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**Australian
Broadcasting
Authority**

COMMERCIAL TELEVISION CONVERSION SCHEME

EXPLANATORY PAPER

October 1998

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INTRODUCTION

The *Television Broadcasting Services (Digital Conversion) Act 1998* commenced operation in July 1998 (the Digital Conversion Act). The effect of the Digital Conversion Act was to introduce a new schedule (Schedule 4) to the *Broadcasting Services Act 1992*, which provides for the conversion of transmission of broadcasting services from analog mode to digital mode.

The main purpose of the Digital Conversion Act is to provide a regulatory regime for conversion to digital television broadcasting in Australia. Commercial and national television broadcasters currently transmit programs to the public in analog mode, using a channel bandwidth of 7 MHz. Analog television channels can transmit one continuous stream of programming and some limited data/text embedded in the main carrier signal (eg. teletext). Digital television is a broadcasting transmission system which uses digital modulation techniques to transmit television programs. Digital television broadcasting transmitters have the capacity to transmit a High Definition Television (HDTV) picture, or to transmit multiple programs at the same time using the same amount of radiofrequency spectrum as used for analog television. Digital television also allows any residual transmission capacity to be used to transmit data or information, either linked to programs or independently.¹

The Digital Conversion Act requires the ABA to develop legislative schemes for the conversion of commercial and national television broadcasting services from analog to digital mode over time. The Digital Conversion Act outlines several policy objectives of the schemes, including that digital transmission commence in metropolitan licence areas on 1 January 2001 and progressively in regional areas between 1 January 2001 and 1 January 2004.

THE PURPOSE OF THIS DOCUMENT

The purpose of this document is to publish the ABA's draft commercial television conversion scheme (CTC scheme), together with documents relevant to the conversion process, and to explain the legislative scheme in outline. In addition, this document should provide a basis for interested parties to make written submissions to the ABA regarding the draft CTC scheme and the associated documents.

The draft national television conversion scheme will be promulgated as soon as practicable and will also have an explanatory paper. However, certain features of

¹ Broadcasters converting to digital have the capacity to transmit additional audiovisual entertainment and datacasting services. At present, however, this capacity is subject to specific limitations. Broadcasters may not commence other audiovisual or datacasting services until a date to be fixed by proclamation (see Datacasting, below).

the commercial scheme (eg. the Digital Channel Plan) will be common to both schemes.

The Digital Conversion Act provides that, in formulating or varying the commercial CTC scheme, the ABA must consult with the following groups:

- a) the public, including consultation with potential datacasters;²
- b) holders of commercial television broadcasting licences;
- c) national broadcasters;
- d) the ACA; and
- e) owners and operators of broadcasting transmission towers.

Clauses 6(3)(m) and 19(3) (m) of Schedule 4 also require the ABA to consult with the owners and operators of particular broadcasting transmission towers if the implementation of the commercial television conversion scheme affects those towers.

CTC Scheme divided into two parts

The CTC scheme is divided into Parts A and B. Part A deals with digital conversion for the metropolitan and regional licence areas.

Part B deals with digital conversion for remote licence areas. This part of the scheme is not contained in the current draft CTC Scheme but will be released in draft form as soon as practicable, together with the draft national conversion scheme.

Policy Objectives of the CTC Scheme

The Digital Conversion Act outlines a number of policy objectives which the scheme must be directed towards achieving. These objectives may be summarised as follows:

- each holder of a television broadcasting licence in a metropolitan area is required to commence transmissions in digital mode on 1 January 2001
- each holder of a television broadcasting licence in a regional area is required to commence transmissions in digital mode on a date to be determined by the ABA between 1 January 2001 and 1 January 2004

² The EM expressly states that it is intended that public consultation would “include consultation with those persons interested in providing datacasting services”.

- there is to be a simulcast period of eight years (or longer where prescribed) during which broadcasters are to transmit their television programs in both analog and digital mode
- throughout the simulcast period, broadcasters should be authorised, under one or more transmitter licences, to use one or more additional channels to transmit their television service in digital mode
- the additional channels for digital transmissions should occupy the same amount of bandwidth as the channels used for analog transmissions
- broadcasters must meet standards relating to High Definition Television (HDTV) format transmission of television programs in digital mode
- broadcasters must meet standards relating to captioning of television programs for the deaf and hearing impaired
- As soon as is practicable after the start of the simulcast period for an area, the digital transmissions should achieve the same level of coverage and potential reception quality as the analog transmissions
- during the simulcast period, there should, as far as is practicable, be co-location of transmitters used for analog and digital transmissions
- at the end of the simulcast period, analog transmissions are to cease and any channels not going to be used to continue transmissions in digital mode are to be surrendered
- holders of television broadcasting licences should be permitted to use any spare transmission capacity to provide datacasting services
- the ABA should consult holders of television broadcasting licences about the implementation of the schemes
- owners and operators of broadcasting transmission towers must give digital broadcasters and datacasters access to the towers for the purpose of installing and maintaining digital transmitters
- if the implementation of the schemes affects particular broadcasting transmission towers, the ABA should consult the owners and operators of those towers

These objectives are set out in full in sections 6 and 19 of the Digital Conversion Act.

Digital Television Channel Planning Consultative Group.

A Digital Television Channel Planning Consultative Group (DCP Consultative Group) has been established and consists of representatives from the broadcasting industry.

The role of the DCP Consultative Group is to advise and make recommendations to the ABA on the development of the Digital Channel Plan. The Group will also advise the ABA on some of the general technical assumptions which it may take into account in developing the Digital Channel Plan.

Submissions to the ABA

Submissions on the CTC Scheme may be made to the ABA as follows:

by email: digital@aba.gov.au

by mail: Digital Conversion Consultation Process
 Australian Broadcasting Authority
 PO Box Q500
 Queen Victoria Building
 NSW 1230

by fax: (02) 9334 7799

The ABA would prefer submissions to be sent by email or on an IBM compatible or Mac 3.5 inch floppy disk wherever possible.

The closing date for submission is 5.00 pm, Friday, 27 November 1998.

The one month time frame for receiving submissions is designed to maximise the prospects of the ABA finalising the digital conversion schemes by late 1998 or early 1999 and thereby provide certainty about the conversion process as soon as possible for broadcasters and other interested parties.

Public File of Submissions

The ABA will create a public file of the submissions received in electronic and hard copy format. As submissions are received the ABA intends to place them on the ABA home page (<http://www.aba.gov.au>).

Hard copies may also be inspected at the ABA's Sydney offices from Monday to Friday between 9.00 am and 5.00 pm. The ABA's Sydney office is located at:

Level 15
Darling Park

201 Sussex Street
SYDNEY NSW 2000

If you do not wish your submission to be made public please ensure that it is clearly marked "Confidential - Not for the Public File" on the top of the first page of the document.

THE DIGITAL CONVERSION PROCESS

Digital Channel Plans

The ABA is empowered under the draft conversion schemes to develop a Digital Channel Plan (DCP). The DCP will determine which channels are to be allotted to each broadcaster and the technical characteristics of those channels. The ABA's objective in preparing the DCP is to plan the channel allotments to enable a broadcaster to plan its digital transmission coverage to match its analog coverage.

The ABA intends to develop the DCP and allot channels to licensees having regard to the following:

- the efficient use of the spectrum;
- the policy objectives in clause 6(3) of Schedule 4 of the *Broadcasting Services Act 1992*;
- the cost to the licensee and relevant tower and site owners and operators;
- disruption and cost to consumers;
- the analog Regional Equalisation Plan;
- any other matters the ABA considers relevant.

Developing the Digital Channel Plan

The ABA is developing the DCP for all licence areas of Australia as soon as practicable. However, in developing the DCP, the ABA must take account of the objectives of the Digital Conversion Act which relate to start up dates, namely:

- that metropolitan television broadcasting services commence transmitting in digital mode on 1 January 2001;
- that regional television broadcasting services commence transmitting in digital mode between 1 January 2001 and 1 January 2004.

The draft conversion schemes give the ABA discretion to prioritise the development of the DCP in order to meet, among other things, the different start up dates for metropolitan, regional and remote areas as prescribed in the Digital Conversion Act. The ABA's proposed plan for developing the Digital Channel Plan is divided into the following stages:

Stage One: plan the 5 metropolitan licence areas of Sydney, Melbourne, Brisbane, Adelaide and Perth

Stage Two: plan the regional areas

Stage Three: plan the remote areas

In relation to regional areas the ABA recognises that some broadcasters in regional licence areas, especially those which are contiguous to metropolitan markets, may wish to commence broadcasting in digital mode as early as 1 January 2001. To date, ten commercial broadcasting licensees have indicated to the ABA that they wish to commence broadcasting in digital mode on 1 January 2001. Subject to submissions received as part of this consultation process, the ABA intends to develop the digital channel plan for these licence areas as soon as possible after the DCP has been completed for metropolitan licence areas.

General Technical Assumptions underpinning the Digital Channel Plan

In preparing the DCP, the ABA must make technical assumptions in relation to planning parameters, measurement methods and best practice. It will be mandatory for the ABA to publish a definition of what constitutes 'the same level of coverage and potential reception quality as is achieved by the transmission of that service in analog mode in that area'.³ The ABA may also make publicly available any other technical assumptions. These are to be known as the "General Technical Assumptions".

The General Technical Assumptions can also be used for the detailed planning by broadcasters of transmission facilities for digital television.

Any General Technical Assumptions which are published by the Australian Broadcasting Authority are likely to be consistent with the Australian Broadcasting Planning Handbook for Digital Terrestrial Television Broadcasting (the DTTB Handbook), a draft of which will soon be available from the Australian Broadcasting Authority. The Planning criteria for VHF/UHF digital television planning in Australia have been largely based on planning recommendations and reports published by the International Telecommunications Union (ITU).

³ Clause 6(3)(f) of Schedule 4 of the *Broadcasting Services Act 1992*.

Consultation Process

The ABA will consult publicly before finalising or varying a DCP for any part of Australia.

Variation of a Digital Channel Plan

The ABA may vary a DCP and must have regard to the same criteria as are used in determining a DCP.

In varying a DCP, the ABA must have regard to any relevant Implementation Plan lodged with the ABA, whether approved or not.

Variation of conditions of existing transmitter licences

In developing a DCP for an area, it will sometimes be in the public interest to change the technical specifications of an existing (analog) service. This may include moving an existing transmission to a more optimal channel after a period of simulcasting.

The ABA has the power under Schedule 4 to vary the technical specifications of existing services in an area by amending the scheme itself, which has the effect of varying the Licence Area Plan (LAP) by reason of clause 10(1) of the Schedule. This power will be used where a LAP for that area already exists.

In addition, where there is no LAP for a particular area, the scheme will empower the ABA, in making or varying the DCP, to vary the technical specifications of an existing service.

In exercising this power the ABA will consult with:

- a) the public
- b) holders of commercial television broadcasting licences
- c) national broadcasters
- d) the ACA
- e) owners and operators of broadcasting transmission towers.

PART A - CONVERSION FOR METROPOLITAN AND REGIONAL LICENCE AREAS

Implementation Plans

Purpose of an Implementation Plan

An Implementation Plan is a binding commitment by a licensee to provide digital services from specified sites to cover specified areas by specified dates so as to achieve the same coverage as the analog service as soon as practicable after the simulcast period begins. It is subject to ABA approval.

Content of an Implementation Plan

The approved Implementation Plan would consist of no more than a list of:

- Sites
- Coverage Areas
- Dates by which particular transmitters must start to provide a service

Licensees may prepare and submit to the ABA one or more Implementation Plans relating to digital transmission.

To enable the ABA to consider whether to give its approval, Implementation Plans must be accompanied by supporting documentation regarding the following:

1. The general area served by each transmitter.
2. Site of each proposed transmitter, including:
 - name of site
 - Australian map grid reference
3. Proposed emission characteristics, including:
 - frequency band
 - channel
 - polarisation
 - effective radiated power

4. Site owner warranty.

- a warranty from the broadcaster that it has access to the site and tower it is proposing to use

5. Additional warranties.

- a warranty from the broadcaster that it has obtained any necessary approvals required from third parties (eg. local government approval for use of a site) and conducted necessary consultations (eg with other licensees about co-location).

Accordingly, the conversion scheme provides that applications for approval must be in accordance with a form determined by the ABA. As the draft Implementation Plan and supporting documentation contain important information which will enable the ABA to assess a licensee's proposal to deliver television services in digital mode it will be important to complete the form in full before submitting the Implementation Plan to the ABA. The ABA will not consider draft Implementation Plans where the supporting documentation is incomplete.

When Implementation Plans must be Prepared

Metropolitan areas

An Implementation Plan for the entire licence area must be prepared and submitted to the ABA for approval after the DCP for the licence area has been completed and before a date to be set by the ABA. This date will represent a specified period before 1 January 2001. The ABA will consult on what this date should be.

Regional areas

An Implementation Plan for the entire licence area must be prepared and submitted to the ABA for approval after the DCP for the licence area has been completed and before a date to be set by the ABA. This date will be a specified period before the earliest of:

- 1 January 2004; or
- the date determined by the ABA under clause 6(3)(b) of the Schedule for that licence area ("the simulcast date").

Determining the Simulcast Date

Where, in relation to a regional licence area, the ABA is satisfied it is practicable to commence the simulcast period before 1 January 2004, it may determine a simulcast date between 1 January 2001 and 1 January 2004. This date represents the last date

by which digital services must commence in the area and is also the commencement date of the simulcast period referred to in 6(3)(c) of Schedule 4 of the *Broadcasting Services Act*.

Before determining the simulcast date for a licence area, the ABA will consult with broadcasters in the licence area and such other people as the ABA thinks appropriate.

Submitting an Implementation Plan

Once a broadcaster has prepared a draft implementation plan it must be submitted to the ABA for approval on an Application Form approved by the ABA. The Application Form will require specific information to be provided by the broadcaster (see below) and will have to be completed in full. The ABA is proposing to develop the Application Form so that it is available to broadcasters as soon after the completion of the Digital Channel Plan. However, the ABA welcomes submissions on whether or not the CTC Scheme should mandate a time by which the development of an Application Form should be completed.

Approval of an Implementation Plan

The CTC scheme sets out some of the criteria for assessing an Implementation Plan which can be summarised as follows:

1. Whether the proposed emission characteristics of the digital service are consistent with the technical specifications set down in the relevant Digital Channel Plan;
2. Whether the proposed emission characteristics of the digital service meet the boundary conditions determined by the ABA;
3. Whether there is likelihood of interference with other services;
4. Whether adherence to the Implementation Plan would result in “the same level of coverage and potential reception quality” (as defined in the General Technical Assumptions underlying the Digital Channel Plan) as soon as practicable after the start of the simulcast period;
5. Whether the proposed commencement date for digital transmission is no later than the ABA declared simulcast date for the area.
6. Whether the licensee has consulted other licensees about co-location of transmission facilities for each site (in accordance with the policy objective at clause 6(3)(g) of Schedule 4 of the Broadcasting Services Act 1992, and

whether, as far as practicable, the licensee is proposing co-location of transmitters used to transmit in digital mode and transmit in analog mode.

7. Whether the licensee has the relevant site approvals or permissions required to support its proposed use of the sites.
8. Whether the licensee proposes continuous transmission in digital mode and analog mode for the entire simulcast period.

Refusal to Approve an Implementation Plan

The scheme provides that a decision by the ABA to refuse to approve an Implementation Plan is reviewable by the AAT.

Effect of Approval of Implementation Plan

On finalisation of an Implementation Plan, the scheme will require the Australian Communications Authority (ACA) to issue any necessary transmitter licences under s102A of the *Radiocommunications Act 1992* for all transmitters shown in the Implementation Plan. The licences will be issued with such conditions as the ABA decides are appropriate having regard to the Implementation Plan, the supporting documentation provided by the licensee and any other relevant matters.

At the date of approval, some transmitter licences may already have been issued under the test regime (described below). Where a transmitter licence is already in existence under the test regime, the scheme will require the ACA to vary the transmitter licence conditions as necessary to make it consistent with the approved Implementation Plan and the supporting documentation.

The approved Implementation Plan becomes a licence condition under the *Broadcasting Services Act 1992*.

Submitting an Implementation Plan for part of a licence area

Where a regional licensee wishes to commence service in part of its licence area before the simulcast date, the ABA has a discretion to allow the licensee to lodge an Implementation Plan for that part of its licence area.

The ABA and the licensee must agree on a date on which the licensee wishes to commence digital transmission in accordance with an approved Implementation Plan for that part of the licence area (the agreed start-up date).

The Implementation Plan submission and approval procedure then operate as for any other Implementation Plan, as though part of a licence area is a licence area.

The Implementation Plan must be lodged after the DCP for that part of the licence area is complete and before a date to be set by the ABA.

Variation of an approved Implementation Plan

A licensee may apply for variation of an Implementation Plan. The application must be in a form approved by the ABA.

The ABA will consider the application in light of the Implementation Plan approval criteria and in consultation with other broadcasters in the licence area. Where it is necessary to make a consequential variation to a transmitter licence, the ABA will require the ACA to make the variation.

Variation of a s102A transmitter licence

A person may apply for variation of a transmitter licence in a form approved by the ABA.

When the ABA receives an application for variation of a transmitter licence, it will consider whether the application, if approved, would affect the licensee's ability to comply with the Implementation Plan. If so, then the ABA will require the licensee to seek a variation to its Implementation Plan.

Where the ABA approves a variation to a s102A transmitter licence, without requiring a variation to an Implementation Plan, the ABA can require the ACA to vary the conditions of the transmitter licence accordingly.

Where no Implementation Plan is in place on the simulcast date

The scheme must make provision for the surrender of a s102A transmitter licence if a licensee does not commence transmission in digital on the simulcast date and does not satisfy the ABA there are exceptional circumstances.

If, prior to the simulcast date:

- an Implementation Plan has not been submitted for approval; or
- an Implementation Plan has been submitted but not yet considered by the ABA;
or
- an Implementation Plan has been submitted but the ABA has refused to approve it;

The ABA must make arrangements with the ACA to allow the ACA to issue a s102A transmitter licence to the licensee.

Test transmissions

The scheme will make provision for the ABA to require the ACA to issue s102A licences for test transmissions at any time until an Implementation Plan for that area is approved. The s102A licence may be issued with such conditions as the ABA considers appropriate.

Spectrum for the tests would be made available pursuant to s34 of the *Broadcasting Services Act*.

If at the time of test transmission there is no DCP for that area, then the ABA cannot warrant that the channel made available for the test will be the same channel that is allotted in the DCP.

If a DCP has been prepared but the licensee's Implementation Plan has not been approved for the area, then the ABA cannot warrant that the technical specifications which are approved for the test are the same as those that are ultimately included in the s102A licence following approval of an Implementation Plan.

For the avoidance of doubt, test transmissions may permit a licensee to transmit the commercial television broadcasting service in digital mode prior to the approval of an Implementation Plan for that area and prior to commencement of the simulcast period.

PROBLEMS WITH STARTING OR MAINTAINING DIGITAL TRANSMISSION

Failure to commence digital transmission

If a licensee does not commence digital transmission on or before the simulcast date and does not satisfy the ABA there are exceptional circumstances, the licensee will be required to surrender all its transmitter licences authorising digital transmission in the licence area.

Failure to continue digital transmission throughout the simulcast period

If a licensee commences digital transmission, but ceases digital transmission during the simulcast period, the ABA may give the licensee a written direction to resume digital transmission within a specified time.

If a licensee does not comply with the direction and does not satisfy the ABA there are exceptional circumstances, the licensee will be required to surrender all its transmitter licences authorising digital transmission in the licence area.

Contravention of HDTV standards

If a licensee contravenes a standard dealing with HDTV formats, the ABA may give the licensee a written direction to comply with the standard within a specified period.

If a licensee does not comply with the direction and does not satisfy the ABA there are exceptional circumstances, the licensee will be required to surrender all its transmitter licences authorising digital transmission in the licence area.

If a licensee surrenders a transmitter licence under these circumstances, the licensee may, in writing, ask the ABA to require the ACA to issue a replacement transmitter licence. However the amount of transmission capacity covered by the replacement licence must be less than the transmission capacity covered by the surrendered licence.

Right of review

If the ABA refuses the licensee's request for a replacement licence, the decision to refuse is reviewable by the AAT.

End of the Simulcast Period

At the end of the simulcast period, all transmissions in analog mode must cease. A licensee may elect to continue transmitting in digital mode using the channels it used for digital transmission during the simulcast period. This would require the surrender of all transmitter licences authorising analog transmission.

Alternatively, a licensee may elect to transmit in digital mode using the channels that were used for analog transmission during the simulcast period. This would require the surrender of all transmitter licences authorising digital transmission on the additional channels. In these circumstances, the ACA is required to vary the conditions of the analog transmitter licences, so as to ensure the licences authorise digital transmission in the area at the end of the simulcast period.

OTHER MATTERS

Datacasting

Use of spare transmission capacity

A licensee is permitted to use any spare transmission capacity in the licensee's allotted transmission channels for the purpose of transmitting datacasting services.

This permission is subject to s102A of the *Radiocommunications Act 1992*, which states that authorisation for datacasting purposes will not take effect until a day to be fixed by proclamation.

Transmitter Access Regime

Requirements of the access regime

The owner or operator of a broadcasting transmission tower must provide:

- a) the holder of a commercial television broadcasting licence; or
- b) a national broadcaster;

with access to the tower, and the site of the tower, for the purpose of installing or maintaining a transmitter for use in transmitting television broadcasting services in digital mode.

The owner or operator of a broadcasting transmission tower must provide a datacaster with access to the tower, and the site of the tower, for the purpose of installing or maintaining a transmitter for use in transmitting datacasting services in digital mode.

When compliance with the regime is not technically feasible

Where it is not technically feasible to provide access to a broadcasting transmission tower, the ABA may issue a certificate stating that, in the ABA's opinion, compliance with access requirements is not technically feasible.

Terms and conditions of access

The owner or operator of a broadcasting transmission tower and the licensee seeking access to the transmission tower and/or site may agree on the terms and conditions of the access.

Failing an agreement, the ACCC will be appointed as arbitrator to determine the terms and conditions.

The ACCC may, by written instrument, make a code setting out the conditions that are to be complied with in relation to the provision of access.

CONCLUSION

The draft CTC Scheme (Part A) has been developed by the ABA in light of the policy objectives of the Digital Conversion Act. The Scheme is designed to facilitate the conversion from analog to digital broadcasting by commercial television broadcasters. The draft CTC Scheme has been circulated widely and interested people are invited to provide submissions to the ABA on any aspect of the Scheme.

Part B of the Scheme, which regulates conversion to digital transmission for licensees in remote licence areas, will be disseminated as soon as practicable, together with the national television conversion scheme. The national television conversion scheme regulates conversion to digital transmission for national broadcasters.