

Dr. David Robertson
Presiding Commissioner
Radiocommunications Inquiry
Australian Productivity Commission
LB2 Collins St. East
Melbourne VIC 8003
Australia

May 20, 2002

Dear Dr. Robertson:

Rejoinder to the Inquiry into Radiocommunications

I had not intended to make a further contribution to the Inquiry into Radiocommunications. However, two factors have influenced me to make a rejoinder. These factors are:

1. **Positive:** The Productivity Commission (PC), apparently, had in good faith accepted and incorporated in its Draft Report some information that was not entirely helpful to its inquiry. To its credit, it has since asked the Australian Communications Authority (ACA) for answers to a few important questions that would divulge ACA's attitude towards amateur radio, in general, and its views about Winlink 2000 operation, in particular; and
2. **Negative:** ACA's answers to the PC's questions demonstrate that it does not as yet have an understanding of, or is not in a position, to proactively address Australian amateur radio concerns. Instead, it has followed the less intellectually-demanding, least time-consuming and, it might have thought, risk-free alternative by opting for maintaining the status quo.

ACA's position could be understood if, on the recent retirement of the principal contact at ACA dealing with the subject matter, the earlier representations that have been made were not committed to ACA's institutional memory. For the record, it should be noted that representations about amateur radio and Winlink operation have been made repeatedly to ACA by the Wireless Institute of Australia (WIA), by the Winlink Development Team (WDT) and by me personally; specifically, to solicit ACA's support for allowing Australian radio amateurs to participate in Winlink operations. In the process ACA had been given more than adequate information about the operations of Winlink 2000. However, ACA now answered: "the owners of the Winlink system have never made a submission to the ACA regarding its services, so we do not have enough information to make a judgement on whether its operation would require a carrier license ..."

In deciding on this rejoinder, I am influenced by the anticipation that it might assist the Productivity Commission and the ACA, particularly, in gaining a better understanding of the issues. I thought it unproductive to reply to each and every error or omission contained in ACA's answers to the PC. I have therefore chosen to make a more positive, and hopefully useful contribution, by drafting a letter for ACA that, I believe, it *should have sent* to the PC. This imaginary letter is given below:

QUOTE:

Dr. David Robertson, Presiding Commissioner Productivity
Commission - Radio Communications Inquiry LB2 Collins St.
East
Melbourne Victoria 8003

Dear Dr. Robertson,

The ACA welcomes the further questions raised by the Productivity Commission in respect of amateur radio, in general, and the operation of the Winlink digital communication system, in particular. ACA acknowledges the valuable contribution that amateur radio makes to society. It is therefore committed to do all within its power to advance the interests of amateur radio; especially, by allowing amateurs to take part in the current advances in communications and information technology.

In respect of Winlink, specifically, our views are based on our understanding of its method of operation and the contribution that it makes to radio amateurs in remote locations. Basically, as we understand it, Winlink is a store-and-forward digital communications system that uses both the amateur radio bands and the Internet. Winlink communications may include electronic mail, as well as weather information, automatic position reports and access to emergency medical support. The WDT has informed us that Winlink is accessible only to licensed amateur radio operators and that it strictly controls and blocks access to the system by unlicensed persons. We accept that communications via Winlink would only be used between correspondents who, because of their remote locations, have no other means of access to other communication facilities. We would expect, therefore, that the volume of Winlink traffic via a potential Australian Participating Mail Box Office (PMBO) would be relatively small; however, this does not detract from the importance of these messages. We accept also that, from a technical point of view, digital communications under adverse conditions as might be experienced by recreational vessels at sea, and as supported by Winlink, are superior to voice or Morse code communications.

To illustrate our reasoning for supporting Australian radio amateurs to participate in Winlink operations, we have used a simple example of a recreational yacht transiting the Southern Pacific, say, from Fiji to Cairns.

For the purpose of this example we assume that while in transit, a licensed amateur radio operator onboard sends two messages: (1) to another recreational vessel traveling ahead asking it to check on arrival in Cairns whether a medication needed for another crew member would be available (*technically, this is a radio message on behalf of a third party (the other crew member needing medication) sent by a ham (on the vessel) to another ham (running the Australian PMBO)*); and (2) to the operator's parents, letting them know the expected arrival date in Cairns (*technically, this is a radio message to a third party (the parents are non-hams) sent by a ham (on the vessel) to another ham (running the Australian PMBO)*).

The operator would normally send these messages to the easiest accessible Winlink PMBO. From the vessel's position, the sender could attempt to make contact with the new PMBO in the north Pacific, the one in Thailand, or with the two (2) Winlink stations already operating out of New Zealand. Several attempts, using valuable airtime, might be necessary to contact these remote stations. Obviously, making contact with a Winlink PMBO on nearby Australian shores could be expected to be much easier and save radio time. The Australian PMBO, following receipt of these messages, sends them all **via the Internet** to the Central MBO in the US. The CMBO in turn will send the message for the other vessel **via the Internet** to all other PMBOs so that the addressee can collect his email from whatever PMBO he is able to contact. The message for the parents will be sent by the CMBO, **via the Internet**, to their Internet email address. As the latter transmissions are all **via the Internet**, which is outside the scope of the Radiocommunications Act, ACA has no comment to offer.

When the operator on the vessel logged on to the Australian PMBO to send the messages, he also automatically collected two messages that were in his Winlink mailbox. These assumed messages were from: (1) an Australian ham, passing on a message intercepted from the Australian Maritime Safety Authority (AMSA) seeking assistance with locating a number of missing yachts (*technically, this is a radio message from one ham (running a personal station) to another ham (on the vessel) passing on a third party message from AMSA (a non-ham)*¹; and (2) the parents, reporting an urgent medical emergency at home (*technically, this is a radio message from one ham (running the PMBO) passing on a third party traffic (from the parents) to another ham (on the vessel)*). It should be remembered, that all had no other communications facilities for getting in touch with each other.

¹ The actual message by VK1GH was: "The Search and Rescue Co-ordination Centre of the Australian Maritime Authority (sic) on 1 800 641 792 is urgently trying to contact a group of six yachts in the North Indian Ocean. It is a possibility that one or more may be using amateur radio communications. Details are very thin - one of the yachts is called 'Pacific' but the spelling is a longer phonetic copy of this word. Could any QNEWS listener/reader who may have knowledge of this group call the 1 800 641 792 number?" Obviously, the efforts of his Samaritan would have been more efficient had he been able to sent the message via Winlink to all vessels at sea in the general vicinity of the missing vessels' cruising range.

This example deliberately uses four examples of, what is called, third party traffic. This is done because the question of third party traffic to other countries was, before we understood the procedure, of concern to ACA. However, in further examining Winlink communications, it is clear to us that none of these radio messages were from or to another country. Hence, they do not breach third party traffic restrictions. ACA finds no breaches in law or rules. This is because:

- (1) Winlink communications via the Internet are outside our competence;
- (2) We already allow third party traffic within Australia and we have no objection to having such traffic passed between an Australian PMBO and recreational vessels on the high seas and others in remote locations;
- (3) We already allow the interconnection of amateur radio with the Internet as in the *Internet Radio Link Project* (IRLP) and on the VHF amateur radio bands (Many of the Australian stations linked to the Internet are shown on the website: <www.irlp.net/15-status/frame.html>);
- (4) Winlink is not a network within the meaning of the Radiocommunications Act - it is not "owned" by anyone but comprises a group of dedicated amateur radio operators working voluntarily together to support other hams (there are hundreds of such amateur maritime mobile and other "nets" in Australia and overseas);
- (5) The Winlink PMBOs operate solely with a personal aim, do so voluntarily without cost to the public sector or the users, and have no pecuniary interest in the outcome of the operation of their stations. We have accepted the explanation given by the Winlink Development Team that it strictly controls and locks-out access by unlicensed operators;
- (6) The hams who might be using Winlink have no real alternative for communicating by other means and, in any event, we believe that Australian hams should be allowed to reciprocate and take part in this global public service effort;
- (7) While the volume of traffic might be small, it is of great value to those who need to use it, including for safety-related messages, position reporting, obtaining weather reports and for seeking emergency medical advice;
- (8) We have been unable to think of any reason why anyone either within Australia or internationally would object to Winlink operations - especially, given that it receives official support in the US and is linked with the US Coast Guard (USCG) and the National Oceanographic and Atmospheric Administration's (NOAA) weather reporting service;
- (9) Winlink already operates almost globally with more than 30 PMBOs, including two (2) stations in New Zealand; and
- (10) We believe that Australia's national interests are best served by encouraging and allowing amateur radio operators to take part in the latest advances in communications and information technology. ACA can see no reason why Australia should be behind and not be upfront with the leaders in these important developments.

Against the background of the above explanations, we offer the following answers to the PC's specific questions:

PC Question No. 10: *"What is the rational for imposing the third party traffic restrictions on Australian amateur radio operators. That is, what does this restriction serve?"*

ACA Answer: The rationale for the imposition of the restriction on third party traffic dates back to the early history of the development of amateur radio. At that time, telecommunications were operated by state-owned monopolies. State monopolies are by now known to have been notably inefficient. However, at that time governments feared that amateur radio operators might become competitors to the state monopolies if they were to start passing on messages on behalf of others (radio amateurs and non-amateurs alike) and thus deprive the state of revenues from telecommunication operations. That rationale for this restriction has long since evaporated.

Today, telecommunications operations, almost worldwide, have been commercialized or privatized. Competition has been encouraged. Efficiency improved and costs to consumers reduced significantly. At present, the scale of investment needed and the technologies used for global communication mean that amateur radio cannot, if ever it was, be seen as competing with public or private sector operators. A second, equally compelling reason why amateur radio can never be a competitor is the existence of the Internet. Since the Internet's establishment, any person (without any licensing requirements), can send messages (including so-called third party traffic) to anyone almost anywhere else in the world - virtually free of cost, via electronic mail. Therefore, with this alternative available, no one would use the less reliable route of amateur radio unless it was absolutely necessary.

In any event, Australia has the right under the ITU regulations to make its own Determinations governing amateur radio operations within its own borders. The ACA has determined that third party traffic within Australia is allowed. We would also have no objections to Australian amateur radio operators receiving and sending messages, including third party traffic, to licensed amateur radio operators within Australia or onboard local and foreign recreational vessels in Australian waters or on the high seas. We do so, because we believe:

- (1) it to be in Australia's interest for our amateur radio community to be allowed to provide such a public service; and
- (2) because we like to offer a welcoming shore to overseas cruisers, as does New Zealand - a popular cruising destination.

PC Question No. 11: *"What are the likely consequences of removing the restriction? What are the likely costs and benefits of removing the restriction?"*

ACA answer: For the reasons given above, we are of the view that there are no significant consequences of removing the restriction on third party traffic. In any event, based on the examples given, Winlink makes no *radio* contacts with other countries. All such international traffic would be via the Internet.

We have not carried out a cost-benefit analysis because we cannot identify any economic or financial costs. Quite to the contrary, we can foresee several potentially large economic benefits. For example:

- (1) radio amateurs have made significant contributions to the development of communications and information technology, including the development of the PACTOR digital communications protocol and, of course, Winlink operations. We believe that encouraging innovation by Australian radio amateurs will have proportionate economic benefits;
- (2) despite the difficult crossing of the Tasman Sea, New Zealand is a popular cruising destination and many cruisers stop there for extended periods to refit their vessels and obtain provisions. The Australian maritime industry (including marinas, engine repair shops, riggers and providers), could similarly benefit from making Australia a more cruiser-friendly nation;
- (3) it is significant that each and every search and rescue operation that can be avoided by allowing Winlink operation in Australia, would save the Australian taxpayer many millions of dollars; and
- (4) Finally, we believe that allowing Australian and foreign recreational vessels passing or circumnavigating our continent, to make contact with an Australian based PMBO, provide these with an opportunity to report suspicious actions that might be of potential interest to Australian Immigration or Customs.

We therefore conclude that removing the restrictions will have a positive benefit/cost ratio for Australia.

PC Question No. 12: *"What is involved in establishing third part traffic arrangements with other countries? Is it a complicated or relatively straightforward matter?"*

ACA answer: The need for establishing third party agreements with other countries has never been particularly urgent for Australia or, for that matter, most other countries. This can be seen from the fact that Australia has such agreements with only five countries and with some of these there would be *very* little amateur radio traffic. Of course, the reason for the current disinterest in such arrangements is that now anyone can send traffic (personal and third party), without any licensing requirements or restrictions to anyone else wherever in the world, virtually at no cost, via the Internet.

The process for establishing such agreements was normally driven by national organizations, representing the interest of amateur radio, or by influential individuals who had a special interest in establishing such agreements with their countries of origin. The organization or individual seeking such an agreement would ask the regulatory agency to make the arrangements for the negotiations. This is not a complicated matter. There are ample examples of such agreements and drafting is not a major problem. However, it would be fair to say that with the shrinking resources available to ACA, and indeed regulatory bodies in other countries, negotiating such agreements would not be given high priority. No requests for such agreements are pending with ACA.

We conclude that the need for third party agreements have gone the same way as the proverbial "Dodo" bird. It has been overtaken by technological and other developments.

PC Question No. 13: *"What was the rationale for restricting amateurs connecting to the public telecommunications network? Why is the restriction limited to situations where the station is: (a) an amateur repeater station; (b) an amateur beacon station; (c) using automatic mode; and (d) using-computer-controlled mode?"*

ACA answer: The rationale for restricting radio amateurs from connecting to a public telecommunications network are the same as those that governed the restriction on accepting third party traffic, that is, the fear of radio amateurs competing with state-owned monopolies. Also, historically, there was a fear that amateur radio operators could be a risk to national security if they were allowed to interconnect and perhaps send coded messages via telephone or telegraph lines. If ever these concerns were valid, now that spy satellites can intercept messages almost at will, the need for this restriction is now out of date.

In those early days, also, telecommunications networks were those that could be accessed only by subscribers on payment of a connection fee and user charges. While the Internet could be described as a public telecommunications network, it obviously does not fall in the same category, as do public or private networks that operate commercially. ACA has recognized that this restriction of interconnection between amateur radio and the Internet is no longer needed. Indeed, we have approved such interconnection already for IRLP (referred to above) and, additionally, there is unlimited access for Australian amateur radio operators to the Internet to transmit voice communications partially over their VHF amateur radios and partially over the Internet. We are aware also, that hundreds of Australian amateur radio operators already connect to the Winlink system and therefore, by definition, to the Internet. We have assumed that these connections by Australian hams at present are made from boats on the high seas. As stated above, to these we have no objections.

It should be pointed out also that this restriction was imposed when it was believed that all amateur radio traffic, then almost exclusively by voice, should be fulltime controlled by the station operator - personally. In theory, a station operator on making contact with another amateur was expected to check with the amateur radio call books (listing all hams worldwide), and then verify during the discussion that the person being talked to was the real owner of that call sign. In practice this is an unworkable system. An illegal operator could be recognized only if he used a non-sensible call sign or if during the exchange displayed gross ignorance of the protocol to be followed. With the advent of personal computers and electronic callsign databases, this verification of calls became somewhat easier but it is still not foolproof. However, blocking transmissions by unauthorized operators was significantly improved under the Winlink system that automatically vets calls for legitimacy and automatically locks out any caller found to be in non-compliance with licensing requirements.

In the past it was thought necessary to be extra restrictive with: (a) an amateur repeater station; (b) an amateur beacon station; (c) those using automatic mode; and (d) those using computer-controlled mode. Such strong differentiation is no longer deemed appropriate. First, the Australian amateur radio community is a firm and reliable self-regulator. Second, amateur repeater and beacon stations are normally established under the auspices of amateur radio clubs affiliated with WIA. Local chapters of the WIA usually assume the responsibility to ensure proper system operation. Third, the initial concerns about automatic or computer-controlled mode also stems from the period before the use of computers became common practice. As this development was then not as yet understood, like Winlink is still not understood by some today, it was thought easier to impose a blanket restriction on the use of this new technology.

As technology evolved and experience was gained, it was no longer necessary to strictly enforce these limitations. Australia has a very extensive and well-managed network of repeater stations that overcame "the tyranny of distance" by making nationwide communications between hams possible using low powered hand-held VHF radios. Transmission of Morse code, to the extent still in vogue, was facilitated by using an automatic mode by which hams would type a message into a computer which would then, via a modem and ham radio, transmit (and at the other end receive) the message with perfect spacing and the maximum possible speed. This then led to the development of "packet" radio that facilitated transmission of messages from a computer in small "packages" rather than as individual alphanumeric Morse code characters. This development finally culminated in the PACTOR protocol that, with the appropriate software, "zipped" messages to take up less transmission time, as well as, ensure accuracy with its error-correcting ability. PACTOR is the advanced protocol used by Winlink.

ACA is of the view that these restrictions can now be removed from the Radiocommunications Licence Conditions (Amateur Radio) Determination No. 1 of 1997 and proposes to take steps to this end.

PC Question No. 14: *"What effects would removing the restriction have for amateurs operating in Australia? What are the likely costs and benefits of removing the restriction?"*

ACA answer: We do not expect there to be any negative effects from removing the restrictions against interconnection with the Internet. We trust the Australian amateur radio to continue its self-regulation with the same vigour as it has done in the past. In addition we already have made several exemptions to these general principles and have not discovered any abuse by the Australian amateur radio community because of this liberalization.

The cost of lifting the current restrictions is no more than drafting and promulgating a revised Amateur License Determination. This is expected to be necessary anyway, following the completion and presentation of the PC's Final Report. A potential benefit would be that ACA no longer has to pretend to monitor compliance with regulations that are no longer necessary or enforceable. We do hope that one of the benefits of lifting the restrictions on the convergence between amateur radio, computers and the Internet will bring in new and young talent into the amateur radio ranks, including computer programmers (for software defined radios), system analysts (for interfacing communications and information technology) and for training as electronics engineers. These benefits cannot be quantified but we believe that there will be a positive benefit/cost ratio.

PC Question No. 15: *"There appears to be a link under the telecommunications Act 1997 between owning infrastructure, such as 'networks units' and being a telecommunications carrier. Would a Winlink system be regarded as a network unit (and therefore the provider be deemed a carrier and liable to fees etc?) How do similar commercial systems such as SailMail avoid these requirements?"*

ACA answer:

Winlink is *not* a proprietary network as, for example, is SailMail. The latter is owned by two US individuals. They recruit other "commercial" interests to operate other stations. It is understood that there are about 10 such stations worldwide. Users pay an annual membership fee and for their connection time of a maximum of ten minutes per 24 hours. SailMail does, of course, operate in computer-controlled mode and is interfaced with the Internet. The owners of SailMail share the financial proceeds with their subsidiary stations in the network. Broad calculations presented to the Inquiry earlier have shown that SailMail, despite its commercial nature, is not really a viable proposition. This raises questions about the longer-term commercial viability of SailMail and hence, even the continuation of the limited service that it now provides. Yet, when considering the for-profit service provided by SailMail, ACA decided to not deem it a

"network" as defined in the Radiocommunication Act and hence absolved it from the payment of any network or other fees.

Winlink is **not** a proprietary network. It is not "owned" by anyone in a commercial sense but instead comprises a number of dedicated *individual* amateur radio operators, working together as volunteers. There are now more than 30 of these volunteers who operate what are called Participating Mail Box Offices (PMBO). (Actually, one of these PMBOs was already operating in Australia but is said to have closed down for fear of prosecution). What is most significant though in our deliberations is that Winlink is **not** a commercial venture and therefore, even more so than SailMail, it is not a "network" within the definition of the Radiocommunications Act. It would therefore not be subject to network or other fees.

To conclude: The Winlink Development Team (WDT) has over the years had extensive communications with both the Wireless Institute of Australia (WIA) and ACA seeking our views on the operation of Winlink 2000 in Australia. We had earlier sent a reply to WIA, prepared on the basis of our knowledge at the time, and we had assumed that WIA would forward our comments to WDT. In truth, amateur radio and, especially, Winlink has not been on the top of ACA's agenda. Other more pressing priorities were before us, including this Inquiry into Radiocommunications. However, this Inquiry provided us with the opportunity to address in greater depth the concerns of the amateur radio community, including allowing the operation of Winlink 2000 in Australia. ACA has concluded that the case for the liberalization of amateur radio operations has been well made by respondents. Therefore, in the interest of Australia, its amateur radio operators and the wider international amateur radio community we propose to amend the Amateur Radio Determination along the lines of our replies to your questions as given in the forgoing paragraphs.

Again, we wish to thank the Productivity Commission and the many respondents to the Inquiry who have all been of considerable assistance to our Authority.

Yours sincerely,

Signed
Commissioner - Australian Communications Authority
Canberra ACT

UNQUOTE

Conclusion

This rejoinder, in the form of a draft letter that is pro-active rather than defeatist, provides the Productivity Commission with a final opportunity to critically examine the validity and reasonableness of ACA's official response. In essence, the difference is about whether to stand still - that is, maintain the status quo, or move ahead - making changes and taking risks. For productivity to thrive in Australia, the government must lead with some boldness. Meekness and lagging behind are not befitting a nation that should lead.

It is to be hoped that, at the very least, the Productivity Commission will conclude that amateur radio should be supported. Such support, of necessity, implies allowing radio amateurs to take part in the exciting developments now taking place, including the convergence of the communications, information processing and computer technologies. Supporting these advancements are in the best interest of Australia's productivity.

For these reasons, in respect of Winlink, the Productivity Commission is urged to recommend in its Final Report to the Government, that ACA:

- (1) Issue an amended Radiocommunications Licence Conditions (Amateur Licence) Determination that, among other revisions, revokes in its entirety Section 11 - "Restrictions on connection to a public communications network" This course of action is well within ACA's authority and does not require legislative action; and
- (2) Publicly announces that henceforth it will not oppose the establishment of Winlink PMBOs in Australia by licenced radio amateurs who wish to do so.

Despite my personal belief in the integrity of the inquiry and, with few exceptions, the respondents, I know well the inertia that holds back public officialdom from advocating change. Change confers risks and, in the view of some, that is not what they are being paid for. Yet, they must realize that maintaining the status quo is not without risk either. Those who are unwilling, or not in the position, to support progress at this stage, would diligently apply themselves with intellect and vigour when urged to do so by their political masters. In this context, I understand that local Australian radio amateurs, and others, are proposing to assist the Inquiry by seeking support from members of the Federal Parliament.²

² The following Uniform Record Locators (URL), show the names of Members of the Australian Federal Parliament, sorted by State and Territory:

House of Representatives

www.aph.gov.au/house/members/mi-state.asp

The Senate

www.aph.gov.au/Senate/senators/homepages/web/si-state.htm

A great number of people, locally and internationally, look forward with interest to the Productivity Commission's Final Report.

Respectfully submitted.

Anthony Van Vugt

USA

URL: www.aussiewinlink.org (Visit this website for comments on the Final Report)