



**FreeTV**  
Australia

**Submission by  
Free TV Australia Limited**

Australian Communications and Media  
Authority

Allocation of Spectrum for New Digital  
Television Services

By  
Free TV Australia Limited

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## EXECUTIVE SUMMARY

- ACMA must ensure that the highest priority shall be given to the smooth transition of viewers from analogue to digital television. The rollout of new services on Channel A and Channel B must not cause “interference” to this transition – in either a technical or procedural sense.
- The allocation rules applied to Channel A and Channel B must ensure that the services they deliver are in line with the government’s stated intention that they are for “new and innovative” services and are not to be commercial broadcasting services.
- There should be competition limits applied so that no one organisation can control both Channel A and Channel B.
- Pay TV operators should be subject to the same restrictions on bidding for Channel A and Channel B that apply to free-to-air broadcasters.
- The narrowcasting guidelines must set clear requirements to ensure that narrowcasting services are not permitted to provide content of a kind traditionally provided by free-to-air television services to fixed in-home receivers.
- Rollout obligations on Channel A and Channel B should include coverage obligations to ensure that licensees are not able to cherry pick populated areas and ignore the less populated areas.
- The Channel A and Channel B licences should be issued as a single national licence rather than be broken into a set of transmitter licences.
- Any swapping of channels between the A and B licensees must be done in such a way as not to interfere with existing services.
- Free TV supports an ACMA complaints process to ensure that commercial and national broadcasters comply with restrictions on the use of Channel B.
- The unassigned digital channels have been planned to provide DVB-T services to receivers using fixed outdoor antennas. No planning has been done for the delivery of services to mobile or portable receivers.
- A series of studies and a wide ranging trial will be required to ensure that the introduction of mobile television services do not compromise the availability and quality of free-to-air television services and disrupt the smooth transition to digital television for all Australian viewers.
- Broadcasters will require consultation if any changes are proposed to the Technical Planning Guidelines and any further variations to the Digital Channel Plans, as these have a direct bearing on the commercial viability of broadcasting businesses.

## INTRODUCTION

Free TV Australia is the peak industry body representing all of Australia's commercial free-to-air television licensees.

Free TV welcomes the opportunity to comment in response to the Discussion Paper, *Allocation of spectrum for new digital television services*, released by the Australian Communications and Media Authority (**ACMA**) in December 2006. ACMA has sought comment on the allocation and licence parameters for two types of datacasting transmitter licences (**DTLs**), Channel A and Channel B in the unassigned channels of each Digital Channel Plan (**DCP**).

The unassigned channels have been planned to provide DVB-T services to receivers using fixed outdoor antennas. No planning has been done for delivery of services to mobile or portable receivers. As such, the use of Channel B for mobile television services presents a number of challenges, in particular the significant potential for interference to existing television services.

It is imperative that the introduction of mobile television services in Channel B is carefully and cooperatively researched and planned to ensure new services do not compromise the availability and quality of free-to-air television services and disrupt the smooth transition to digital television services for all Australian viewers.

At least 75% of Australian TV homes rely exclusively on free-to-air television services and all Australian TV homes rely exclusively on terrestrial transmission over the Broadcasting Services Bands (**BSBs**) to receive some or all of their free-to-air television services over some or all of their reception devices. This level of reliance on over-the-air transmission of television services is amongst the highest in the world.<sup>1</sup>

Broadcasters are now at a critical stage of the digital transition. At least 87% of television households (6.6 million) are capable of receiving all free-to-air digital channels and 96% can receive at least one. Consumer confidence in digital has been increasing over the last 18 months with at least 25% of households now capable of watching free to view digital services. This provides a very strong base for the Government's Digital Action Plan.

It is vital that in implementing mobile television services, confidence in digital television is not undermined.

A major interference problem can impact the free-to-air television services received by hundreds of thousands of viewers, and have major financial impacts on broadcasters.

This is a particular risk for digital services. Whereas in analogue a viewer may suffer a 'snowy' or 'noisy' picture from interference, interference with a digital signal is more likely to result in a digital viewer suddenly receiving no service at all. This is referred to as the 'cliff-effect'.

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<sup>1</sup> Foxtel does not retransmit all digital free-to-view services, and Austar does not re-transmit any regional commercial free-to-view service on its satellite platform. Therefore households receiving pay television require digital terrestrial transmission to receive the digital free-to-view services. Households with pay television also rely on free-to-view services for their secondary television sets, VHS and DVD devices.

The digital television roll-out is not yet complete and further work needs to be done to identify coverage gaps and in-fill spectrum needs for digital television services. It is important that all viewers who receive analogue television signals are able to receive a digital signal of at least equivalent quality after analogue switch-off. These and other coverage issues will not be able to be fully assessed until digital signals are being transmitted at full power at the time of analogue switch off.

These issues must be carefully managed to ensure that viewers are not excluded from free-to-air television services after analogue switch-off.

Narrowcasting Guidelines to be developed by ACMA must give effect to the Government's policy of encouraging new and innovative services. Clear requirements must be set to ensure that narrowcasting services are not permitted to provide content of a kind traditionally provided by free-to-air television services to fixed in-home receivers. The application of existing Narrowcasting Guidelines for radio has resulted in a number of services being approved as narrowcast services but subsequently many of these have been found to constitute commercial broadcasting services.

This submission makes comments on certain issues raised in the Discussion Paper under the following topics:

**Section 1: Allocation process.** This section argues that certain additional competition limits should be applied and that comprehensive narrowcasting Guidelines need to be developed to ensure that these services are not commercial broadcasting services.

**Section 2: Licence design.** This section argues for a single national licence with coverage and roll-out obligations

**Section 3: Technical arrangements.** This section outlines the complex planning challenges for the proposal to provide mobile television services in Channel B.

## **1 Allocation Process**

The Discussion Paper seeks comments on the approach the ACMA should take to the sale of the two digital channels.

### **1.1 Price-based allocation**

Free TV has no comments.

### **1.2 Participation criteria for Channel A**

Free TV supports the establishment of clear criteria for participation in the Channel A auction. The two stage participation criteria used by Hong Kong in the sale of its 3G mobile telephony spectrum appears to provide a useful model.

In particular, potential bidders should:

- demonstrate the willingness and ability to provide a national service;

- commit to a minimum level of rollout across Australia as soon as possible. Given the fact that planning has been completed and towers are already available, this should be required within 24 months;
- provide financial guarantees on capital required to meet minimum network rollout conditions; and
- provide plans for network rollout, level of service and coverage which are sufficiently detailed for ACMA to anticipate any planning and interference issues that may arise, and to ensure that the new service will comply with the existing Technical Planning Guidelines.

### **1.3 Competition limits**

Channel A and Channel B are intended to provide new and innovative services that do not replicate free-to-air or subscription broadcasting services. To give effect to this policy, additional competition limits should be imposed on the allocation of the unassigned channels:

- subscription broadcasters should be subject to the same competition limits on controlling Channel A and B as already apply to free-to-air commercial and national broadcasters; and
- no one person or entity should be able to control both Channel A and Channel B.

There is no justification for treating the pay TV industry differently from free-to-air broadcasters. Pay TV is an established and profitable business.<sup>2</sup> Pay TV operators should be treated consistently with commercial free-to-air broadcasters. Pay TV should be excluded from bidding for Channel A, and should be limited to mobile services only if they bid for Channel B.

Restricting any one person or entity from controlling both Channels should ensure a more diverse approach to their use. There do not appear to be any technical reasons for allocating both licences to one bidder.

### **1.4 ACCC involvement in the allocation of DTLS**

Free TV has no comments.

### **1.5 Narrowcasting**

Narrowcasting Guidelines to be developed by ACMA must give effect to the Government's policy of encouraging new and innovative services. ACMA should make a clear distinction between narrowcasting services and commercial broadcasting services to ensure certainty for existing commercial broadcasters and for the providers of the new digital services.

The existing Guidelines have failed to prevent narrowcasters from broadcasting wide appeal programs that are often indistinguishable from commercial broadcasting services, contrary to the intention of the BSA<sup>3</sup>. This

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<sup>2</sup> As reported in The Bulletin, *Business Lead: Foxtel on the Run*, 12 September 2006, Foxtel's annual revenues exceed those of the commercial free-to-air networks and "Williams [Kim Williams, Foxtel CEO] pledges that Foxtel will soon streak past the free-to-air networks in terms of profitability".

<sup>3</sup> ACMA has reported that from 1 January 1993 to 10 December 2003, 84% of complaints against narrowcasters related to operation of free-to-air commercial services outside the terms of their licence, and that breaches were found in 43% of those cases: Professor Ian Ramsay "Reform of the Broadcasting Regulator's Enforcement Powers", November 2005, page 33.

is despite the fact that most narrowcasting services receive approval from ACMA before commencing operation.

New Guidelines must make a clear distinction between limited appeal programming which narrowcasting permits, and wide appeal programs which are reserved for commercial broadcasting services and are subject to a range of legislative restraints.

It is important that ACMA Guidelines address both the types of programs acceptable as narrowcasting, and the overall content of a narrowcasting program schedule and channel package.

Types of programs should be restricted to foreign language programs or programs in English that have limited scope of appeal. Narrowcasting television services should not be permitted to broadcast genres that are clearly of wide appeal or populist, such as English language movies, television dramas or reality style programs.

A narrowcasting television service should not be permitted to have program schedules that contain similar content and sequencing of programs that is common in commercial broadcasting service schedules.<sup>4</sup> Nor should a narrowcasting service be permitted to offer a channel package which, when taken as a whole, offers a combination of programs which has wide appeal.

A narrowcasting television service should not be permitted to schedule wide appeal programs during prime time viewing hours whilst retaining its limited appeal programs to other times of the day. These services should broadcast the programs of limited appeal (such programs being the reason for the narrowcasting licence) throughout the entire day, including in prime time viewing hours.

Guidelines should also make it clear that in assessing the effect of a narrowcasting television service, ACMA will have regard to the whole of the channel offerings within a service. Narrowcasters should not be permitted to program across channels, so as to provide a package of programs which has wide appeal when taken as a whole.

ACMA should also take an active role in monitoring narrowcasting services once they commence broadcasting to ensure that they continue to comply with the regulations and Guidelines.

As part of this monitoring, ACMA should have regard not only to the programming but also the marketing of narrowcasting services. A narrowcasting service which claims wide audience reach, high audience viewing, or otherwise markets itself as being of wide appeal, necessarily warrants investigation by ACMA. ACMA should make clear that narrowcasters must market their services in a manner which is consistent with their licence and that where this does not occur, such statements and marketing representations could constitute evidence of a breach of the terms of the narrowcasting licence.

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<sup>4</sup> The experience with radio narrowcasting is instructive. In 2002 the Australian Broadcasting Authority issued a clarification notice, Broadcasting Services Clarification Notice 2002, on what constitutes narrowcasting in radio. The 2002 Notice followed substantial dissatisfaction within the commercial radio industry about mixed services, which provided programs that fell within recognisable categories (such as racing) combined with some wide appeal programming, such as talkback, news and music.

## **2 Licence Characteristics**

### **2.1 Design of the licences**

Free TV does not support issue of sets of transmitter licences, rather than a single national licence. It was clearly Parliament's intention that Channel A and Channel B be issued as national licences and that they provide services to all Australian viewers.

Broadcasting policy over the last thirty years has been designed to enable Australian viewers to receive the same level of services regardless of where they live. This was the major policy underpinning regional aggregation in the 1980's and has been applied in the digital transition with the implementation of section 38B BSA licences in under-served markets.

Given that the Parliament determined that the unallocated spectrum would be issued as two national licences rather than separate geographic based allocations, we do not see any technical or policy merit to issuing multiple sets of transmitter licences which aggregate to two nationwide lots. This would have the unfair result that bidders for Channels A and B had the opportunity to obtain national licences, unlike any other users of the BSB, but had the advantages of being able to split off the 'less attractive' areas.

Splitting a national licence into separate transmitter licences allows the licensee to pick and choose where and when services are provided. If the licensee is able to split the licence obligations and to possibly trade some of them, then it is inevitable that the operator will focus on metro and large regional areas, leaving the smaller regional and remote areas under-served. This would clearly be contrary to the interests of the large number of Australians who live in regional and remote communities across Australia.

### **2.2 Rollout obligations**

For the same reason we strongly urge ACMA to ensure that there are adequate rollout obligations on the successful bidders. In relation to Channel A the obligations should be similar to those applying to broadcasting licensees. Broadcasting licences include the provision that they must commence to provide a service within 12 months of being allocated the licence.

As the planning for Channel A is complete, there is no reason why this service needs an extensive rollout period. We do not support a multiple transmitter model option where the rollout obligations can be focused on capital cities and large regional areas with a delay on the rest of Australia. The rollout obligations should include specific coverage obligations to ensure that all Australian viewers are served by the new licensee, within a specified period of time which should be no longer than 5 years.

The Channel B licensee already has an obligation to commence to transmit a service within 18 months of the allocation of the licence or such longer period allowed by ACMA. In our view the Channel B licensee should also be subject to coverage obligations within specified time limits. Again, this is to ensure

that the licensee provides services to all Australian viewers in line with its national licence and Parliament's intention.

### **2.3 Part licence trading**

For the reasons outlined in 2.1 above, Free TV does not support part licence trading for Channel A or B. Further, part licence trading would create considerable complexity in the implementation and enforcement of access undertakings and rollout obligations.

### **2.4 Swapping of channels between A and B**

The Discussion Paper seeks comment on whether successful bidders for Channel A and Channel B should be permitted to swap channels in an area where both would operate better if they were swapped.

Allocation of Channel B frequencies will require extensive planning by ACMA to ensure that mobile services do not interfere with the availability and quality of free-to-air television services. In considering whether to allow a swap, ACMA needs to consider existing services, not just whether the new licensees will benefit from a swap. As a swap might have far-reaching adverse impacts on affected broadcasters, any decision to allow a swap must be made by ACMA only after first studying the potential impacts on broadcasting services in the relevant area.

ACMA must be required to conduct surveys and other relevant investigations (at the applicant's cost). Furthermore, ACMA should be required to consult with broadcasters regarding appropriate investigations and to consult with broadcasters prior to any approval being granted.

### **2.5 Enforcement issues for FTAs controlling Channel B**

Broadcasters have demonstrated a high level of compliance with the requirements of the BSA. Further, any breach of the limitation on providing services to domestic digital television receivers would be immediately apparent. Such a breach could also jeopardize the commercial broadcasting licence held by the relevant party.

Given the seriousness of the consequences of the breach and the lack of any evidence of previous breaches by licensees, FreeTV strongly opposes any proposal to implement onerous formal reporting obligations. A process whereby complaints to ACMA are investigated, combined with ACMA's new enforcement powers and the ability to compel information at any time, should be sufficient to address compliance with control requirements as it has been in the case of existing cross media rules.

### **2.6 Digital dividend**

The Discussion Paper raises the possibility that the frequencies for Channel A and Channel B may be altered as part of the so-called digital dividend when analogue switch off is achieved and that under current arrangements licensees would not be eligible for any costs incurred.

The Discussion Paper acknowledges that there is no policy decision to do this and recognises the undoubted costs and disruptions to viewers, broadcasters and DTL licence holders would have to be considered by the government of the day in consultation with stakeholders.

It is important to note that prior to any discussion of digital dividend, comprehensive and detailed research will be required to establish the future planning requirements for free to air broadcasters and presumably the DTL licensees. It is likely that digital television coverage gaps will exist in a range of locations which will require further channel planning. Coverage issues will not be able to be fully assessed until digital signals are being transmitted at full-power (and coverage is therefore maximised). In many metropolitan and regional areas, signals will not be able to be transmitted at full power until analogue switch-off. Further channel planning may also be necessary to address interference between digital services in adjacent areas.

Free TV strongly asserts that the primary consideration for Government and regulators must be that every viewer who currently receives a free-to-air television service is able to continue to receive a free-to-air television service and that the quality of the service will need to be at least as good as it is now (that is interference free).

Contrary to the situation in some countries, Australia has already identified benefits from the digital transition that are considered a public dividend; for example, higher quality broadcast television, more television services and the Clearance of Bands I and II of the BSBs.

The cost and disruption that would result from re-assignment of channel allocations for digital television were detailed in Section 3 of Free TV 's May 2006 submission to ACMA on the *Future Use of Unassigned Channels*. In Free TV's view any benefit in realising a contiguous block of spectrum would be overwhelmingly outweighed by the enormous cost and disruption to Australian viewers and broadcasters of re-assignment. These include changes to transmission infrastructure, re-tuning of viewer reception equipment and replacement of some viewer antennas, and adjustments and replacement of some cable distribution systems.

Decisions on spectrum use after analogue switch-off need to take into account spectrum needs for digital conversion of black spot and self-help installations. The Government's Television Black Spot Program invested \$35 million to assist many small communities to improve reception of television signals in areas shaded from the main transmitter sites. In addition, self-help groups have established private transmission facilities, often with the assistance of local councils. Currently the majority of these facilities operate in analogue mode and will need to be converted to digital before switch-off.

Re-assignment of channels would also have flow-on effects for secondary users of the BSBs, particularly users of wireless microphones and related equipment and users of medical telemetry equipment. Modern productions and special events use an increasingly large number of wireless microphones which currently use the unassigned television channels available in the

relevant location<sup>5</sup>. If these channels are no longer available after analogue switch-off, alternative spectrum will need to be made available, potentially requiring replacement of the professional wireless microphone population.

The same issue has been identified in Britain, resulting in the recent release of an Ofcom report<sup>6</sup>, which discusses the problems in detail and makes recommendations for possible solutions.

### **3 Technical Arrangements**

Free TV's examination of the technical arrangements raises a number of DTTB planning, channel attribution and mobile television planning issues which are described in full detail in Annexure A. A summary of the key points is provided below.

#### **3.1 Background to digital television planning**

Free TV has been provided with a redacted copy of ACMA's June 2006 Advice to the Government on '*Unassigned Television Channels*', following its release under a Freedom of Information application by *The Australian*. Although large portions of the Advice have been removed or concealed, it is clear that investigations by ACMA revealed that many channels are not suitable for mobile television and where channels are available, significant interference to television services will result if mobile television services were deployed in certain areas, including Sydney.

It is clear that the use of Channel B for mobile television services would present a number of planning challenges. These challenges need to be addressed comprehensively to ensure that any deployment does not result in loss of television services and/or major interference and disruption to viewers and broadcasters in affected areas.

Free TV submits that a planning regime similar to the Digital Television Channel Planning Consultative Group should be established as soon as possible to understand the extent to which mobile television applications can co-exist with television broadcasting services in the BSBs. The Planning Group should include representatives from the Department, ACMA, national, metropolitan and regional broadcasters and Channel A and Channel B licensees (at the appropriate time).

##### **3.1.1 Key planning issues**

Digital Channel Planning for the conversion to digital television broadcasting and datacasting has been developed on the basis of fixed outdoor reception, but has not been based upon channel planning for co-assigned mobile TV services.

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<sup>5</sup> Free-to-air television broadcasters and those who are associated with program making and special event organisation in Australia have been utilising the secondary management of the BSBs in accordance with Operational Practice 27 for many decades. This recommends a selection of television channels for wireless microphone use in any location. The Operational Practice includes tables for capital city and large regional centres, showing the name of transmitter sites and the post codes applicable to the coverage area of those sites.

<sup>6</sup> [www.ofcom.org.uk/consult/condocs/ddr/reports/report\\_sagentia.pdf](http://www.ofcom.org.uk/consult/condocs/ddr/reports/report_sagentia.pdf)

The BSBs are allocated primarily to broadcasting. Mobile communication services are allocated on a secondary basis. Mobile TV services should not be introduced into Australia until studies and planning have been completed for the BSBs that take account of the protection of existing analogue/digital television broadcasting and new Channel A services.

Free TV is not aware of any other jurisdictions where mobile TV services have been planned or deployed in channels adjacent to fixed broadcasting services. In the United States, Qualcomm MediaFLO technology has been planned and trialled and will soon be implemented in Channel 55. This is only possible because there are no television stations operating in Channel 55 or adjacent channels 54 and 56.

The planning challenges that would need to be addressed before any deployment of mobile services are outlined below and discussed more fully in Annexure A.

#### **(a) Transmission path variations**

There are significant variations between the transmission path for fixed and mobile television services.

Planning for analogue and digital broadcasting and datacasting services in the BSBs has been based upon the principles established for radio propagation of a single dominant signal for coverage and reception of those analogue and digital signals.

Planning for reception of mobile television signals would need to take account of coverage and reception planning from no dominant single signal but multiple and reflected signals from cluttered environments. It would also need to take into account other factors such as location variability, time variability and height gain and building / vehicular penetration loss.

#### **(b) Protection ratio issues**

Current planning has been based upon a series of assumptions which includes that transmissions will use DVB-T coding and MPEG-2 compression.

If mobile operators adopt other coding and compression schemes, then it will be necessary to first identify the appropriate protection ratios and the channels available at each location. The variability of mobile signal levels means that mobile services are unlikely to reliably achieve the protection ratios that have been planned at each location.

As broadcasting is primary in the BSBs, planning must foremost ensure that broadcasting services are appropriately protected. Protection ratios may need to change over time as broadcasters adopt new coding or compression schemes.

It is important to recognise that current Digital Channel Planning has been based upon co-sited transmitters thereby maintaining the relativity between adjacent channels. A different mobile topology will increase the reliance on protection ratios for a workable service.

**(c) Minimum signal level**

The minimum signal level required to deliver an acceptable service will be higher for mobile than fixed services. As such, planning for mobile TV needs to take account of higher carrier to noise (C/N) ratios to achieve reliable decoding compared with the fixed outdoor antenna case that is assumed for planning digital broadcasting and datacasting services in Australia<sup>7</sup>.

**3.2 Attribution of unassigned channels at each site to Channel A or B**

Allocation of unassigned channels at each site needs to take into account:

- the requirements for gap fillers by existing and planned DVB-T services to meet the requirements of same coverage of digital television signals with respect to analogue;
- the need for strict compliance with protection ratio requirements to avoid mutual interference between transmissions in adjacent channel allocations.

Subject to these considerations, Free TV generally agrees with the principles outlined in the Discussion Paper. To avoid interference with existing television services, it is particularly important that:

- VHF Band III channels are avoided for the introduction of unplanned services
- channels which are adjacent to existing broadcasting services are avoided for Channel B services

Free TV notes that ACMA does not intend to select channels above 59 for Channel B. This is the case even if the only alternative channel is within the same general frequency range as broadcaster channels at a site. The reason stated in the Discussion Paper is that channel 59 is outside the range that is suitable for mobile television.

The basis for this assumption is not clear. A number of jurisdictions, including the US and Japan have allocated frequency ranges extending above channel 59. The EU Commission has announced plans to offer the 1.4GHz (L-band) for mobile television until analogue television channels become available in 2012.

ACMA should not rule out allocation of channels above 59 where interference mitigation could be attained through design of low power single frequency networks operating in the upper frequency ranges of Band V adjacent to existing and planning DVB-T networks.

**Specific allocation observations**

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<sup>7</sup> Planning for digital terrestrial television services draws upon the criteria established in Recommendation ITU-R Recommendation *BT.1368 Planning Criteria for Digital Terrestrial Television Services in the VHF/UHF Bands*. Implementation of digital broadcasting and datacasting services is based upon a series of assumptions and modulation characteristics in the DTTB Planning Handbook.

The selection criteria for a high/moderate power site is proposed as a transmitter site with an ERP greater than 10kW<sup>8</sup>. There are some anomalies in the definition and classification of sites allocated a Channel B assignment, which require clarification. One Channel B assignment has been made for a potential Single Frequency Network which extends over a geographic area of 200km. Free TV's comments on the proposed attribution of unassigned channels to channel A and B (Attachment B to the Discussion Paper) are set out in Annexure A.

### **3.3 Defined Service Areas and DCPs**

Existing broadcasters are operating at less than full power under the DCPs to minimize the risk of interference to analogue receivers. At analogue switch-off broadcasters will increase to full power as the potential for interference will disappear. It will be necessary to place the same restrictions on mobile TV to minimize interference to analogue and digital TV services until analogue switch-off is achieved.

The DCPs are based on broadcast licence areas. The Discussion Paper describes a geographic area rather than a licence area for Channel A and Channel B.

A broader planning regime may be required that takes a *holistic* approach to the entire area impacted by the Datacasting *geographic area* for Channel A and B.

The paper proposes that DTL services could be introduced at locations that are not associated with transmitters for existing analogue or digital FTA services. Therefore it is possible that DTL signal levels could cause overload of receivers such as "blanketing" in the vicinity of DTL transmitters. Introduction of additional services into BSB will impact on the threshold at which a large proportion of the existing receiver population has been optimised for the introduction of DTTB.

Reception of free-to-air service analogue and digital television broadcasting services in remote areas often depend on signal levels at the lower limit set by receiver noise-limited sensitivity and hence 'blanketing' of receivers in the vicinity of the additional DTL transmitters is likely to be even more of a problem.

Further work needs to be done to understand the extent of the 'blanketing' problem and to plan new services to ensure that 'blanketing' problems are avoided or minimized. To the extent that blanketing can not be avoided, it will be necessary to establish a wide scale Interference Management Scheme in accordance with the Technical Planning Guidelines.

### **3.4 Limited re-planning to improve channel B for mobile television users**

Material which has been made available to date on the proposals and trials of mobile TV applications are based on cellular type networks planned on the basis of single frequency networks (**SFNs**). Such a network will depart from

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<sup>8</sup> Footnote 23 on Page 44 of the Consultation Paper

the established principle of co-location in the planning for digital free-to-air broadcasting and datacasting services in Australia.

Re-planning for a network of lower powered transmitters may identify additional or new channels that could be used for a cellular network but not for the existing broadcasting structure of a main high-power transmitter with low power supplementary transmitters.

#### **3.4.1 Channel B suitability at major high power/wide coverage sites**

“Interference infill repeaters” (IIRs) are suggested as a possible solution to interference to free-to-air reception from non-co-sited DTL transmitters. The Paper notes that the concept of IIRs is unproven. If IIRs are to use the broadcaster's existing SFN channels, this raises licencing issues that have been encountered in the establishment of Alternative Technical Scheme transmitters.

Applying principles from existing interference mitigation regimes, the DTL service provider, as the creator of the interference, would need to be responsible for the capital and ongoing costs of the solution. An alternative solution to IIRs that should be explored would be the allocation of a channel set within a broadcaster service area for infills. The channel could be shared between DTL IIRs, any transmitters installed as part of the digital conversion of current analogue retransmission facilities, and any future ‘black spot’ scheme where licences are held by community organisations.

#### **3.4.2 Possible re-planning to improve Channel B**

Any proposal for re-planning to improve allocations for Channel B mobile television services must not compromise the availability or quality of existing free-to-air television services. Any benefits of re-planning must be weighed against the cost and disruption to viewers and broadcasters. The types and of costs involved were canvassed in our earlier submission to ACMA of 16 May 2006 *Future Use of Unassigned Television Channels*. Before any decisions on re-planning are taken there will need to be extensive consultation with existing users and give the potential for disruption, any costs should be borne by the Channel B licensee.

#### **3.4.3 Longer term options**

Any re-planning of digital television spectrum after analogue switch-off would involve enormous cost and disruption to Australian viewers and broadcasters. These costs need to be weighed against the perceived benefits.

### **3.5 Technical Planning Handbook and the DTTB Planning Handbook**

No changes are required to the Technical Planning Guidelines of the DTTB Planning Handbook for the implementation of Channel A.

As detailed further in Annexure A, extensive preliminary work needs to be done to understand the extent to which mobile television applications can co-exist with television broadcasting services in the BSBs. This work includes a series of studies to establish protection ratios between the two types of

service, the impact of not co-siting and a study of a low power single frequency network design. Because interference with the availability and quality of services will have severe adverse impacts on viewers and businesses, a wide-ranging trial should also be conducted to test study findings.

It is premature to consider changes to the Technical Planning Handbook before this preliminary work is completed. Broadcasters will require consultation if any changes are proposed to the Technical Planning Guidelines and any further variations to the DCPs as these have a direct bearing on the commercial viability of their businesses.