
# "DRIVING DIGITAL"

# A REVIEW OF THE DURATION OF THE ANALOGUE/DIGITAL TELEVISION SIMULCAST PERIOD

## ISSUES PAPER

September 2005

# Table of contents

# INTRODUCTION

The *Broadcasting Services Act 1992* (BSA) requires a series of reviews on matters relating to digital television broadcasting to be conducted in 2004 and 2005. Four reviews were undertaken in 2004, and a fifth in the first half of 2005 (see Attachment A for details). The issues papers and submissions to the reviews conducted so far can be found on the website of the Department of Communications, Information Technology and the Arts (*www.dcita.gov.au*). The legislation also requires the Minister for Communications, Information Technology and the Arts to table reports of the reviews in Parliament. These reports will be developed following the Australian Government's consideration of the issues raised in the reviews.

This paper relates to the last of the required digital television reviews, and concerns the duration of the analogue/digital simulcast period.

### Legislative basis for this review

The BSA (sub-clause 60B(1) of Schedule 4) requires that before 1 January 2006 the Minister must cause to be conducted a review of the content of any regulations made for the purposes of paragraph 6(3)(c) of this Schedule (which deals with the duration of the simulcast period).

Although this review specifically refers to the simulcast period as it relates to commercial television broadcasting licensees, views of stakeholders are being sought on the duration of the simulcast period as it applies to both commercial television broadcasting licensees and national broadcasters. (The simulcast period referred to in paragraph 6(3)(c) of Schedule 4 to the BSA applies to national broadcasters under paragraph 19(3)(c) of Schedule 4 to the BSA.)

## Scope and purpose of the review

Digitisation of television services has been underway in Australia since 2000 and is progressing in many countries around the world. Given the investments already made by both industry and viewers, the inevitable digitisation of international markets on which Australia relies for television content and equipment, and considering the overall benefits of digitisation to viewers, broadcasters and others, this conversion is irrevocable. The key issues facing Australia are how to drive the process forward so that all viewers get the benefits of digital TV and analogue signals can be switched off within a reasonable time frame.

This review will examine not only the timetable for switch-off, but the agenda which needs to be adopted by industry, the Australian Government, and others to drive the process to its conclusion. This will require a co-ordinated planning and implementation effort by all parties.

While aspects of this process such as timing and methods for overcoming barriers to digitisation are open for review, the need to achieve switchover is not. The review aims to identify what needs to be done and what mechanisms need to be put in place to achieve switchover.

This review will address the following broad issues:

- The timetable for switch-off, including:
  - Whether the timetable for analogue switch-off currently specified in legislation should be changed and if so, in what way.
  - If the current simulcast period is to be extended, whether the switch-off should be market-driven and flexible or whether a clear switch-off timetable should be set now.
  - What the parameters of any new arrangement would be (e.g. switch-off after a certain date, or when take-up reaches a certain percentage, etc.).
- Measures to enhance the transition to digital, including:
  - What additional measures are needed to speed the transition to digital such as measures to stimulate consumer take-up and to encourage broadcasters to vacate analogue spectrum.
  - What additional measures are needed to address technical, standards or other issues which might complicate the transition to digital for viewers.
- Preparing for and managing switchover, including how these measures can be brought together into a Digital Action Plan.
- The conversion to digital of services such as community television, self-help retransmission and narrowcasting.

## Policy objectives of the current digital conversion and simulcast process

The BSA sets out, in clauses 6 and 19 of Schedule 4, a series of policy objectives which govern the conversion schemes under which commercial television broadcasters and national broadcasters were to convert their services from analogue to digital mode.

Free-to-air broadcasters were, from the commencement of digital services, required to continue to transmit their analogue service, and simultaneously to transmit essentially the same programs in a digital standard definition television (SDTV) version of their service for a period known as the simulcast period. Broadcasters are also required, from particular dates, to provide a specified amount of high definition television (HDTV) programming which is also to be a simulcast of the SDTV/analogue program stream.

The simulcast period is to run for eight years or for such longer period as is prescribed. It began on 1 January 2001 in metropolitan areas and, for regional areas, on the commencement dates determined for each licence or coverage area.

These simulcast arrangements are intended to provide a transition phase in order to minimise disruption to viewers during the conversion of free to air television services from analogue to digital. They provide a period during which digital receiver equipment can mature and become widely available. They also give consumers time to learn about and adopt digital television technology at a time of their choosing. A requirement that SDTV be provided at all times, together with the HD quota obligations, provides more choice and different cost options for consumers converting to digital.

The simulcast provisions are intended to ensure that digital services would replicate the analogue service as well as potentially providing new services. An underlying assumption of this approach is that consumers should not be disadvantaged by having something less than the service they currently receive delivered to them when they convert to digital. Simulcast could thus serve to facilitate the analogue to digital conversion by reassuring viewers that they would still be able to access their favourite programs along with the benefits of digital transmission including, potentially, new services. It also ensures that those who choose not to move to digital early in the simulcast period will continue to enjoy high quality programming on the analogue service.

The digital conversion framework provides that, as soon as practicable after the start of the simulcast period for a licence area, and at the latest by the end of the simulcast period, the transmission of each SDTV service in each area 'should achieve the same level of coverage and potential reception quality' as is achieved by the analogue transmission of that service in that area.

At the end of the simulcast period (which under current provisions will vary from area to area depending on when digital services commenced), analogue transmissions must cease.

## Current progress in digital review process

A number of the digital television reviews conducted to date have examined issues such as the prohibition on multichannelling, which some submitters have suggested affect consumer interest in digital TV, and the timing of analogue switch-off. The Australian Government is currently considering its response to these earlier reviews. This review will not re-examine issues raised in previous reviews.

## House of Representatives Committee Inquiry

This review is being conducted at the same time as the House of Representatives Standing Committee on Communications, Information Technology and the Arts is conducting an inquiry into the take-up of digital TV in Australia. A number of matters raised in this issues paper have also been raised in the course of the inquiry. The Committee has indicated it is likely to report in early 2006. As such, the Government will be in a position to consider matters raised in this review along with that inquiry's recommendations.

## Issues

### 1. Timetable for switch-off

*Modification of current timetable*

Factors which could influence the need to modify the current timetable for the switch-off of analogue television include:

- progress in providing digital services, digital receiver equipment costs and availability and consumer up-take of digital services
- alternative potential uses of and demand for the spectrum currently used because of the simulcast obligations
- other factors, such as costs incurred to maintain two transmission systems.

*Digital television progress to date*

In Sydney, Melbourne, Adelaide, Perth and Brisbane broadcasters began their digital services on 1 January 2001. In regional areas digital services have commenced in all licence areas, having been required to start between 1 January 2001 and 1 January 2004 (actual dates for each licence area were determined by then Australian Broadcasting Authority—now known as the Australian Communications and Media Authority). Arrangements for remote areas are still being developed.

Approximately 85 per cent of the Australian population has access to digital terrestrial services provided by all broadcasters in their licence area. An estimated 95 per cent of the population has access to at least one digital service.

| State/Territory | All local broadcasters transmitting digital TV | Some local broadcasters transmitting digital TV |
|---|---|---|
| NSW/ACT | Sydney, Canberra, Newcastle, Wollongong, Central Coast, Griffith, Bowral/Mittagong, Orange & Central Tablelands, Wagga Wagga, Broken Hill, Lismore/Richmond/Tweed | Bathurst, Dubbo/Central Western Slopes, Grafton/Kempsey, Bateman's Bay, Coffs Harbour, Port Macquarie/Taree/Forster, Murwillumbah, Upper Namoi, Ulladulla, Narooma, Nowra North, Cooma, Lithgow, South West Slopes, Tamworth, Armidale |
| Victoria | Melbourne, Hamilton/Western Victoria, Mildura/Sunraysia, Latrobe Valley, Ballarat, Shepparton/Goulburn Valley | Bendigo, Murray Valley |
| Queensland | Brisbane, Gold Coast, Sunshine Coast (Gympie, Nambour, Noosa), Rockhampton, Townsville, Cairns, Wide Bay, Toowoomba, Darling Downs | Southern Downs, Mackay, Gladstone, Boyne Island, Blackwater, Charters Towers |
| South Australia | Adelaide, Mt Gambier/Sth East, Renmark/Riverland, Spencer Gulf North | |
| Western Australia | Perth | Albany, Bunbury, Broome, Carnarvon, Central Agricultural, Geraldton, Kalgoorlie, Southern Agricultural, Port Hedland. Narrogin, Wagin, Esperance, Karratha, Manjimup |
| Tasmania | Hobart, Launceston, NE Tasmania | |
| Northern Territory | Darwin | Katherine |

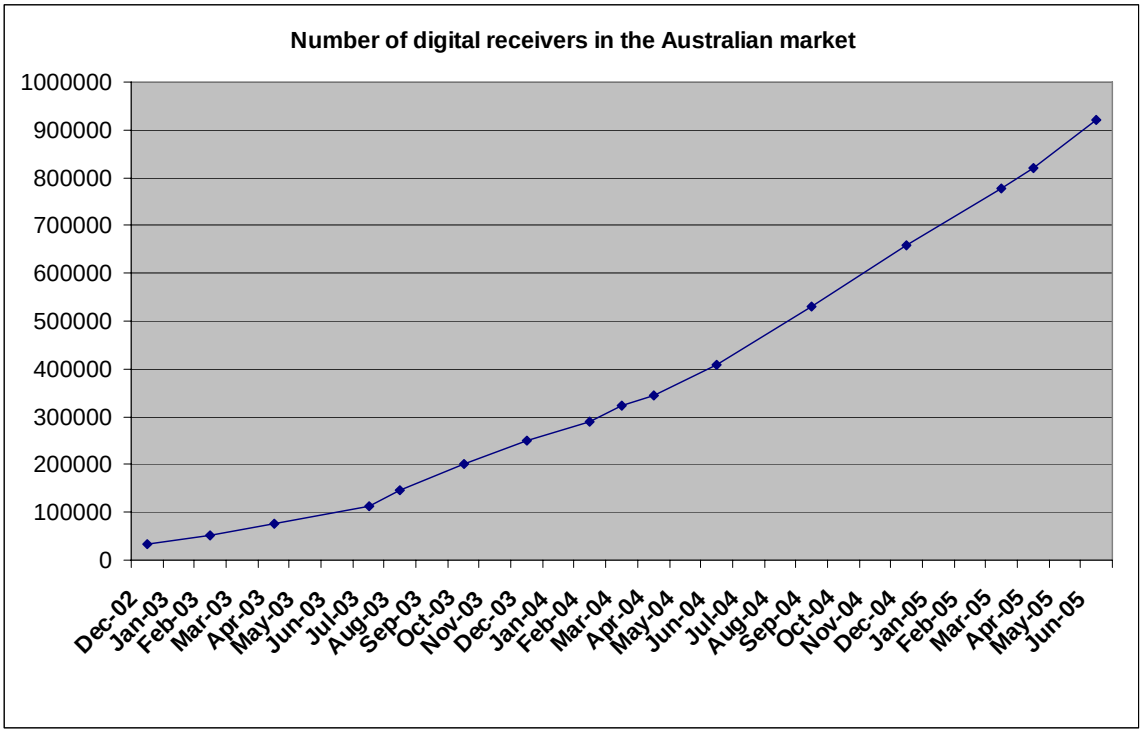
Source: Digital Broadcasting Australia *Information Bulletin* August – September 2005.

According to industry information, around 920 000 free-to-air digital set-top boxes (STBs) and integrated digital televisions had been sold in Australia to the end of June 2005. Basic STBs are now available for less than $100. Boxes with HDTV tuners, interactive applications, DVD players or recording and file storage functions are more expensive.

According to Digital Broadcasting Australia (DBA) figures, over a quarter of the receivers supplied to retailers and installers in the June 2005 quarter were high definition.[1] Around 7–8 per cent of households in regional areas are estimated to have taken up free-to-air digital TV.[2] However, in Tasmania, where a digital-only commercial service has been operating in Hobart since January 2004 and Launceston since August 2004, digital take-up rates are estimated at 26.4 per cent and 11.1 per cent respectively.[3]

[1] DBA *Information Bulletin* Aug – Sept 2005.
[2] Prime Television Ltd submission to Review of HDTV Quota Arrangements. p2
[3] Prime Television Ltd submission to Review of HDTV Quota Arrangements. p2

The graph below shows how free-to-air digital take-up has grown over time.




**Source: Digital Broadcasting Australia**

These figures reflect the digital receivers sold to DBA-member retailers and installers, rather than retail purchases by customers. As such they include receivers in stock and not yet sold to consumers. However, they do not include sales of digital tuner cards for personal computers, and (comparatively modest) sales through outlets which are not DBA members.

Converting these figures to provide an estimate of actual household take up of digital free to air television further requires that they be adjusted for a number of other factors, for example:

- purchases of digital receivers for second or additional analogue sets in homes;
- receivers which were purchased but are not currently being used; and
- receivers which were returned to retailers and manufacturers.

DBA estimated in May that, taking into account these limitations on the interpretation of the data, around 12 per cent of households in areas where all digital services are available own digital receivers while household take-up across all television households is around 10 per cent.[4]

[4] DBA submission to House of Representatives Standing Committee on Communications, Information Technology and the Arts inquiry into the take-up of digital TV in Australia, *www.aph.gov.au/house/committee/cita/digitaltv/subs/sub34.pdf*

*Cost and equipment pressures on switch-off*

Continuing a dual transmission system for simulcasting, involving both digital and analogue transmission infrastructure, is expensive. For example, analogue transmission costs for the ABC and SBS are currently more than $50 million per year. The costs of maintaining analogue infrastructure will fall disproportionately on regional broadcasters, who have much larger transmission networks (and lower revenue bases) than their metropolitan counterparts. The current cost to the Australian Government of supporting regional broadcasters through the Regional Equalisation Plan is about $25 million per year. Over time, maintenance of an analogue transmission network could become increasingly difficult and expensive for broadcasters as major transmitter and related suppliers stop making analogue equipment.

Furthermore, Australia is a small market for consumer electronics equipment, with a very low manufacturing base in audio-visual products, and is reliant on international manufacturers for products. As other, larger markets switch to digital, certain types of analogue consumer equipment may become increasingly expensive and difficult to source in Australia. In the United Kingdom, where switchover is scheduled to begin in 2008, Sony has already announced that all of its televisions over 26 inches (66 cm) will now be digital-only. These developments will inevitably impact on Australia's conversion to digital to some extent.

*Appropriate switch-off targets*

The Australian legislation currently sets a switch-off target date, which is able to be modified. No other criteria are set for switch-off. Other countries have indicated a target switch-off date but have also included other targets, such as take-up rates and signal coverage, which will guide whether switch-off should occur. Similar measures could be adopted in Australia.

The United States has adopted a changeover approach which includes switch-off criteria (although several proposed bills, detailed further below, would move the United States away from this approach, in favour of a hard date for switch-off). Under the United States' current rules, every station in the country is to be on the air with a digital signal and is to cease transmitting on its analogue channel by January 2006. If fewer than 85 per cent of the homes are able to receive all local station broadcasts in digital (either retransmitted through a pay TV provider or a digital terrestrial tuner), broadcasters may receive extra time in a given market.

However, the US regulator, the Federal Communications Commission (FCC) argues that there are several difficulties with a criteria-based switchover (e.g. 85 per cent take-up) including:[5]

- it is without the benefits of a firm nationwide date which provides certainty for consumers, broadcasters, manufacturers, and retailers, as to when switchover will occur in any particular market
- it will be difficult to educate consumers and plan for the switchover (e.g. for retailers stocking digital converter equipment) when the switchover date is uncertain
- it will be difficult and costly to determine when criteria are met in each market. Take-up, in particular, is difficult to measure accurately
- once criteria are met in each market, it will be difficult to turn off analogue signals promptly as this would mean that consumers might receive little advance notice.

Several draft bills which aim to end analogue broadcasts are currently circulating in the United States.[6] The most advanced of these at the time of writing is the Digital Television Transition Act (Barton Bill) which is currently being considered by the US House of Representatives Energy and Commerce Committee. This bill would require analogue broadcasting to cease by 31 December 2008 and imposes obligations on broadcasters to educate viewers about the transition and manufacturers and retailers to place labels on analogue-only equipment indicating how it will be affected by switchover.

Another bill, the Spectrum Availability for Emergency-Response and Law-Enforcement to Improve Vital Emergency Services Bill (SAVE LIVES Bill) is aimed predominantly at setting a hard date for analogue switch-off in order to free up spectrum for the use of emergency services (although this is also one of the goals of the Barton Bill). The SAVE LIVES Bill also sets 31 December 2008 as the deadline for switchover and contains many provisions similar to the Barton Bill. The SAVE LIVES Bill provides a subsidy for non-pay TV households whose income is not more than 200 per cent above the United States poverty line. In addition to placing consumer education and labelling requirements on broadcasters, manufacturers and retailers, the bill requires the FCC to distribute a brochure on switchover to all consumers seeking to buy a television. The bill will also require the Environmental Protection Agency to conduct a study of the feasibility of establishing a nationwide program for electronic waste.

Although both of these bills are still in draft form, US commentators appear to think that that legislation along these lines will go before the US Congress before the end of 2005 and may well pass with bi-partisan support.

---

[5] Federal Communications Commission. 2005. *Media Bureau Staff Report Concerning Over-The-Air Broadcast Television Viewers, http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-257073A1.pdf*

[6] For information on the Barton Bill:
*http://energycommerce.house.gov/108/News/05232005_1535.htm*
*http://energycommerce.house.gov/108/Hearings/05262005hearing1533/hearing.htm*
For a copy of the SAVE LIVES Act:
*www.theorator.com/bills109/s1268.html*

The United Kingdom originally employed a combination of access and take-up targets – 99.4 per cent digital signal coverage and 95 per cent of consumers with access to digital equipment (widely interpreted as meaning 95 per cent *own* digital equipment). These targets are essentially, like those in the United States, market driven. However, the UK Government has recently announced a switchover timetable, moving away from the previous target approach to setting a specific timetable (2008-2012) for a staged approach to switch-off. [7]

The UK media regulator, Ofcom, has issued digital replacement licences to the main free to air commercial broadcasters in the United Kingdom which commit the broadcasters to analogue switch-off by the end of 2012. In addition, Ofcom has undertaken spectrum planning for switchover to take place between 2008 and 2012.[8] Ofcom has planned for switchover to take place on the basis of ITV licence regions rather than geographic regions for technical reasons.

*Regional variations in the switch-off timetable*

Currently the simulcast period in Australia ends eight years after the commencement of digital 'or for such longer period as is prescribed in relation to that area'. In effect, this means that switchover dates range from the end of 2008 for metropolitan licence areas, to the end of 2011 for the last regional areas. This would result in an area by area switch off process commencing with major state capital cities, and with regional areas being switched off in batches depending on the commencement date.

There may be scope to vary this so as to allow for a nationwide switch-off or to phase the switch-off in some other way. Regional broadcasters, in particular, may benefit from a shorter simulcast period as this would reduce the need for expensive upgrades of the ageing analogue infrastructure prevalent in many regional licence areas, and minimise the costs of maintaining two systems over large regional networks. In markets with only one or two commercial broadcasters, an early end of the simulcast period could allow programming streams to be organised according to source network.

However, if the simulcast period is extended for regional areas, consideration might need to be given to extending or changing the operation of the Regional Equalisation Plan (REP). The REP was originally intended to fund half of regional commercial broadcasters' costs relating to capital investment in and operation of digital services during the simulcast period. This is in recognition of the costs of simulcast requirements which fall disproportionately on regional commercial broadcasters.

Rather than shortening or extending the simulcast period for all regional licensees, there may be scope for allowing individual broadcasters to voluntarily cease analogue

[7] Press Notice 116/05, 15 September 2005. Tessa Jowell Confirms Digital Switchover Timetable and Support for the Most Vulnerable

[8] Ofcom. 2004. *Ofcom Spectrum Management Update: Technical planning for digital switchover around the UK, www.ofcom.org.uk/research/tv/reports/dsoind/smup*

transmission, if the costs of continuing an analogue system outweigh the potential loss of revenue from losing the remaining analogue audience or otherwise at the broadcasters' discretion. If this happens, it will be necessary to prepare consumers for a dual system of digital/simulcast networks, in which some broadcasters in an area are digital only, and others still have analogue services. Precedents for such a dual system exist in underserved markets, such as Tasmania, where a third commercial service already provides digital-only programming. In the United States, stations in certain spectrum bands are able to apply to the FCC for the early return of analogue spectrum.

One option for a nationwide switchover would be to extend all simulcast periods to the end of the eight-year period for the last regional areas, in effect the end of 2011. Consideration would then need to be given to when analogue signals in remote areas, some of which are still in the planning phase for digital services, would be switched off.

As indicated above, the United Kingdom has announced that it will switch-off analogue services region by region (with each region being the licence area of major commercial broadcaster, ITV, rather than geographic regions). It is considered that this limits the potential for consumer disruption and allows technical preparations to be undertaken in each area without the costs and risks of national switchover. A region by region approach is also argued to be less disruptive to regional advertising markets which in the UK are organised on the basis of ITV licence regions. In the United Kingdom, digital signal coverage is limited by potential interference with analogue services and some areas will not be able to receive digital terrestrial signals until analogue switch-off. For this reason, the order in which regions will be switched off is determined primarily by the need to manage interference. This is less of a consideration in Australia where digital coverage has been planned so as to approximate analogue coverage as closely as possible.

*Alternative uses of spectrum*

The switch-off of analogue television potentially releases a large amount of spectrum in the broadcasting services bands. A relevant issue concerns alternative uses for such spectrum, and whether these uses and anticipated demand are such that they should influence the timing and process for switch-off of analogue services. The scope for freeing up substantial parts of the UHF television spectrum has been a significant part of the debate in the United States and other countries regarding the digital television conversion process.

As there is currently little spectrum available for new broadcasting entrants or services, freeing up the spectrum currently used to simulcast commercial and national television broadcasts may create opportunities for allowing new digital television or digital or analogue radio services on this spectrum, or for new types of digital service.

VHF Band III spectrum is particularly useful for digital radio transmissions using the Eureka 147 standard, and there are currently trials in Sydney and Melbourne of digital radio services using channel 9A. Freeing spectrum in this band would allow consideration to be given to a wider range of digital radio services.

The potential for the provision of new types of services other than broadcasting in this spectrum is uncertain. For some time in Australia, there has been significant spectrum congestion above channel 69 (813-820 MHz) which is used for mobile communication services. This has led to requests to clear channel 69 of television services and reallocate it for alternative purposes such as broadband data delivery services or mobile services.[9] The United States is already considering using frequencies in broadcasting spectrum for low powered wireless broadband services. However, the worldwide use of the UHF and (to a lesser extent) VHF channels for television and radio broadcasting has limited the development of alternative technologies and services using these frequencies, and relatively little non-broadcasting equipment would have been developed to operate in broadcasting spectrum. Alternative uses for this spectrum are likely to emerge quickly once the United States and European markets switch-off analogue television, which will lead to increased pressure over time for clearing the relevant Australian frequencies.

The potential range of uses of broadcasting spectrum may be enhanced if greater spectrum efficiencies were achieved with analogue switch-off. Significant efficiencies may depend on the ability to rationalise and modify spectrum assignments so that large contiguous blocks of spectrum are vacated when analogue operations cease. This would require a number of channel changes to digital television services which would have a significant impact on viewers and broadcasters. However, if assignments are not rationalised, alternative uses of spectrum could be hampered by the need to operate non-broadcasting services in a way which minimises interference to the broadcasting transmissions to which they are adjacent.

Comment is sought on:

- Whether there has been sufficient progress in rollout and take-up of digital reception equipment to proceed with the current timing arrangements or whether the simulcast period should be extended.
- Any triggers or targets that may be more appropriate than or could be combined with a hard deadline for switchover, and how the difficulties with such targets may be overcome.
- If take-up rates are to be used as a switch-off trigger, how digital reception take-up by households can be measured more accurately.
- If a new date is to be set, what should that date be? How should this date relate to any trigger mechanisms as described above? Should there be a date at which switchover proceeds regardless of any take-up or availability objectives or should any date be dependent on other objectives first being achieved?
- Whether switchover should occur in all markets nationwide at the same time; region by region on the basis of the length of time since digitisation (as with the present arrangement); region by region on some other basis, or in some other pattern.
- Whether there is scope to shorten the simulcast period for regional broadcasters or to

[9] Australian Communications Authority. December 2004. *Submission to the Review of the Broadcasting Services Band Spectrum: Identification and structural efficiency.*

allow regional licensees to voluntarily cease analogue broadcasting early.

- How consumers would be prepared for a dual system of digital-only/simulcast networks.
- Alternative uses of the spectrum freed up at the end of the simulcast period.

## 2. Measures to enhance the transition to digital.

Setting a firm switchover date may, of itself, be a very effective way of increasing digital take-up. Research undertaken in the United Kingdom in 2004 has found that certainty about the imminence of switchover will prompt many households to willingly convert to digital.[10] It will also provide manufacturers and retailers with certainty about the need to provide and promote equipment. However, stakeholders and viewers would need to be confident that the date would be enforced.

The previous section discussed the determination of an appropriate switchover timetable. A discussion of other measures to encourage increased digital take-up follows.

As noted above, digital take-up is perhaps around 10 per cent of households. As such, the take-up of digital TV in Australia is modest, although if the current rate (about 40 000 per month) is maintained, this will increase steadily. Nevertheless, based on the current take up rates, it will take Australia up to 15 years before digital TV penetration nears 100 per cent of households.

A slow initial take up is consistent with adoption patterns for other new technologies such as DVD players, and the key will be whether this rate can be maintained or increased. Experience with new technology take up suggests that market-driven take-up patterns follow an 'S' curve in that initial take up is slow and generally confined to enthusiasts, then becomes more rapid as mainstream consumers purchase it, and then slows or even stalls as the market is saturated. Saturation point may occur at less than 100 per cent.

Thus a market-driven approach may fail to achieve full conversion, due mostly to unwillingness on the part of a number of consumers to make the conversion. In addition, technical problems, such as the inability to broadcast strong digital signals in some areas due to interference with analogue signals, may also prevent a small number of consumers from receiving digital television until after analogue switch-off.

In examining the best means of achieving switchover, the United Kingdom communications regulator, Ofcom, identified a range of obstacles to a market-led conversion.[11] Several of these issues are likely also to pose challenges for switchover in Australia.

---

[10] The Generics Group. 2004. *Attitudes to Digital Switchover: The impact of digital switchover on consumer adoption of digital television.* *www.digitaltelevision.gov.uk/pdf_documents/publications/AttitudestoSwitchover_300304.pdf*

[11] Ofcom. 2004. *Driving Digital Switchover*, *www.ofcom.org.uk/research/dsoind/dso_report/?a=87101*

It would therefore be appropriate to consider the additional measures are needed to encourage a more rapid take-up of digital television.

In addition to direct measures to stimulate and encourage take up of digital services, there may also be technical or other barriers that need to be addressed, that act as a disincentive for consumers to make the change, or which diminish their experience of digital television and possibly even result in them abandoning it and reverting to analogue services.

A detailed description of measures used during the world's first complete digital switchover, in the German state of Berlin-Brandenburg, is at Attachment B.

The following options, based primarily on overseas experience, are presented as illustrative only, and are not intended to give any indication of Government or Departmental preferences.

These options involve all groups with a stake in digitisation and it is likely that no one option will be appropriate on its own but that a combination will be required to achieve the aim of completing digital switchover. In addition, there is a need to examine how the many stakeholders will work together to prepare for and deliver switchover. The Government's Digital Action Plan could be used to articulate steps to plan for and implement full digital conversion.

*Incentives for broadcasters to expedite conversion*

Incentives such as a licence tax on analogue spectrum might be provided for broadcasters to expedite conversion. Some US legislators have been proposing for a number of years to fine or tax broadcasters for occupying analogue spectrum after a certain date. US broadcasters have strongly opposed this measure and it has not yet been introduced. In Australia broadcasters are required to achieve equivalent coverage to analogue in digital transmissions as soon as practicable but by the end of the simulcast period. Consideration could be given to whether this requirement should be complemented by additional obligations on broadcasters.

Additional obligations such as rollout obligations and/or a requirement to conduct public information campaigns might be placed on broadcasters**.** In the United Kingdom, Ofcom has issued Digital Replacement Licences (DRLs) to the main free-to-air commercial broadcasters which contain conditions relating to switchover and the obligations on each licensee to contribute to it. These obligations include rollout targets and consumer information campaigns as well as an obligation to report annually on how broadcasters are assisting the switchover process. Relevant digital implementation obligations will be imposed on the BBC through its Royal Charter.

*New digital services*

Allowing for a new range of digital services may encourage take-up. Additional digital-only content has been seen as a driver of digital take-up in other countries. Such content may attract viewers who do not value picture quality and widescreen presentation and so may not be see the current high definition, widescreen digital offerings as sufficient incentive to convert. Digital-only channels such as ABC2 and SBS's multichannels and extra digital services, such as those provided by the datacasting trial currently underway in Sydney, have been well received. Furthermore, in the future, improvements in compression technology may allow a greater number and range of services to be provided than is currently possible. Policy and regulatory issues surrounding such services are being considered in the context of other reviews.

*Mandating digital tuners*

The United States has mandated that digital tuners be progressively integrated into all newly manufactured TV sets and TV interface devices. Under this policy TV manufacturers have the option of building monitors without any receivers in them. They can then bundle a monitor with an STB or require the customer to purchase one separately. The mandate is being phased in between 2004 and 2007 and starts with large-screen TVs. There is no available data on the effect this mandate is having on digital television take-up in the United States. The situation in the United States is particularly difficult to analyse given the very high level of pay TV penetration and the inconsistent labelling of digital equipment. The FCC estimates that up to 15 per cent of television households rely solely on terrestrial signals.[12] The remaining 85 per cent subscribe to a digital pay TV service.

A number of submissions to the House of Representatives Committee inquiry into digital TV have advocated a tuner mandate for Australia. A further discussion of this issue is at Attachment C.

*Labelling requirements*

An alternative approach to a tuner mandate, and one which would facilitate consumer understanding of equipment requirements for digital conversion, is to require more detailed labelling on television reception equipment. A proposed US bill intended to hasten the end of analogue broadcasting includes a requirement that analogue equipment be labelled to indicate what its capabilities will be after switchover. The proposed labels indicate that, after a certain date, the TV will not be able to receive broadcast programming unless it is connected to converter equipment or a pay TV service but that the TV will still be able to display images from other devices such as DVD players, recording devices and games consoles. It also directs consumers to the FCC for further information.

[12] Federal Communications Commission. 2004. *Media Bureau Seeks Comment on Over-the-air Broadcast Television Viewers.* Media Bureau Docket No. 04-210. 27 May 2004.

*Consumer information and support*

Some consumer information on reception availability, receiver equipment and digital services is already available in Australia through the activities of DBA. There have been a number of advertising campaigns conducted by the television broadcasters (and Free TV Australia has indicated in its submission to the House of Representatives Committee inquiry into digital TV that its members are considering a further promotional campaign for later in 2005). Equipment suppliers have put in place a code of practice about the description of reception equipment. This information is limited in both its nature and accessibility (for example, DBA only provides consumer information through a website).

Additional points of information (e.g. telephone contact) would enable more consumers to be informed but would require more resources. There will also be a need to provide more specific information about switch-off, for example, through an information campaign like that undertaken to address interference concerns when digital broadcasting began. In addition to the labelling requirements outlined above, a proposed US bill would require broadcasters to run at least two 60 second announcements (each day in specific time slots) which must include almost identical information to that of the labelling requirements.

There may also be other marketing opportunities for digital equipment and services which have not yet been explored or which could be expanded. For example, ABC local radio gave away set-top boxes to listeners in some markets in 2005. Other broadcasters, retailers or manufacturers could undertake campaigns to generate consumer interest in and awareness of digital TV. However, these efforts will need to be accompanied by accurate information about digital equipment options and costs, digital services and the digitisation and switchover timetable. Errors or misinformation could undermine consumer confidence in digital TV which could hamper take-up.

*Affordability of receivers*

UK regulator Ofcom has argued that the price of digital conversion for households is more a perceived barrier than a real one as the price of reception equipment is very low in that country.[13] However, several countries are considering various forms of targeted subsidy. The Italian Government has been subsidising multimedia home platform (MHP – a platform for interactive applications) enabled set-top boxes for some time in order to encourage the adoption of this specific technology. In the United States a debate is underway over whether all non-pay TV homes should have their digitisation subsidised, or only those also on low incomes. In the United Kingdom the focus of subsidy schemes has been on 'vulnerable' groups who may not be able to call on friends or relatives for practical assistance with switchover, as well as financial assistance.

Consideration of the merits of a subsidy in Australia would need to take into account the different market environment, the price and affordability of Australian receivers, the comparative cost of continued analogue transmission and the impact on other (non-free-

[13] Ofcom. 2004. *Driving Digital Switchover: A report to the secretary of state.* pp80–82.

to-air) service providers. A subsidy may need to be carefully targeted to identified groups and may need to apply only to specific technology and over a particular timeframe. Unless a subsidy program is very tightly designed and well communicated, there is the risk that some consumers may delay digitisation in the hope of getting a subsidy later on. This in turn could delay switchover, particularly if the timing of switchover was to be linked to take-up criteria.

*Conversion of multiple sets*

Measurements of digital television take-up to date have focused principally on estimating the number of households with at least one digital free to air receiver. This is appropriate as it is of primary concern that households do not lose access to television altogether when analogue signals are switched off. However, most Australian households own more than one analogue TV set. Each of these will need to be converted to digital at some point if they are to continue to be used to watch free to air television.

Thus, a policy issue which may need to be addressed in the future is whether any particular measures are needed to extend digital conversion beyond the first set in the home. Over time, it could be expected that an increasing number of set top box sales are for converting additional television sets within digital households rather than for non-digital households. This has been the case in the UK where Ofcom estimates that 30% of digital receiver sales are now for the conversion of secondary and additional TV sets.

*Role of national broadcasters*

In the United Kingdom, the BBC has played an important role in the development of digital terrestrial television.

The BBC is one of three shareholders in Freeview, the UK's digital terrestrial television platform. The BBC's services occupy two multiplexes on Freeview. On these multiplexes the BBC provides a digital version of both its analogue television channels, BBC1 and BBC2, as well as six more digital-only television channels (two channels for children, a youth channel, an arts/culture oriented channel, a news channel and a parliamentary channel), and an interactive channel. Eleven BBC digital radio services are also available on Freeview. The BBC's digital television services are also available on digital pay TV platforms and are broadcast unencrypted to satellite viewers without a pay TV subscription.

Some of these digital-only services are very popular and are likely to have contributed significantly to digital take-up in the United Kingdom. They are also likely to have contributed to the popularity of interactive applications in the United Kingdom, which are more widely available there than in Australia.

The BBC will also allocate resources to fund information campaigns and provide assistance for disadvantaged groups.

Australia's national broadcasters currently provide the only digital multichannels in SBS World News, SBS Essentials and ABC2. Some submissions to previous reviews have suggested that national broadcasters could play a role in providing more innovative digital content and services. This issue is also being considered in the context of earlier digital TV reviews.

*Reception difficulties*

There is a range of potential reception difficulties that may hinder digital conversion in some cases.

Residents of multiple-unit dwellings (MUDs) such as apartment blocks face a specific range of potential reception difficulties. A pilot study undertaken by DBA on the Gold Coast found that 18 out of the 29 buildings surveyed would require an upgrade to their master antenna (MATV) system to enable them to receive free-to-air digital TV. These upgrades can be costly and some bodies corporate and strata managers may be unwilling to undertake them prior to switchover. Tenants may face similar difficulties if landlords are unwilling to undertake aerial upgrades where these are necessary. The strength of digital signals in Australia may mean that fewer aerial upgrades are required than in other countries and that existing portable aerials ('bunny ears' etc.) are suitable for digital reception.

In the United Kingdom, a number of publications are available to assist residents, landlords, building owners and aerial installers with the upgrade of MUD antenna systems.[14]

Submissions to the House of Representatives inquiry into the uptake of digital TV in Australia have documented a number of problems with digital reception quality more generally. There are many potential reasons for this. Digital signals perform differently to analogue signals in marginal reception areas. While analogue reception degrades gradually (and viewers get an increasingly poor quality signal) with distance from the transmission tower, digital reception has an 'on/off' characteristic meaning it either provides a good quality picture, or fails altogether when the signal becomes too weak or degraded. This will need to be taken into account when considering and addressing coverage issues, and will mean that it will be difficult to match analogue coverage precisely.

The reception environment will also impact on digital reception—for example poor quality antennae which give tolerable analogue reception may need to be upgraded or serviced to provide digital reception. Just like current analogue televisions, different digital set top boxes react differently to different signal strengths—some are very responsive to weak signals, others less so, depending on the components used.

[14] Most of these publications are available from:
*www.digitaltelevision.gov.uk/publications/publication_home.html*

Broadcasters are under a legislative requirement to achieve the same coverage and potential reception quality with their digital signals as their analogue signals, by the end of the simulcast period. However, at present some digital transmitters are operating at sub-optimal power levels, to minimise interference to analogue signals, and areas of reception problems may exist which will be rectified when digital signals are eventually increased to maximum planned power and coverage levels. Thus, solutions to some problem areas may be better considered at a later date.

*Mechanisms for dealing with changes in technology and standards*

Digital television technology is evolving. Whilst this creates new services for consumers it also raises the need to ensure compatibility with existing equipment. There is also a degree of technical uncertainty as to how changes in digital television technology will affect digital receivers currently in use. For example, internationally new compression technologies are emerging which will enable more services to be provided than is possible under existing standards. However, the adoption of new technologies and standards can create legacy problems for existing receivers. Any consideration of the adoption of new standards will need to take into account the impact on existing services and receivers and the availability of suitable reception equipment.

Measures such as testing of new equipment and services could reduce any adverse impact of these changes. As digital receiver technology improves, these measures could also allow for cheaper, easier upgrades.

The Australian Government made a commitment during the 2004 election campaign to work with industry in establishing a testing and conformance centre for digital television technology.[15] The Department of Communications, Information Technology and the Arts is currently consulting with the industry on this matter.

In the United Kingdom, technical trials have also played a role in assessing and addressing issues arising from digital switchover.[16]

*Groups which might face particular barriers*

Consideration may need to be given to whether measures for particular groups such as people with disabilities, older or socially isolated people are needed. These might include information campaigns or assistance with selecting, installing and using equipment. A number of countries have considered various means of support, financial and otherwise, for vulnerable consumers making the switch to digital. The United Kingdom has also focussed on how best to provide vulnerable consumers with practical and/or financial

[15] Liberal Party of Australia. 2004. *The Howard Government Election 2004 Policy: 21st Century Broadcasting.* p13

[16] For a report on a trial switchover in Wales see: *www.digitaltelevision.gov.uk/pdf_documents/publications/Digital_SwitchoverTrial_Report.pdf*

help with digitisation, particularly with equipment decisions and technical issues.[17] The UK Government has announced that it will provide help with equipment and installation and follow-up support for people aged 75 and over and people with significant disabilities.

The German state of Berlin-Brandenburg ceased analogue broadcasting in late 2003. Citizens receiving social security there were eligible for financial assistance as well as charitable help with technical problems. (See Attachment B for details.)

Comment is sought on:

- The need for additional measures to speed the transition to digital.
- The appropriateness and effectiveness of the possible measures identified above.
- Other appropriate measures for encouraging digital take-up.
- Views on how any proposed measures should be implemented (e.g. timing, scope of measure etc.) and funded.
- Barriers that might be hampering or preventing consumer conversion to digital TV, or any particular barriers which are likely to emerge.
- Barriers that might affect specific groups such as disabled, older or socially isolated people and low-income households.
- Appropriate measures to overcome these barriers, and how such measures should be funded.

## 3. Preparing for and managing switchover

Preparation and management of analogue switch-off will be a challenging and substantial task, involving careful planning, and coordination of the efforts of the Australian Government, the Australian Communications and Media Authority, the free to air broadcasters, the receiver industry, and others. Measures to increase digital take-up and overcome barriers to digitisation, such as those suggested above, would be early steps in the process. Beyond that, it will be necessary to develop a plan and timetable for managing the switch off process itself.

In the UK, these two phases were undertaken by two separate organisations. The UK Digital Television Action Plan was formed in 2001 to prepare for increasing digitisation and switchover. Government, broadcasters, manufacturers and retailers were all parties to the plan which carried out tasks relating to spectrum planning, market preparation and

[17] This report proposes a practical and financial support scheme for vulnerable consumers and includes estimates of the costs of such a program: Ofcom Consumer Panel. 2004. *Supporting the Most Vulnerable Consumers Through Digital Switchover, www.ofcomconsumerpanel.org.uk/dso.htm*

technology and equipment issues. In 2005, having undertaken preparations for switchover and dealt with some of the barriers to digital take-up in the UK, the plan was dissolved and a new organisation, SwitchCo (now also known as Digital UK) was given responsibility for achieving switchover. SwitchCo's three major tasks relate to:

- technical aspects of switchover;
- communicating with consumers about switchover; and
- liaising with industry and consumer groups about the switchover program.

The SwitchCo board consists of representatives from the main terrestrial broadcasters, Teletext, and the digital terrestrial television multiplex operators,[18] all of whom are funding the organisation. Two positions on the board are reserved for representatives of the supply chain (i.e. television equipment manufacturers, retailers, aerial manufacturers and installers).

Further information on SwitchCo (now known as Digital UK) is at Attachment D.

It may be that a similar staged process, firstly involving planning and preparation for switch-off, and secondly implementing switch-off, is appropriate for Australia.

In its policy document, *21st Century Broadcasting*, the Australian Government made a commitment to work 'in partnership with industry to develop a Digital Action Plan to further promote and encourage take up of digital television'.[19]

This plan could encompass ways to implement measures, such as those suggested above, to drive digital take-up and overcome barriers to digitisation. It could take the form of a description of the tasks which need to be undertaken before switch-off can be achieved, how those tasks are to be handled and a timeframe for their implementation.

Consideration will need to be given to the respective roles of commercial broadcasters, national broadcasters, government, retailers, manufacturers and others in driving and providing for switchover under such a plan. Although the Australian Government has provided the broad regulatory framework for digital conversion, the role of industry will be key in achieving the final outcome of conversion.

Broadcasters will benefit from switch-off with the reduction in the transmission costs associated with simulcast, and reap benefits in the longer term from the efficiencies of digital broadcasting. Manufacturers and retailers will receive a substantial benefit from switchover as people purchase new equipment. Each of these groups has an incentive and responsibility to assist with switchover. Given the nature of a free to air broadcasting

[18] Digital television services in the United Kingdom are organised into six spectrum channels known as multiplexes. Content providers access the platform by arrangement with the multiplex operators (who are the BBC, Crown Castle, Digital 3 & 4 Ltd, and ITV).
[19] Liberal Party of Australia. 2004. *The Howard Government Election 2004 Policy: 21st Century Broadcasting.* p13

environment, there will be a need for active co-operation and co-ordination in the process.

Several groups currently promote digital TV in Australia including the Australian Government, DBA and the broadcasters. A more cohesive approach, such as that embodied by the UK Digital TV Project and SwitchCo, may be necessary in order to firstly co-ordinate efforts to encourage take-up and address barriers to digital conversion and secondly, to go beyond increasing digital take-up to actually achieving switchover.

The timetable and method of switchover will have an effect on the form this approach will take and who will need to be involved. SwitchCo is primarily aiming at driving the final stages of conversion in a country where digital TV take up is already approaching 65%, and where final switch off dates have now been approved by the government. A different kind of cooperative body may be more appropriate for Australia now (given we are much earlier in the conversion process) with a different mandate, with a body equivalent to SwitchCo being formed nearer the final conversion date (once determined).

Comment is sought on:

- The appropriate role for each set of stakeholders in driving and providing for switchover. This includes government, broadcasters, equipment manufacturers and retailers, and consumers and consumer support groups.
- The appropriate preparation for and management of switchover, including the function of a Digital Action Plan and the role of each set of stakeholders in the plan.
- Whether the right entities or organisations exist to coordinate digital switchover. Do existing organisations' roles need to change and/or is a new organisation required?

## 4. Conversion of other types of free to air broadcasters and services

The digital conversion schemes which have been put in place relate to the conversion of those services intended to be of broad appeal provided by commercial television broadcasting licensees and national broadcasters. There is a range of service types intended to address more narrow or special interests for which no specific provision has been made in the legislation for digital conversion.

It is appropriate to give consideration to how planning for digitisation of these services could be undertaken before the switch-off of analogue transmission of commercial television broadcasting services.

*Community broadcasters and narrowcasters*

Community broadcasters currently broadcast only in analogue. However, during the 2004 election campaign, the Australian Government reconfirmed its commitment to work with

the community television sector to develop an appropriate framework for the transition to digital services.

There are a small number of analogue narrowcast television services in Australia and consideration will need to be given to whether and how these services might operate in a digital environment. Digital implementation may provide an opportunity to reconsider the role of narrowcasters in television broadcasting and whether the public interest is served by according the incumbent analogue narrowcasters priority access to digital spectrum over other possible aspirant narrowcasters.

Narrowcaster and community services face similar issues around options for conversion, timing and funding of conversion. These services currently occupy a 7MHz channel of analogue spectrum. Some submissions to previous reviews have suggested that community broadcasters be granted an additional spectrum channel for their digital services. However, it may not be an appropriate use of spectrum to grant such services a full 7 MHz channel for digital transmissions, as one digital program stream requires only a fraction of that capacity and they may not need or have the resources to fund the provision of additional program streams.

Consideration could be given to whether these services should be granted additional or new spectrum for digital services or whether they could instead be carried on another service (such as by commercial or national broadcasters or on a datacasting multiplex) or allocated a more appropriate amount of spectrum. There may be commercial and technical barriers to these options.

Multiplexing such services with other programming would allow for the sharing of distribution and transmission costs.

Consideration also needs to be given to whether any of these services should be simulcast during a transition period, or whether there should be an instant swap from analogue to digital transmission. The timing of such a swap would need to be considered, including whether to have different timing in different markets. Other issues such as the cost of dual analogue/digital transmission and spectrum availability would also be considerations.

*Self-help services*

Many communities in Australia obtain their television services from ‘self-help’ facilities that they or their local governments have installed (sometimes with assistance under the Australian Government’s Television Blackspots Program). Before the end of the simulcast period it will also be necessary to consider how the conversion of self-help communities could be managed. Issues which will require examination are:

- the extent and nature of self-help facilities;
- options for conversion—simulcast or direct conversion;
- options for funding—self funded/government funded/combination;

- technical issues which need to be addressed; and
- timing of conversion.

In the remote licence area of Western Australia the incumbent commercial broadcasters have arranged for continued access to their existing analogue services for both self-help communities and households with satellite reception facilities for the duration of the eight-year simulcast period in that area. However, this arrangement may not be possible for self-help communities in other parts of Australia and the question of how these communities will receive broadcasting services after the end of the simulcast period remains.

Comments are sought on options for managing and planning for community television, narrowcasting and self-help broadcasting services at the end of the simulcast period.

In particular comments are sought on:

- options for conversion — simulcast or direct conversion;
- options for funding;
- timing of conversion;
- spectrum allocation for narrowcast and community services; and
- whether some services should be provided by direct-to-home satellite reception rather than self-help retransmission.

## 5. Issues for examination closer to the end of the simulcast period

At some point during the simulcast period, digital take-up will have increased to such an extent that the majority of viewers are accessing digital television. At this point in time, there may be a need to consider whether changes in the regulatory framework are required in recognition of this. Some examples of issues which may need to be addressed follow.

In a recent review, the issue of whether there should be changes to the requirement that there be a strict simulcast of the analogue services in digital was considered. The majority of submitters were in favour of maintaining this requirement at this time. If the Government retains these provisions now, there may be a need to re-examine the issue when digital viewers become a majority (or some other higher percentage of viewers).

A number of obligations are placed on the broadcasters by reference to the analogue service (e.g. Australian and children's content). As the digital service is to be a simulcast of the analogue service, these obligations automatically apply to digital services at present. When there is no longer an analogue service, or were the simulcast requirements

to be relaxed, the way such obligations are applied in a digital environment would need to be reconsidered. The United Kingdom, for example, has recently considered the issue of the application of public service obligations in a digital, multichannel environment.

Comment is sought on the types of regulatory issues which may need to be re-examined towards the end of the simulcast period, and on the point at which these should be re-examined.

## SUBMISSIONS

**Submissions are invited from interested parties on the matters covered in this paper, noting that a number of the issues raised in this paper are also being examined by the House of Representatives inquiry into the uptake of digital TV. Submissions are also invited to address any other relevant issues not specifically addressed in this paper.**

Submissions should be provided by Tuesday 8 November 2005, and should be addressed to:

The General Manager
Digital Broadcasting and Spectrum Management
Department of Communications, Information Technology and the Arts
GPO Box 2154
CANBERRA ACT 2601

Submissions may be provided electronically, preferably in a format compatible with Microsoft Word 2003, and should be emailed to stephanie.jolly@dcita.gov.au. Further information can be obtained from Stephanie Jolly at the above email address or telephone 02 6271 1220, facsimile 02 6271 1717.

Submissions will be made public on the Department's website unless otherwise specified. Persons providing a submission should indicate clearly whether any aspect of the submission should not be made public. Where confidentiality is requested, submitters are encouraged to provide a public version of submissions that can be made available on the Department's website. Submissions will be considered in the preparation of a review report, which will be tabled by the Minister in both Houses of Parliament.

# ATTACHMENT A

## Reviews of the digital television regulatory framework

Schedule 4 of the BSA required a number of digital policy reviews to be conducted by 1 January 2005. Several of the specific statutory reviews were grouped into four broad thematic reviews, each of which was launched in 2004 with the release of an issues paper and call for submissions in response. Issues papers and submissions are available on the Department's website: *www.dcita.gov.au/broad/policy_reviews/digital_broadcasting_policy_reviews*.

The first thematic review examined whether restrictions on additional programming provided by free to air broadcasters, including multichannelling and other types of services such as pay television channels, should be modified. Submissions to this review were sought by 30 July 2004. The Department received 38 submissions and one supplementary submission.

The second review covered matters relating to the end of the moratorium on the issuing of new commercial television licences, which concludes on 31 December 2006. In 2004 the Government announced its intention to amend the current legislative arrangements so that the power to allocate new commercial television broadcasting licences is vested in the Government rather than the ABA. This review provided an opportunity to consider how this change should be implemented.

This second review also examined the arrangements for the conversion of any datacasting licences to other types of broadcasting licence as well as the licence conditions that should apply to any new commercial television licences. Submissions to this review were sought by 24 September 2004. The Department received 17 submissions.

A third review examined the efficient allocation of spectrum for television and datacasting services, while the fourth review examined the operation of legislation related to markets with only one or two commercial television broadcasters. Issues papers for both these reviews were released on 1 December 2004 and 13 and eight submissions were received respectively.

A review of the viability of establishing an Indigenous television broadcasting service and the regulatory arrangements that should apply to the digital transmission of such a service was also launched on 10 May 2004. Submissions closed on 30 September 2004. Forty-nine submissions have been received. In addition to releasing an issues paper for public comment, the Department conducted public consultation around Australia for this review. A report on this review is available from the website of the Department of Communications, Information Technology and the Arts.

A review of the HDTV quotas was initiated in May 2005. This review examined the regulatory arrangements that should apply to HDTV transmissions in metropolitan,

regional and remote areas of Australia. Submissions to this review were sought by 24 June 2005. Twenty-five submissions have been received.

There is a statutory obligation to report to Parliament on the outcome of these reviews. The Government will consider the issues raised in these reviews and will respond as appropriate.

# ATTACHMENT B

## The Berlin-Brandenburg switchover

In Germany, digital conversion is being managed by state media regulators. The Berlin-Brandenburg region was the first area in Germany to be converted from analogue to digital and this took place during 2002–03. Due to spectrum shortages, it was not possible to provide a lengthy simulcast of both analogue and digital services in the Berlin-Brandenburg area. The technical plan for switchover was developed on the basis of achieving robust reception via a portable aerial.

The analogue signals of the most popular commercial channels were switched off first so as to communicate to viewers the need to convert to digital. Due to the high penetration of non-terrestrial television (cable and satellite) in the region, only six per cent of the population (an estimated 160 000 people) relied solely on terrestrial reception for access to TV. Around 90 000 homes relied on analogue terrestrial reception for second and third sets.

The switchover process began when suitable digital converter boxes were available for less than €200 (equivalent to around AUD$330). Many retailers offered an installation service which included a tutorial on using the equipment and a money-back guarantee if the equipment proved unsuitable.

A hotline was set-up to handle consumer enquiries, which received 26 000 calls and generated 600 visits to households to resolve problems. Six thousand cases received financial assistance through local state social security and 90 cases received help through a broadcast assistance charity. Of these 6000 cases, only five per cent (or around 300) required assistance with installation. Those eligible for financial assistance were issued with a voucher which could be redeemed for a particular receiver chosen by the regulator on the basis of technical requirements and value for money. The communication campaign for switchover, including the hotline which ran for nine months, cost around €1 million. The cost of funding the 6000 cases eligible for assistance was around €0.5 million.

A more detailed description of the process can be found in annex two of the Ofcom Consumer Panel's *Supporting the Most Vulnerable Consumers Through Digital Switchover*.[20]

[20] Ofcom Consumer Panel. 2004 *Supporting the Most Vulnerable Consumers Through Digital Switchover*,. *www.ofcomconsumerpanel.org.uk/dso.htm*

# ATTACHMENT C

## Advantages and disadvantages of a digital tuner mandate

Advantages of a digital tuner mandate might include:

- Potential increase in digital take-up. However, any mandate would need to be introduced with a long lead time and would probably need to be progressively applied, initially to large or higher priced sets and then to all sets. This, combined with the average life of a TV set of around 8–10 years, suggests that a mandate might not be enough, in itself, to achieve an acceptable switch-off date.
- The costs of integrated digital TV sets may fall more quickly due to economies of scale.
- Integrated TVs avoid the need to stack another box on top of the TV, in addition to other possible devices such as a DVD player, video recorder and home theatre appliances (the 'pizza box effect').
- A mandate may reduce confusion in the marketplace about digital TV equipment, particularly if combined with appropriate labelling.

However, disadvantages of a mandate might include:

- Increased costs of TVs in the short-term. This will be more significant at the lower end of the market as there are currently no low-end integrated digital TVs on the market.
- Some current suppliers of analogue sets may withdraw from the market rather than add a digital tuner to TVs solely for the small Australian market.
- A digital tuner mandate would potentially lock in a specific technology while digital broadcasting is still in a development and innovation phase. A mandate may draw consumer criticism if consumers find that after a number of years their integrated digital TV is not capable of receiving all services, and that an STB may be required anyway.
- Consumers may prefer to separate the (relatively expensive and long lasting) television display from the relatively cheaper and therefore more quickly replaceable separate tuner or STB.
- Mandating digital tuners would potentially involve the Government in a number of technology choices. It is likely that a minimum standard (SDTV, no interactive functionality) would be most flexible, but this would increase the need for consumers to acquire additional equipment to access extra services such as HDTV.

Some of the disadvantages may be reduced if the 'mandate' can be satisfied by bundling a digital set top box with a monitor or an analogue TV. However, there is also the need to consider other devices that include television receivers such as VCRs, digital recorders and PC tuner cards.

# ATTACHMENT D

## SwitchCo

Source: www.switchco.co.uk

**SwitchCo**
Press Release

**SWITCHCO LAUNCHES TODAY**

**SwitchCo**, the organisation which will co-ordinate the country's switchover to digital television, launches today, marking a major step on the road to a totally digital UK.

**SwitchCo** has been formed at Government request by the public service broadcasters BBC, ITV, Channel 4, five, Teletext and S4C and the digital terrestrial television multiplex operators Crown Castle UK Ltd and SDN, all of whom are represented on its management board and provide funding. Also on the board are two positions representing the interests of the supply chain (television equipment manufacturers, retailers and aerial manufacturers and installers). SwitchCo will work closely with the DCMS, the DTI and Ofcom.

**Barry Cox**, previously acting Chairman of the SwitchCo working group, is Chairman of the new company. **Ford Ennals**, previously Managing Director of Universal Group Direct, the direct marketing division of Universal Music, will be Chief Executive, taking up his post in May. **Andy Townend**, previously acting Chief Executive of the SwitchCo working group, is Director of Commercial & Business Affairs, reporting to Ennals.

Barry Cox, SwitchCo Chairman, said: "Communicating switchover to the UK public needs the leadership of someone with a strong background in marketing and communications. Ford Ennals' experience in launching the new LloydsTSB brand, and his overseeing of the successful merger and integration of the two banks, makes him ideal to head the organisation."

Ford Ennals, SwitchCo Chief Executive, said: "Digital television is a great UK success story – almost 60% of households have already made the switch. But moving the whole country to digital will be a great challenge. My first task will be to start a dialogue with television viewers, consumer groups and other important stakeholders to get their views so we can begin to shape our communication plans."

SwitchCo has three major tasks:

- To co-ordinate the technical roll out of digital terrestrial television across the UK, region by region, to a timetable agreed by Government.

- To communicate with the public about digital switchover to ensure everyone knows what is happening, what they need to do, and when.
- To liaise with TV equipment manufacturers, retailers, digital platform operators and consumer groups to ensure understanding of and support for the switchover programme.

SwitchCo is an impartial, not-for-profit organisation and will inform consumers of all their options to receive digital television, whether through an aerial (digital terrestrial) or via cable, satellite or DSL (TV through a telephone line).

13 April 2005
Further information:
Janet Morrow and Faye Bosworth, SwitchCo Press Office
tel: 0870 415 4000 email: morrowjanet@btconnect.com
www.switchco.co.uk

NOTES TO EDITORS

- Switchover will involve the phasing out of existing analogue terrestrial television transmissions and replacing them with digital. This will be done on a region by region basis, to a timetable agreed by Government.
- In February 2005 Ofcom indicated that digital switchover could start in 2008 and finish in 2012.

  The final date will be agreed with Government and broadcasters.
- SwitchCo takes forward the work of the Government's Digital Television Action Plan (DTAP), completed in December 2004.

  *www.digitaltelevision.gov.uk/dtv_project/project_details_home.html*
- A SwitchCo Working Group has been operating since October 2004, prior to the official incorporation of the company.
- The BBC will be required to implement digital switchover under the terms of its Royal Charter, as set out in the recent Government Green Paper

  *www.bbccharterreview.org.uk/home/background.html*

  The other public service broadcasters (ITV, Channel 4, five, S4C and Teletext) are legally obliged to fulfil the digital switchover obligations contained within their Digital Replacement Licences (DRLs), issued by Ofcom at the end of 2004. Multiplex operators Crown Castle UK Ltd and SDN are regulated by Ofcom and are essential partners for the technical roll out of digital terrestrial.

BIOGRAPHIES

Barry Cox, Chairman, SwitchCo
Barry Cox worked as a journalist on the Scotsman, the Sunday Telegraph, Granada's *World In Action* and at LWT, where he became Controller of Features & Current Affairs,

and then Director of Corporate Affairs. He was Director of the ITV Association between 1995 and 1998, and is now Deputy Chairman of Channel 4 and a consultant with ITN. He was chairman of the Digital TV Stakeholders Group between 2002 and 2004 and the News International Visiting Professor of Broadcast Media at Oxford University in 2003. He has been Chairman of the SwitchCo working group since October 2004.

Ford Ennals, Chief Executive, SwitchCo

Ford Ennals has been Managing Director of Universal Group Direct, the direct marketing division of Universal Music, and Chief Marketing Officer of the group in Britain since 2002. Prior to that he was Group Marketing Director of the LloydsTSB group, where he was responsible for the launch of the LloydsTSB brand and the successful integration of the two businesses after merger. His extensive career in marketing has also included positions as Global Marketing Director of British Airways; Senior Vice President, Worldwide Marketing for Reebok; and Brands Director for Mars in both the UK and the USA.

Andy Townend, Director of Commercial & Business Affairs, SwitchCo

Andy Townend has been Acting Chief Executive of the SwitchCo working group since October 2004. Before taking up that role he was Controller of Distribution at the BBC, where he was responsible for the delivery of all the BBC's television, radio and interactive services to licence fee payers. He was a key member of the BBC team which worked on the launch of Freeview, chaired The Digital Network, and represented the BBC as a council member of the Digital Television Group and during the development of the Government's Digital Television Action Plan.