



COMMONWEALTH OF AUSTRALIA

Official Committee Hansard

**HOUSE OF  
REPRESENTATIVES**

STANDING COMMITTEE ON COMMUNICATIONS,  
INFORMATION TECHNOLOGY AND THE ARTS

**Reference: Uptake of digital television in Australia**

WEDNESDAY, 15 JUNE 2005

CANBERRA

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**HOUSE OF REPRESENTATIVES**

**STANDING COMMITTEE ON COMMUNICATIONS, INFORMATION TECHNOLOGY AND THE  
ARTS**

**Wednesday, 15 June 2005**

**Members:** Miss Jackie Kelly (*Chair*), Ms Owens (*Deputy Chair*), Mrs Bronwyn Bishop, Mr Garrett, Mr Griffin, Mr Hayes, Mr Johnson, Mr Keenan, Mr Laming and Mr Ticehurst

**Members in attendance:** Mrs Bronwyn Bishop, Mr Garrett, Mr Hayes, Miss Jackie Kelly, Mr Laming, Ms Owens and Mr Ticehurst

**Terms of reference for the inquiry:**

To inquire into and report on:

- The rollout process for digital television, including progress to date and future plans
- Options for further encouraging consumer interest in the uptake of digital television
- Technological issues relevant to the uptake of digital television
- Future options

**WITNESSES**

**BARCLAY, Mr Graeme, Managing Director, Broadcast Australia Pty Ltd ..... 1**



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**Committee met at 9.12 am****BARCLAY, Mr Graeme, Managing Director, Broadcast Australia Pty Ltd**

**CHAIR (Miss Jackie Kelly)**—I declare open this public hearing of the House of Representatives Standing Committee on Communications, Information Technology and the Arts inquiry into the uptake of digital television. The inquiry arises from a request to this committee by Senator the Hon. Helen Coonan, the federal Minister for Communications, Information Technology and the Arts. Written submissions were called for and 75 have been received to date. The committee is now conducting a program of public hearings and informal discussions. This hearing is the third for the inquiry.

I welcome Graeme Barclay from Broadcast Australia. Although the committee does not require witnesses to give evidence under oath, I should advise you that these hearings are formal proceedings of the parliament and consequently warrant the same respect as proceedings of the House itself. It is customary to remind witnesses that giving false or misleading evidence is a serious matter and may be regarded as a contempt of parliament. Do you wish to make a brief statement in relation to your submission or would you care to make some introductory remarks?

**Mr Barclay**—I would. Thank you for the opportunity to appear before the committee. Firstly I would like to give a very brief introduction of Broadcast Australia and then outline the key propositions that we are seeking to put forward in relation to digital television policy. Broadcast Australia is the owner of the national network of approximately 600 broadcast transmission sites. We believe our company is the owner of the second largest communications infrastructure portfolio in the country. Our key customers are the national broadcasters, the ABC and SBS, for both television and radio services, and we provide a lot of our regional communications sites to the regional commercial television entities. We are a major investor in digital television equipment and infrastructure, and we have rolled out digital television services for the ABC that now reach in excess of 95 per cent of the population. We have rolled out about 110 digital transmitters for the SBS, reaching in excess of 90 per cent of the population.

Our core goal in participating in these policy reviews and in this committee hearing is to create the environment that provides the greatest likelihood of a vibrant, viable, free-to-air digital terrestrial suite of services. Broadcast Australia has invested in new technology trials and pilots. We currently have a datacasting trial running in the Sydney market, we have established a digital radio trial in Melbourne and in July we expect to establish a mobile television trial in Sydney. We are a very strong supporter of digital television and the technology benefits it brings that should lead to significant and compelling services for consumers. We believe the inquiry is timely; it is important for consideration to be given to measures that will now enhance the take-up of digital television in Australia.

Our view of the key issues is as follows. First and foremost, we believe that choice is the key driver for the consumer to purchase a digital TV or a digital set-top box. Therefore, an increased range of innovative digital services—*analog plus, if you like*—is something that would be viewed as attractive by consumers and provide a reason to go out and spend additional money on a set-top box. We believe the best opportunity to provide an increased range of services is through the utilisation of the two planned but currently unused digital channels. Based on our understanding of global developments, we believe that high definition is certainly a key point of

differentiation for the digital platform and we would definitely support retaining the HD quota, at least for the medium term, until global production arrangements are clarified. We would support the relaxation of the multichannelling requirements. We support that per se, but in particular we support that for the national broadcasters. And we support increased flexibility for broadcasters in meeting the HD requirements. We believe it is important for a consistent and coordinated program of enhanced and ongoing consumer education. We think another key element of the DTV drivers needs to be tuner mandation. That means manufacturers are mandated to integrate the digital set-top box within the set. We believe that is an appropriate step to take over the medium to long term. We also believe that a large proportion of the public are still unaware that the digital platform will replace the analog platform.

Also important in the consideration is the establishment of a national testing and conformance centre. This will assist with providing assurance to consumers that the additional equipment they are purchasing will react in a known and consistent manner under particular technical conditions. We believe it is an appropriate opportunity to consider the technology developments, particularly around compression technology, where we are currently seeing significant improvements in those compression technologies, which will make the use of bandwidth for the delivery of digital services much more efficient. That is probably all I would like to say by way of opening remarks, but I would be very happy to take questions.

**Mr GARRETT**—I am interested in how fast you think we should move towards the mandation question and whether there are contradictory views about what the standard of the appropriate technology ought to be in the long term?

**Mr Barclay**—If we could deal with the mandation issue first, as I understand the submissions there is relatively broad support for mandation of DTV tuners within television sets. I think you would have to look at a progressive introduction, probably starting with the larger sets. You would need to give a minimum of two but possibly three years before that could commence. You would then progressively introduce it to smaller sets over the succeeding two- or three-year period. In terms of the standard—if you are asking about the compression technology—there are clear benefits from using a compression technology that maximises the number of services that you can get into any spectrum block. The difficulty that arises is that a population of receivers has been sold.

**Mr GARRETT**—Already.

**Mr Barclay**—Yes. So they are out there. If we are going to deal with that issue, it is better to deal with that earlier rather than later. So there is a population of MPEG-2, which is a compression technology, receivers that have been sold. If you move to MPEG-4, what is the cost to the consumer associated with that upgrade? Given that the MPEG-2 receivers are now \$200 or less—I actually saw one at the weekend advertised at less than \$100—it is not all that significant a cost impost on the consumer. If there were a transition plan whereby the MPEG-2 standard definition signal was carried in addition to any MPEG-4 signals for a period of time, it would enable a reasonably smooth transition.

**Ms OWENS**—Going back right to beginning when you said the inquiry is timely—and probably the inquiry is timely, which is why we are having it—I would really like to hear your explanation of why you think that is the case.

**Mr Barclay**—I believe it is timely because we are in the midst of a series of policy reviews that the government has released, and there are still two or three of those reviews to be conducted. Any opportunity to further explore the policy issues that have come out of the issues papers that have been released has to be positive. The other element of it is that we are now some four years into the establishment of digital TV. It started in January 2001. It is probably appropriate to take stock of the policy settings for successful conversion from analog to digital from this point—whether we actually have appropriate policy settings to maximise the benefits of the technology.

**Ms OWENS**—From what you have said so far, you believe—I hope I am getting you right—that there is some work to be done on consumer protection, what they are actually buying relative to what is happening in the rest of the world. Is that accurate?

**Mr Barclay**—Yes. One of the tremendous benefits associated with digital technology is the ability to have interactive services. We are not yet at the point where we have interactive services established. So there are a number of issues around that in terms of getting an appropriate standard, that has broad industry support, for the introduction of interactive services. We are very keen to ensure that the set-top boxes that are manufactured and consumers purchase will react in the same manner to those interactive applications.

**Ms OWENS**—Are the rest of the world still diverging in the directions they are taking? I ask that question, I guess, with a follow-on question relating to content, Australian creativity and making sure that our creators will be competitive in the world environment in, maybe, 10 years time. Is the rest of the world starting to settle in its directions, and are we keeping pace?

**Mr Barclay**—There are probably a number of ways to answer that. In terms of the content format, I would say that the global trend is increasingly towards high definition. There is an increasing volume of content being produced that is high definition content. I would not position it as any more than a trend. I am not contending further conclusions around that. In terms of what other markets are seeking to offer in the conversion from analog to digital, that is something more than the consumer is currently getting in analog. So, if you take the UK as an example, the digital terrestrial suite of services offers about six times more choice than viewers currently get in the analog domain. I think most commentators would agree that the success of the free-view platform in the UK is very much driven around the additional choice that consumers are being offered for no additional cost.

**Mrs BRONWYN BISHOP**—The television in the UK is terrible.

**CHAIR**—And in Australia it is not?

**Mr Barclay**—I am not going to make a judgment.

**Ms OWENS**—The government here has introduced some rules that limit content et cetera. Is the perceived lack of choice mainly about that or are there factors in the market at the moment which are limiting the availability of choice?

**Mr Barclay**—The way the digital proposition has been developed is that there is an analog and digital simulcast of exactly the same content. So, whether you like Australian produced

drama or something else, you currently have the choice of watching it in either analog or digital—you have not got the choice of watching anything else. I think that is the key point.

**Ms OWENS**—And that is largely because of the regulated environment.

**Mr Barclay**—Yes. That is exactly the issue. There is currently a prohibition, other than certain national broadcast channels that can be run, on multichannels being operated by the commercial broadcasters. There is an absolute prohibition on new services.

**Mr TICEHURST**—With the integration of computers into the TV area, particularly if you look at Microsoft Media Center, you are now finding that PCs can have TV tuners in them—although I understand that the Media Center is not digital at this stage—and you can buy add-on equivalents, say, to a set-top box that will plug into a TV. If you are going to mandate that digital TVs have a tuner built in, then in some cases you are not going to be able to achieve that integration. In fact, recently I bought a DLP screen, essentially—there is no tuner in it. It is designed to have a set-top box with it. It essentially is like a large VDU, as it were. If you are going to start mandating tuners into these sets, if the technology changes—you also mentioned MPEG-2 and MPEG-4—then will that not create some complications?

**Mr Barclay**—I think the first point we are trying to make is that we have to educate the consumers that a new analog television bought today is not necessarily going to be capable of receiving analog TV signals forever—there is a question mark over when the end of the simulcast period is. The second point is that we are not suggesting there would not be stand-alone set-top box units also available for sale. We are simply saying that it looks as though it makes sense, at least for the large screen televisions, to integrate the tuner within the set because it is a huge investment for people to be making in these widescreen sets if they are analog only with the prospect of those signals being shut down within years.

**Mr TICEHURST**—With the set-top box you have the flexibility. When you start talking about multichannelling and some of these other new features in the area of choice then it is probably easier to build those functions into a set-top box than into just a TV itself.

**Mr Barclay**—The set-top box would be integrated within the television itself.

**Mr TICEHURST**—But what I am saying is that if you buy TV today and then in four or five years time when we have many more features and functions available—

**Mr Barclay**—Is it swappable?

**Mr TICEHURST**—you change the set-top box for \$300 or \$400, whereas to replace a large screen TV costs thousands of dollars.

**Mr Barclay**—Yes.

**Mr TICEHURST**—I am concerned with mandating. If you start talking about choice in programs, you also need to have the flexibility in your buying decision. So, if you have a mandate that you have to have a tuner in the TV, it seems to work against the idea of choice.

**Mr Barclay**—I think you are making a good point. I think one of the keys to the timing of the introduction of the mandation is that we need to have established—

**Mr TICEHURST**—You will have to excuse us; a division has been called in the House.

**Proceedings suspended from 9.32 am to 9.44 am**

**Mr Barclay**—We were talking about mandation of DTV tuners. I think the key issue is that we need to make a decision in relation to compression technology—MPEG-2, MPEG-4 or some other compression technology.

**Mrs BRONWYN BISHOP**—Could you explain what that is?

**Mr Barclay**—In non-technical terms, it is the encoding of signals in a manner that is much more efficient and which therefore uses much less bandwidth.

**Mrs BRONWYN BISHOP**—I understand what compression is but what is MPEG-2 and MPEG-4?

**Mr Barclay**—It is variants of a standard. MPEG stands for ‘Motion Picture Engineering Group’ or something like that, and those are particular variants of standards that that group has developed in relation to compression.

**Mr TICEHURST**—So as time goes on you might have another—MPEG-6 might come in, which would be a high level of compression?

**Mr Barclay**—You would expect compression technology to continuously improve.

**CHAIR**—That brings me to the question I was going to ask about standard definition and high definition. We have given the channels seven megahertz each, which allows them to put between 19 and 23—

**Mr Barclay**—Megabits.

**CHAIR**—So to get one Australian HD channel out there, our current broadcasters are using between 14 and 19 megabits for one HD channel?

**Mr Barclay**—I think the current seven megahertz block of spectrum does give between 19 and 23 megabits.

**CHAIR**—We must suspend now for a division in the House.

**Proceedings suspended from 9.46 am to 10.40 am**

**CHAIR**—In terms of compression technology and going from the MPEG-2 to MPEG-4, how many megabits would you need to then broadcast SD?

**Mr Barclay**—In terms of the previous discussion on the difference between MPEG-2 and MPEG-4, I would like to refer the committee to section 4.4 of the report that we submitted. There is a table on page 16 in section 4.4.

**CHAIR**—Mine is really grey and I cannot read it.

**Mr Barclay**—I will try to explain it. Under MPEG-2 compression technology—which, on the ‘Multi-channel/HD’ graph, is represented by the middle bar entitled ‘Digital TV current (All MPEG-2)’—you need between eight and 14 megabits of bandwidth for high definition.

**CHAIR**—So under the current MPEG-2 the HD that we are running at the moment is running at nine to 14 megabits?

**Mr Barclay**—Yes, it would be running at eight to 14 megabits.

**CHAIR**—So data runs at about one to 1½ megabits?

**Mr Barclay**—Yes.

**CHAIR**—And SD is between three and five?

**Mr Barclay**—Yes. The benefits of MPEG-4 over MPEG-2 are that you get twice as many services on the same bandwidth.

**CHAIR**—So you could have two HD channels on MPEG-4?

**Mr Barclay**—Yes, you could have two HD channels.

**CHAIR**—Would you still need eight to 14 megabits?

**Mr Barclay**—No, you would only need half of that. You would need between four and seven megabits because of the compression.

**CHAIR**—At the bottom of the graph it lists SD under MPEG-2. Am I reading that right?

**Mr Barclay**—Yes.

**CHAIR**—So you would need three to five megabits for MPEG-2 and half of that for MPEG-4. So you would need 1½ to just over two megabits. So for data you would need almost nothing?

**Mr Barclay**—You get the same improvement for data so you only need half the bandwidth. Diagrammatically it should be half of what it was before for that same service.

**CHAIR**—So basically you could run data for each of your channels as well?

**Mr Barclay**—Yes.

**CHAIR**—So you could actually run your current programming in high definition?

**Mr Barclay**—In MPEG-4 you could run one high definition and several standard definition signals.

**CHAIR**—We went high definition for what were, probably, reasons to do with locking up spectrum. It was the correct decision to go high definition—it was not just to lock up spectrum. So rather than being cynical, let us say that in terms of high definition people will buy digital for good quality pictures.

**Mr Barclay**—I suspect that the decision was right. Perhaps the right reasons were not necessarily known at the time. With the way that DVD sales have gone and the acceptance of DVD in terms of its quality, which has become the de facto standard for what the consumer expects, high definition content for sport and movies is becoming what people expect. There are strong arguments to continue to retain the high definition quota.

**CHAIR**—And improve the quota or maintain the quota, do you think?

**Mr Barclay**—I think maintain it.

**CHAIR**—You do not think we should be moving to broadcast entirely on one channel?

**Mr Barclay**—All of these issues are interrelated. I think high definition has a part to play in being a driver for the take-up of digital TV, but I also fundamentally believe that choice is one of the key drivers. If you stay with MPEG-2 and mandated HDTV, there is no space within the current spectrum to run multichannelling unless you release the two additional channels that are currently unused. Our position on this is that high definition for particular genres of content and particular sports and movies is appropriate, but we would not be seeking to dictate particular technical formats on the broadcasters other than to say that the minimum of 20 hours per week should be retained.

**CHAIR**—It is not much, is it?

**Mr Barclay**—It is not much. And, hopefully over time as more content is produced in high definition format, those quotas will be exceeded.

**CHAIR**—That equates to five prime-time movies, doesn't it? That is hardly a lot.

**Mr Barclay**—Yes.

**CHAIR**—Why do you make the assumption that, with the move to MPEG-4, the seven megahertz stays with the incumbents? They could still be broadcasting exactly what they were broadcasting in digital, and then some spectrum is returned to government.

**Mr Barclay**—The way that the licence operates is that, technically, you could allocate bandwidth within the spectrum for particular purposes. If you enabled third party content to have access to that spectrum then that is possible. You would not necessarily require that all of the bandwidth be used by the current incumbent.

**CHAIR**—If you went to MPEG-4, you could have current programming going out on high definition at four to seven megabits—

**Mr Barclay**—Yes.

**CHAIR**—and the rest of that spectrum could come back to government.

**Mr Barclay**—There are a couple of other things you have to bear in mind. One is that, currently, there is a triplecast where there is a standard definition and a high definition being provided—

**CHAIR**—I am talking long term—

**Mr Barclay**—But if there were only a high definition service—

**CHAIR**—If analog were switched off—

**Mr Barclay**—There are standard definition and high definition boxes in the market in MPEG-2. If we move to MPEG-4 then there has to be some transition plan to ensure that those boxes continue to receive an MPEG-2 signal—a signal able to be decoded by the MPEG-2 boxes. But to the general proposition of, ‘Is there surplus bandwidth created by moving to MPEG-4, and what should it be used for?’, the answer to that is yes.

**CHAIR**—So, conceivably, government could formulate a plan where it moved forward and looked at MPEG-4 as the standard with one standard definition channel and one high definition channel for incumbents, and a return of spectrum to government.

**Mr Barclay**—That is possible. It depends on your view of multichannelling—whether the balance of the spectrum should be allocated to either incumbents or third party users for the delivery of new services.

**CHAIR**—Like radio—

**Mr Barclay**—New video services, new data services or information based services.

**CHAIR**—How would you see subscription TV responding to that? That is essentially what they do. Are you putting them out of business?

**Mr Barclay**—I am not sure that we are saying that. We are saying that, if you accept the proposition that accelerated take-up of digital television is a good thing and that choice of content is one of the key drivers to accelerate that take-up, the question is: ‘How do you achieve that, given the balance of interests that exist in the media environment in this country?’

In the absence of a positive policy decision to enable multichannelling to take place or further commercial free-to-air licences to be issued, we are left with the proposition that datacasting services have a role to play in driving take-up. As I mentioned in my opening remarks, we have invested in a datacasting trial in Sydney. Our current view is that there are some viable services—that it is a viable proposition. Currently we are running six video channels and seven

audio channels within one seven-megahertz block of spectrum. We would be delighted to host the committee at some future date in Sydney to demonstrate what we are doing with our datacasting services.

**CHAIR**—Is that going to SBS or ABC?

**Mr Barclay**—It is being distributed generally. We are actually the holder of the trial licence. One of the content providers—

**CHAIR**—So that is within your trial licence?

**Mr Barclay**—Yes.

**CHAIR**—What radio stations, what audio, are you—

**Mr Barclay**—It is the parliamentary news services.

**CHAIR**—That is a winner!

**Mr Barclay**—It may be. It is not ratings driven.

**CHAIR**—The acting is free!

**Mr HAYES**—There is plenty of acting!

**CHAIR**—Your main customer base, obviously, is government—SBS and ABC—

**Mr Barclay**—It is the national broadcasters for our core business.

**CHAIR**—and, if you look around the world, the BBC in particular have been given a lot more latitude and multichannelling, and the government has gone out there and stimulated local content providers, television production and that sort of stuff, off the back of giving some air time to niche markets and niche interests. Do you think there is a different case to be made for the commercial broadcasters, which rely on advertising revenue, versus the government ones? Should there be a difference for the government broadcasters, which are not relying on advertising revenue?

**Mr Barclay**—Without buying into the debate over appropriate funding for content purposes—because that is certainly not my place—we do believe that the national broadcaster has a role to play in delivering diversity of content. With the way the current restrictions operate in relation to multichannelling, there are restrictions on the national broadcasters that we believe should be reviewed.

**CHAIR**—As a basis of saying: yes, by the ABC running multichannelling on, say, a kids channel, a cooking show or niche news—

**Mr Barclay**—International news or—

**CHAIR**—Yes, exactly: news. That would also drive digital take-up. Would it be sufficient stimulus to drive digital take-up without giving the same rights to the commercial broadcasters?

**Mr Barclay**—That is a difficult question to answer. It would certainly assist. I think any content in addition to what is currently being delivered in analog is going to assist take-up. There has to be some proposition, such that you are saying to the consumer: ‘You get something extra if you go and buy a set-top box or a digital set.’ So, if national broadcasters were permitted to multichannel, leaving aside how they fund that, then that has got to be of assistance. Will it drive take-up fast enough to get to the point where the analog services can be switched off within a reasonable time frame? I must say that I do not have an answer to that.

**CHAIR**—Coming back to tuner mandation, that is the other way of driving take-up. You basically say: ‘That’s it. No analog sets to be sold. It’s just a total rip-off. As a seller, you know absolutely that this thing will be redundant in 2008 or shortly thereafter. Therefore you need to be informing any purchaser that the set you are selling them is good for three years and that therefore they must purchase the set-top box or have a look at these other TVs.’ Do you think that should happen sooner, as a major driver? You mentioned starting with the bigger TVs. I am just trying to get something more specific. Would you start with, say, the plasmas; LCDs; anything over, say, 36 inches; wide-screen TVs—a list of your high-end TVs—and then go by a price or a size and say, ‘Right, anything in that bracket, as of tomorrow, must come with a standard-definition, \$100 set-top box’?

**Mr Barclay**—There is a combination of things that should be implemented together and that is potentially one of them. I think I mentioned a consumer education program so that what is happening with the migration from analog to digital is much better understood by the public.

**CHAIR**—So who drives that? Does the ABC go out and drive that in its community broadcasting, do the commercial stations use their community broadcasts to do that or does government pay for advertising in newspapers to do that?

**Mr Barclay**—I think it is a combination of all those factors. There needs to be a much more broadly based education program than simply advertising within or on the existing analog television services.

**CHAIR**—What style and size of government campaign would be required—something like our antismoking campaign or the GST campaign?

**Mr Barclay**—I have not given an awful lot of thought to that, but I would be happy to come back to the committee and provide some further input on that. On the progressive mandating for tuners, there is an example in the US where the FCC has mandated the integration of tuners into TV sets, starting with the larger sets and progressively moving down, using screen size as the defining factor as opposed to the dollar value or whether it is plasma or LCD.

**CHAIR**—Over a three-year period as well?

**Mr Barclay**—Over a three-year period.

**CHAIR**—That is something you could have done, so that by 2008 every single set in Australia is at least SD capable. That is a very cheap option for the consumer: for \$100 you have TV reception. Then you leave it to the consumer market to see if they want to go to HD or not. That means you are still stuck with dual broadcasting, and people have complained about the expense of dual broadcasting. What is the cost difference between the broadcasting of analog and SD and the broadcasting of SD and HD? The cost of broadcasting is not going to come down?

**Mr Barclay**—I can only talk knowledgeably about the component of the service we provide, which is transmission from the hilltop site to the reception device in the home. The requirements for a standalone transmitter to broadcast analog signals are exactly the same as for a standalone transmitter to broadcast digital signals, which means, for a broadcaster—

**CHAIR**—Would you need two transmitters for the two digital signals or could you transmit them from one transmitter?

**Mr Barclay**—You need one digital transmitter which carries the high definition and standard definition signals within the transport stream that it delivers. Separately, you have an analog transmitter delivering the analog TV signal.

**CHAIR**—So, with the analog switch-off, the savings that a lot of the broadcasters are expecting will be there—especially for the rural broadcasters who have 200 transmitters—but they will not be hit with the double whammy of having to stick up some more—

**Mr Barclay**—No. The savings are there because the analog television transmitter is no longer required—you are no longer required to operate that.

**CHAIR**—And you can do it on the existing digital transmissions?

**Mr Barclay**—The existing digital transmitter can carry all of the programs we referred to previously on HD or SD.

**CHAIR**—I am referring to the article titled ‘Windfall for Macquarie in digital delay’. Did you see that article?

**Mr Barclay**—I have seen a number of articles.

**CHAIR**—It says:

Macquarie Bank’s TV transmission tower business is set to score a windfall from federal government moves to extend the simulcast of analogue and digital free-TV signals.

We do not want too much of a windfall for Macquarie! So it is not likely that you would have a similar situation if you had the two digital broadcasts in future?

**Mr Barclay**—No, they are all within the same bandwidth. Effectively, the digital transmitter is the pipe, and there is no additional cost for whatever you put down that pipe.

**Mr HAYES**—The cost is really in the production, isn't it?

**Mr Barclay**—There is cost back up the delivery chain—in the studio—and in getting the content from the studio out to the transmission sites. There will also be savings in moving from a simulcast analog and digital regime to a digital regime. There are savings right across the board for broadcasters.

**CHAIR**—I think that is one of the pushes—to turn off as soon as possible.

**Mr Barclay**—Yes.

**CHAIR**—For \$100 a set, at least you have SD. Then it becomes a marketplace where consumers buy the add-ons for whatever they want—hand-held phones, Palm, iPod or whatever. It is then up to the consumer to drive the market from there. How risky do you see it for government to mandate MPEG-2 and MPEG-4, saying that you must sell a tuner capable of receiving a standard?

**Mr Barclay**—I think the benefits would outweigh the risks. It provides certainty to manufacturers, broadcasters and consumers. Decisions are being made and there are some significant capital investments being made right across the board. If we all knew that it was going to be an MPEG-2 standard or some other compression technology that we were locking into for the next 10 or 15 years then people would be a lot more confident in making investment.

**CHAIR**—In summary then: you are really strong on driving further digital take-up; you would like to see at least the national broadcasters multichannelling and offering more content; you would like to see a campaign by either the commercials, national broadcasters or a government-funded campaign to raise consumer awareness; and you would like tuners mandated to the SD standard at least over a three-year period, starting from large screens, plasmas and LCDs coming down.

**Mr Barclay**—Yes. All of that is right, but I think the key issue is: how do we drive take-up?

**CHAIR**—Those are three ways of driving take-up.

**Mr Barclay**—I think choice is—

**CHAIR**—You would also put multichannelling for the commercials in there?

**Mr Barclay**—We would like to see the multichannelling prohibitions relaxed.

**CHAIR**—So multichannelling on commercials.

**Mr Barclay**—We would also like to see the two digital channels, which are currently mothballed and not being used for anything, released permanently to deliver additional services.

**CHAIR**—In HD or SD?

**Mr Barclay**—I think the starting point is: what would they be used for? Would they be used just for additional television channels, datacasting or the delivery of video services to handheld devices—that is, mobile TV? We would like to see those channels released permanently because we think they can assist with the drive of take-up.

**CHAIR**—So you would like those channels released for something else. I was looking at that and thinking: you can have 35 to 40 channels of free-to-air TV and the content is going to be pretty ordinary. I think we struggle at the moment to fill three quality channels.

**Mr Barclay**—But I think the market will decide that. If the content is not of good quality then nobody will watch it and it will not be sustainable.

**CHAIR**—But then how do you get that spectrum back to improve the quality and start driving take-up? That is the problem, isn't it?

**Mr Barclay**—I think the licensing of the spectrum would be done on a periodic basis, either five or 10 years, with the presumption of automatic renewal on achievement of certain milestones. In the absence of those achievements, the spectrum would be clawed back and retained by government.

**CHAIR**—Why do you need to release the two extra channels for video, audio and datacasting? Why can that not be done within your existing spectrum over time, and especially with a very limited use of 20 hours a week of HD and only one SD station?

**Mr Barclay**—It could be done within the existing bandwidth but there are a number of constraints. One is that currently no multichannelling is allowed. So what would you use that bandwidth for? The other constraint is the presumption that the encoding technology is MPEG-2, and therefore you have less bandwidth than you would otherwise have—it is less efficient. The third point is that we think there is a demand for the delivery of new content over the terrestrial platform, and we think we are proving that by running our datacasting trial.

**CHAIR**—Thank you very much, Graeme.

Resolved (on motion by **Mr Hayes**, seconded by **Mr Laming**):

That this committee authorises publication of the evidence given before it at public hearing this day.

**Committee adjourned at 11.05 am**