid for that spectrum anyway. So I don't think you would actually allocate to a new entrant just via the test. It's really inept.

DR ROBERTSON: In other words, if you had three people in a bit of spectrum and there was a fourth one, a new entrant, he would have to make his presence known to the ACA and what it could do within the spectrum, and then you would open it up to an auction.

MR KENNEDY: Where there is uncertainty I think we would push for a market based allocation, just as we support auction processes, not because of revenue raising

but just through efficient allocation. I think a public interest test would pretty much wash out those circumstances pretty quickly to work out whether you would push for - given the uncertainty, it's better to auction it out to the marketplace than actually roll it over.

DR ROBERTSON: You're really looking at two sort of periods in time. One is, if you went back two years you could anticipate that there would be lots of people that would want to be in it, whereas if we look forward two years, we would probably say the market is now going through a stabilisation process; there is not going to be a lot of that kind of competition. But I mean, two years ago, had a licence come up for renewal after 10 years, I think there probably would have been some competition from outside. There's no way of testing the hypothesis because we're looking backwards at something that didn't happen. Okay.

DR BYRON: Just to clarify a bit more, the GSM 900 apparatus licence at the moment has no explicit or implicit presumption of renewal. Is that right, as I understand it?

MR WILSON: There isn't, and I note in your recommendation - I don't know if I'm speaking out of turn with the RCC - that a presumption of renewal has been proposed.

DR BYRON: Yes.

MR KENNEDY: But the interesting thing is we have been given a carrier licence for a fixed period with the assumption, if you like, that there is going to be spectrum underlying that carrier licence to actually be able to be a carrier. So, as I understand it, this is an annual rollover and that's actually how that licence fee issue came up because that gets reviewed annually. But we would expect, given that a carrier licence goes for 15 years, that our spectrum apparatus licence would be aligned with that time period, but there's no guarantee.

DR ROBERTSON: No.

DR BYRON: What I was wondering was whether there was any sort of a sunset clause in the GSM 900 apparatus licence, or whether writing in now, "By the way you've got a presumption of a renewal" would significantly increase the value of that licence as an asset that wasn't in there originally, just as making it perpetual would also significantly change the nature and value of that licence.

MR KENNEDY: We would see any presumption that we would have to go to the government and engage in commercial negotiations for the value of that spectrum - I would expect that that value would be reflected in those negotiations. You may well have a decision where five years out from that 15-year period there is a public

interest test that, "We're going to presume resumption of that spectrum." That may well trigger off a commercial negotiation between us and the government about the value of that and the period for that rollover.

MR WILSON: I think what the presumption of renewal does really is probably formalise something that tends to happen in practice.

DR BYRON: Yes, but having it formalised still increases the value of the licence as an asset as opposed to having something that simply says, "You may or may not get a licence every year." It changes the fundamental terms and conditions and makes it a more desirable asset for you to hold something that quite explicitly in black and white says that, "Unless this piece of spectrum is reallocated for some other use, your licence will be automatically renewed every year." That's a much more valuable piece of paper to hold than the way it's written at the moment.

MR WILSON: I think when we purchased the licence initially, having already had this sort of 25-year operating licence, that may well have been reflected in the pricing. So what this presumption of renewal then adds in value, I'm not - - -

DR BYRON: Yes. I'm just trying to clarify the differences between your GSM 900 and a spectrum licence.

MR KENNEDY: I think there are two things. One is that we have got an apparatus licence that gets annually rolled over. We would expect that that would be aligned with the time limit of our carrier licence, because that's what we paid for in the early 90s. But beyond that period we think there's a role for potentially a public interest test at a certain period of time before the end of that 25 years - I think it's 25 years or 15 years, or whatever a carrier licence is - and if that suggests that it would be rolled over to the existing incumbent, us, then we would engage in a negotiation directly with the government to get that investment certainty five years out, seven years out, instead of actually having to go through the uncertainty of having the potential to lose that through an auction process.

DR ROBERTSON: So that's treating your apparatus licence like a spectrum licence.

MR KENNEDY: In fact we would prefer that our apparatus licence gets converted as soon as possible.

DR ROBERTSON: Which is quite different from what we heard earlier.

MR WILSON: Yes - I mean, subject to conditions, and one of course would be pricing.

MR KENNEDY: We heard Telstra's statement today. I actually don't think Telstra and us are that far apart, but I think they would agree that - I was involved in those technical and commercial negotiations last year. It was all driven by an election date late in that year, so there was a mad rush to try and get this through. We saw a lot of benefits in a conversion and I think it was about certainty. We were quite happy, I suppose, with an annual apparatus licence if we had some certainty about how the fees were going to be charged, but when we were faced with a $10 million increase in our apparatus licence fee, we could see into the future a great deal of uncertainty about what the future fees we were going to face as opposed to a spectrum licence where we pay an up-front fee but we have that certainty over a fixed period. We saw a huge amount of benefits from a business perspective and we were quite happy to enter into negotiations to get that certainty. We're quite happy to pay up-front for that.

I can't speak for Telstra, but certainly from our exec team we're very keen on that. Obviously it came down to how much flexibility we had in how we could use that licence, and I think the technical negotiations that we were in hadn't concluded. We thought there was still some work to do but certainly it was travelling along reasonably well, and I think we could have probably resolved our issues, and I think we probably could still do that if this process kicks off again. I think there was a key element there about the commercial negotiations about whether that conversion was up here or down here, or somewhere in the middle.

DR ROBERTSON: This is the dilemma that I keep coming back to, which is, how do you get a real market inspection when you've got lots of apparatus licences, and yours is almost a spectrum licence?

MR KENNEDY: We certainly use it in the same way that you would normally use - I mean, if it was allocated again today it would be a spectrum licence, I'm sure.

DR ROBERTSON: Yes. And the only difference would be the way in which you obtain it. The boundary conditions, would they be changed?

MR WILSON: Possibly.

MR KENNEDY: I wouldn't think so because we would expect to be using it in the same way that we would be using it now. We can talk to our technical people. We're not technical people here, but I suspect that the key decision point was that we just want that certainty of a long-term licence and an up-front payment and that was a key benefit for us.

DR ROBERTSON: It's a pretty obvious one from where I'm sitting, too. This is a

problem that I keep coming back to, which is the taste, I guess, that a lot of people have for apparatus licences. I can understand the individual user - they get a once-a-year fee and they think they're going to have it in perpetuity if they want it, which in most instances is true. Then if it is easier and cheap to go and buy an apparatus licence from the ACA why would you go into buying a spectrum licence? If you have the presumption of renewal, although of course you could still be resumed, it makes it more difficult to establish a real market in spectrum because you're going to have lumps of spectrum that are going to be auctioned and they have a property right, and you're going to apparatus licences which compete in terms of the service provided, and - - -

MR KENNEDY: No, I think it depends on how it is used. We think there is a role for apparatus licences but it's a role that is determined by how the spectrum is actually used; for instance, a point-to-point type use where you can fill a lot of apparatus licences within a spectrum. Where a spectrum is used for wide-area use, such as mobiles, we don't see any role for the apparatus licence allocation method. I think we're in agreement with you guys.

DR ROBERTSON: Yes, that's right.

MR KENNEDY: It's important to have a three-class licence structure where it's very clear what we - that's determined by the use of the spectrum, not by processes or - - -

DR ROBERTSON: Accidents.

MR KENNEDY: - - - accidents, and where there is general agreement that the history has created problems you should be trying to resolve them now by converting and moving them around as circumstances change; not trying to create other rules to have second-best solutions.

DR ROBERTSON: Do you think the ACA is releasing spectrum quickly enough or do you think they should have made the market deeper, if you like, by releasing more spectrum?

MR KENNEDY: I think on a broad level we would support as much spectrum release as quickly as possible because we think spectrum is no different in lots of ways to any other business input and the more spectrum is out in the marketplace and the more opportunities there are for secondary markets to develop and for really potentially an operation like a Crown Castle or an NTL to actually develop expertise in actually being a private-band manager and we can actually - and they may well be a much more efficient manager than the ACA.

I'm not saying the ACA is not, but it's difficult to have that market develop where there is this artificial scarcity or at least regular allocations of a key business input where sometimes you've got to - you're either restricted from getting spectrum because you're the only bidder or you have to wait a number of years and actually potentially bid for spectrum or get spectrum when you actually don't know whether you're going to use it or not. That doesn't sound to me a very efficient outcome.

DR ROBERTSON: No. Okay.

MR WILSON: I think this forward review program that I know has been talked about perhaps may at least help in that process in terms of giving greater visibility on when spectrum is coming up and potential changes.

DR ROBERTSON: This is the three-year review.

MR WILSON: Yes, the sort of program that is tied in with the WRC. I think that is at least a step in the right direction.

MR KENNEDY: If there was like a map of spectrum release that was reasonably into the three years, four years, then that's another way of getting in certain T4 investors and for infrastructure owners - that you can say, "I can work out when I need to prepare to" - and if it is actually quite detailed in terms of when that spectrum is going to be released and it is all ticked off, well, that creates another way of getting certainty out to the marketplace.

DR BYRON: I take it from your comment a few minutes ago about being quite happy with three types of licence class of apparatus and spectrum that you - well, are you aware of the ACA's proposal to have a single licence type? I take it then that you're not particularly in favour of that or you don't see the merits of it?

MR KENNEDY: As we understand it, that is driven by an issue about current process and how the act allocates apparatus licences and spectrum licences. Now, we're not experts in that and I am sure the ACA will have a view, but we see a lot of benefits in having three classes for the three types of uses that spectrum is used for, but where the actual act itself creates problems in terms of like we have spectrum - a third party or a party wants to have spectrum and the actual ACA is hamstrung in actually allocating that type of spectrum for the correct use because of the way that potentially consultation processes or time delays - and that seems to be a process problem, not actually a reason for wanting to create one class of licence.

DR BYRON: It's a case for improving the housekeeping and process arrangements.

MR KENNEDY: Absolutely, and as far as we can tell, if that's the only problem then the solution is housekeeping, not an actual change to the structure. We're happy

to be convinced otherwise, but our experience is really only in a certain element of spectrum allocation, but that's how we would approach that issue.

MR WILSON: Yes, I am fully supportive of that. I think if there is a lot of pain involved in getting to a single licence for little benefit - in effect replicating the three licence types but with improved processes - then why not focus on the process improvement? But again certainly we're keen to have those process improvements and keen to explore ways to do it and we're happy to be convinced otherwise by the ACA.

DR ROBERTSON: We'll see what they have to say tomorrow.

MR WILSON: Yes.

DR BYRON: We asked Telstra just before about whether they had ever negotiated adjustments to boundary conditions with their neighbours in space or frequency. Have you also had experience with that - of sorting out a mutually amicable adjustment to the licence boundary conditions?

MR WILSON: I admit I'm not aware of one. I would have to go to our engineers to do that and I can certainly find out for you, but I'm not particularly strong on that area..

MR KENNEDY: I suppose some input we can give is that with the 900 spectrum conversion discussions there were a number of fixed-link operators in our - well, there are now at the moment three or four in rural remote areas, where we were quite happy to deal with them as a private-band manager, just through contractual arrangements to allow them to keep doing what they were doing and we saw no problems in having that arrangement if that allowed us to get the outcome of having a spectrum licence; in fact, in New Zealand we actually are private-band managers for a number of different fixed links for broadcasters - broadcasting fixed links - and non-telco type companies that we deal with, and that seems to work fine.

DR ROBERTSON: So the existence of a couple of fixed links out in the bush isn't a strong argument for not being able to convert to a special licence?

MR KENNEDY: Absolutely. Ideally, I think we would prefer not to be forced into that because fixed links can generally be moved around more easily than a wide-area use, but if that's stumbling block, we're happy to - there's always a commercial deal we can do because, if it is important enough to us to have an unencumbered use of that spectrum then I am sure we can help out that fixed-link operator to move somewhere else. As I said, it's just like another input into - it shouldn't be thought of as anything special in that case. It's just that if there is another way we can do a deal

then we'll just deal with them as we do with other commercial partners.

DR ROBERTSON: You have already answered the question I was going to ask next about your experience with accommodating some fixed links within your spectrum. Are you familiar with the band manager experience in New Zealand or is that something I shouldn't ask you about?

MR KENNEDY: Not intimately, but it is certainly something that both Vodafone New Zealand and other owners of spectrum in New Zealand are used to and we can certainly provide certain detailed advice about our experience there, but I think we talked to them about this issue.

MR WILSON: Yes. I think one of the feedbacks I got is that while it's a good system I think it's key for the band manager to have the sort of necessary skills and the interest in actually managing that band and it may not necessarily be that a licensee is also a good band manager.

DR BYRON: Sure. You say on page 9 of the submission - about the band managers not necessarily - spectrum licence holders not necessarily having the requisite skill set or desire to take on the function, but presumably Vodafone New Zealand has the skill set and has taken on the function.

MR KENNEDY: Yes, but there is nothing to stop us potentially offloading that function to an NTL or a Crown Castle to do it. It potentially may be more focused on getting as much spectrum use or as much efficient use - we have seen that with our cell sites, as an example - but I suppose what Ian is saying is that there may be some spectrum users who need that spectrum for their own business inputs, but don't want to worry about dealing with fixed-link operators, and that may well create problems for those fixed-link operators in terms of the quality of the service that they get.

DR BYRON: But if there was a role and a business model for being a band manager then you could expect those skill sets to appear very quickly.

MR KENNEDY: Exactly. I think a market would develop and I think it's worthwhile exploring how to move to at least test that - whether a market develops - because that will actually promote efficiency, we think. It might be worth just talking briefly about another issue in New Zealand and about secondary trading. I think this is one of the critical issues. A lot of these issues go away - a lot of these problems about spectrum allocation go away - if we have a robust secondary trading market.

I think New Zealand recently, or this year, was probably the first country in the world to have a 3G spectrum trade between two companies with the merger of

Telstra and Clear in New Zealand. We had a competition rule on that, or a spectrum cap. As a result of that merger they were over their spectrum cap as a company, joint company, so they had to offload, I think, 10 megahertz of 3G spectrum and Vodafone New Zealand bought five megahertz of that. That brought us up to our spectrum cap, and that worked well. It was a win-win outcome for both parties and there seemed to be no problems in terms of getting our head around the idea of trading spectrum, so we hope that that's the shape of things to come, if you like. But certainly the development plan of a secondary trading market is, we think, one of the key challenges or the key features as we move forward.

DR ROBERTSON: And that's the reason to get more spectrum out there, too.

DR BYRON: Can I change the subject a bit to interference disputes. Have you had any problems with interference that have taken you into dispute resolution areas with out-of-bounds emissions?

MR WILSON: Again, I mean, not that has been brought to my attention, but I would like to double-check that.

MR KENNEDY: I think with our apparatus licence we have been using that apparatus licence and those spectrum bands for over 10 years now and I'm not aware of any disputes or any - - -

MR WILSON: I do recall some of the very sort of limited discussion I have had. I think it was felt that it's good to have the ACA as having some sort of role in there, just in terms of the timeliness of resolving an interference issue.

DR BYRON: The New Zealanders that I spoke with said that even though the band manager is supposed to have all the responsibility for sorting out interference problems they keep going back to the government and saying, "Well, we can't sort it out. Will you sort it out, please?" and they say, "Well, as a private-band manager, we don't have search powers," for example, and subpoena powers, and all those sorts of things that a government agency can do to track down some mysterious little bug that was sort of blacking out half the system.

MR KENNEDY: I think there's probably the day-to-day functions which I think, as expertise develops for private-band managers - they've got to get their act together because that's part of their contract. I think also in New Zealand there is an allocation of some more GSM spectrum currently taking place this year. We were having a debate with the officials last year about interference issues with the allocation of that spectrum. I think the New Zealand government's view was that, you know, "We'll allocate it and if the party who buys that spectrum starts interfering with your GSM" - because we have GSM right next door - "then it's up to you guys to sort that out."

We saw that is a problem because for our customers the impacts are immediate and it may well take us some time to sort out where the problem is or to engage with that party. We think it is much better to get the interference issues sorted out through the allocation and the auction process and the specifications of the auction allocation. Potentially it may well mean stipulating a certain type of technology to - a GSM technology because the issue there was about potentially the use of CDMA right next door to a GSM technology - actually creates risks of interference.

I think there are two issues there. One is sort of ongoing day-to-day private-band managers and the other one is about where the role lies for when you actually allocate spectrum - should it just be a market, a fully market, allocation? You can see that as a market allocation. Let the market work it out. The problem with that is that our customers are the first ones impacted because we're the ones that have a million customers in New Zealand and they can't make calls.

DR BYRON: So implicitly you're suggesting that there's a first in time rule there, in the event of a dispute between you and the newcomer?

MR KENNEDY: We think it's important at the very time of the allocation that the risks of interference are dealt with so that those risks are minimised. That may well mean that if you buy this spectrum and you're going to use it for CDMA, that you can only use these bits of the band because if you extend over that band you're going to get interference.

DR BYRON: What if the situation is reversed? If you were the newcomer and there was Telecom New Zealand saying, "All our customers will be the first ones disadvantaged if you come in and use a different technology next door to us."

MR KENNEDY: I think it's a legitimate concern when potentially I'm a new entrant and I have 10 customers or 1000 customers which are impacting on a million customers. I think there is a public interest there. The impacts are actually directly with the customers, also directly with the firm, the incumbent. You're actually harming the customer experience which I think is something that should concern governments when they allocate spectrum. Just one other thing.

DR BYRON: Sure.

MR KENNEDY: One of our first points was about the objectives and the objects test. I suppose our view is that it's important to get - while the objective test is critical we hear a lot of people saying, "Oh, look, in practice it doesn't really matter because it all comes down to how it works in practice and everything will sort itself out," and you need to have these high-level motherhoods saying it's potentially just to make everyone happy. We think it's much more important to have a very clear

efficiency objective up-front because everything will flow out of that, in terms of how you argue your case in front of the ACA, in terms of bad outcomes if something happens in the future.

We've seen it with the ACC telecommunications specific regulation where we have one main long-term interest of our user's test and three supplementary secondary tests which potentially conflict with each other and they have no hierarchy, in terms that they can pick and choose which ones they want to use or which ones they want to emphasise to work out whether they should regulate. There's a real problem in practice with that because there's no guidance; there's not enough guidance for the regulator about what the most important factor is. We would really push for a much clearer primary objective for this act instead of having a range of second view objectives.

MR WILSON: Yes, and even where you have this sort of primary/secondary, I guess, hierarchy, it's still unclear even then just how much credence then do you give to the secondary.

DR ROBERTSON: That is a very useful contribution. We've been looking for something on that.

DR BYRON: Can I just go back to the point you made before about the process issues, of tidying them up rather than turning the whole licensing arrangement upside down. You may not care to answer this, but do you have any thoughts on the role of the minister in terms of spectrum licensing? My understanding is that the process requires the minister's decision. To clear bands with spectrum the ACC has to go back to the minister, I think, two or three times or something in the process.

MR KENNEDY: We understand there's actually a different process for a spectrum licence to that for an apparatus licence, in fact, and again we're not experts here but I think the issue is with an apparatus licence the ACA have a lot more discretion about how they can allocate that. With the spectrum licence there are a lot more consultation periods and ministerial decision-making discretion. It seems to me that those processes should be the same. It's spectrum that's allocated, and to the extent to which you're actually having consultation periods that are hampering the decision-making of how you want to allocate spectrum, then perhaps there is a role for more up-front ministerial guidance and then more day-to-day ACA flexibility.

DR BYRON: I could imagine that the role of the minister and the requirement for consultation were put in there as a sort of checks and balances type of thing. In the very early days when the spectrum licensing was still very much an unknown quantity probably a lot of apparatus licensees were afraid of being bumped, but we've got 10 years of experience now. So it may be time to go back and see whether all

those checks and balances are really necessary or whether some of them are being unattended roadblocks.

MR KENNEDY: We would be very keen to see the ACA - the ACA has to deal with this on a day-to-day basis. That's a really good question for you to ask them. I suppose from Vodafone's perspective we haven't had that type of experience. We've had quite a good experience in terms of the spectrum that we've acquired in recent years through auction processes. We think that has worked well, and I suppose our focus is on the spectrum we currently have, not on potential problems or issues that face other people in other bands. So we're quite happy to give you a broad statement about that but we don't have any direct experience.

DR BYRON: Thanks.

DR ROBERTSON: Thank you very much.

MR KENNEDY: Great. Thank you.

MR WALLACE: Thank you.

DR ROBERTSON: I declare this meeting closed. I'm not going to offer an opportunity for anyone to speak because the only two visitors are going to speak first thing in the morning. Thank you.

AT 5.28 PM THE INQUIRY WAS ADJOURNED
UNTIL WEDNESDAY, 24 APRIL 2002

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