



**Submission by
Free TV Australia Limited**

Australian Communications & Media
Authority

Draft allocation and technical instruments
for the allocation of spectrum in the 700
MHz band

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EXECUTIVE SUMMARY

- Free TV Australia welcomes the opportunity to comment on the ACMA's draft legislative instruments to the digital dividend auction comprised in both the 'allocation' and 'technical' instruments.
- This submission outlines some observations that Free TV has made in relation to the legislative instruments for the auctioning of spectrum in 700 MHz band.
- Free TV submits that there be a requirement in the 'Assignment Stage' of the auction that the narrowest winning bids with the lowest contiguous bandwidth be assigned closest to the broadcast band.
- Free TV is presently taking active steps to complete 'restack' by the end of the reallocation period. Planning for restack needs to be prioritised by the ACMA as any further delays mean there is no certainty that this process will be finalised by 1 January 2015.
- Free TV looks forward to consulting with the ACMA on restack timing during the second quarter of 2012.
- The free-to-air broadcasting service delivers a range of public goods to all Australians for free. For this reason, it is imperative that incoming spectrum licensees are required to actively mitigate potential interference to reception of planned terrestrial television broadcasting services.
- Free TV supports the inclusion of an interference management condition in spectrum licences. The condition applies to interference caused to reception of planned terrestrial television broadcasting services that have yet to vacate the re-allocated spectrum in 700 MHz band and reception of planned terrestrial television broadcasting services that operate in adjacent frequency bands below the 700 MHz band.
- Free TV opposes the registration exemption for mobile transmitters and seeks clarification from the ACMA on how it intends to enforce the out-of-band emission limits of transmitters falling within this exemption.
- Free TV notes that the emission limits listed in the draft instruments are in line with those determined during the Technical Liaison Group (TLG).
- Free TV is unable to fully assess the effectiveness of the emission limits until the ACMA has finalised the propagation parameters and interference models to be used in developing the coverage maps for digital terrestrial television broadcasting services.



1 Introduction

Free TV Australia represents all of Australia's commercial free-to-air television broadcasters. Commercial free-to-air television remains the most popular source of entertainment and information for Australians.

Over the past 50 years, Australia's broadcasting policy framework and technical standards have delivered the best free-to-air television services in the world. Although there are a growing number of platforms for the delivery of audio-visual content, free-to-air television is the only service that does not require a paid subscription of some form.

The service is free for all Australians, providing valuable public goods such as access to news and current affairs, as well as an investment in the production and distribution of a diverse range of quality Australian content. On any given day, free-to-air television is watched by more than 14 million Australians.

The digital dividend auction and licensing of allocated spectrum raise a number of significant technical issues for broadcasters which have the potential to impact negatively on viewers. The most pressing of these issues in the immediate and medium future is that of interference from mobile services into reception of television broadcasting services.

Free TV welcomes the requirement in the draft legislative instruments that new spectrum entrants actively mitigate any potential interference to broadcasting services from mobile services.

As incumbent licensees providing a valuable public resource, broadcasters should not be constrained in the management of their transmission equipment or general provision of their services by potential interference issues from mobile services.

2 Spectrum Licence Allocation – Combinatorial Clock Auction

2.1 Assignment Stage

Free TV notes that the Combinatorial Clock Auction will comprise of two rounds.

The second round, referred to as the 'Assignment Stage', involves the auction manager informing bidders of the frequency ranges that have been assigned to lots won by bidders and the frequency ranges assigned to unallocated lots.

Free TV submits that the instrument be amended to include a requirement that the narrowest winning bids with the lowest contiguous bandwidth be assigned by the auction manager closest to the broadcast band. Winning bids should be assigned in accordance with their bandwidth size in this manner to assist compatibility between the broadcast and spectrum licenced services to minimise interference.

3 Marketing Plan 700 MHz Band

3.1 Commencement of licences

Free to air broadcasters are committing significant resources to meet the restack timeframe and vacate spectrum by 1 January 2015.

Funding for restack has only been confirmed in the May 2012 budget. Planning for restack needs to be prioritised by the ACMA to ensure that the deadlines are able to be met. Any further delays will compromise the ability of broadcasters to meet these deadlines.



Free TV notes that the ACMA will be consulting on issues relating to the timing of access to spectrum in the second quarter of 2012. Free TV looks forward to participating in this consultation and working with ACMA to agree on a practical timeframe.

3.2 Interference management condition

The proposed spectrum licence includes an interference management condition. This condition is designed to prevent new spectrum licensees from causing interference to the reception of existing planned terrestrial television broadcasting services that have yet to vacate the re-allocated spectrum in 700 MHz band and those that operate in adjacent frequency bands below the 700 MHz band.

Interference is a significant concern for terrestrial television broadcasting services. New spectrum licensees must be required to minimise potential interference to reception of incumbent television broadcasting services.

Free TV is supportive of the inclusion of an interference management condition. Effective interference management is imperative to ensure that the high level of television reception quality which has been a feature of terrestrial broadcasting in Australia for over 50 years is not compromised.

Free TV submits that the proposed interference management condition be included in the final instruments.

3.3 Registration of transmitters

Schedule 3(4) provides an exemption to the licence requirement that all operational radiocommunications transmitters be registered with the ACMA.

Exempt transmitters include those with a maximum radiated mean power of 23 dBm or less per occupied bandwidth in the lower band (703 – 748 MHz) or 30 dBm per occupied bandwidth in the upper band (758-803 MHz).

Free TV cannot see the rationale for exempting these transmitters from registration. Free TV is particularly concerned that exempting transmitters in the lower band (e.g. mobile devices or handsets) from registration may allow the entry of non-compliant mobile devices or handsets into Australia. In the event that interference occurs, it will be difficult to identify the source of the interferers.

Free TV seeks clarification from the ACMA on how it intends to enforce the out-of-band emission limits of transmitters falling within this exemption, such as mobile phones which are imported from overseas that may not necessarily comply with the specified emission limits.

3.4 Base emission limits

Free TV notes that emission limits listed in the instruments are in line with those determined during the TLG on 700 MHz band.

The ACMA is responsible for publishing a set of coverage maps which will determine areas where the top three channels of 'Block E' (i.e. TV channels 49, 50 & 51) are designated for use by television broadcasting services. Free TV understands that these maps are yet to be finalised by the ACMA as details regarding the interference propagation model are matters currently still under consideration by the TLG.

Free TV submits that until these maps are finalised, it cannot fully assess the implications of the emission limits set.

Free TV welcomes the opportunity to work with the ACMA in determining the appropriate propagation parameters and interference models for the coverage maps to ensure there is no interference to TV viewers.



4 Managing Interference to Receivers - Advisory Guidelines

4.1 Managing interference prior to restack

Schedule 3 of the Advisory Guidelines relates to the management of interference to broadcasting services before restack is completed.

As noted above, planning for restack needs to be prioritised by the ACMA to ensure that the deadlines are able to be met by broadcasters who are committing significant resources in vacating spectrum within the timeframe.

Any further delays will compromise the ability of broadcasters to complete restack by 1 January 2015.

For this reason, provision must be made for new licensees to mitigate potential interference to reception of planned terrestrial television broadcasting services that are yet to vacate the re-allocated spectrum.

The provisions listed in Schedule 3 are effective in ensuring that interference management is heeded by new licensees prior to restack.

Free TV supports the inclusion of Schedule 3 in the final advisory instruments.

4.2 Managing interference to adjacent services

Schedule 4 of the Advisory Guidelines provides that spectrum licensees should employ 'appropriate mitigation techniques' to deal with potential interference to adjacent digital terrestrial television services.

Interference management is of particular concern to Free TV members as incumbent spectrum users in the 700 MHz band.

Free TV submits that there should be no restrictions or constraints placed on incumbent terrestrial television broadcasters and responsibility to mitigate interference should lie with incoming spectrum licensees.

Free TV supports the inclusion of Schedule 4 in the final advisory instruments.

5 Managing Interference from Transmitters – Advisory Guidelines

5.1 Emission limits from transmitters in the lower band

Part 3 of the Advisory Guidelines stipulates the out-of-band emission requirements for transmitters in the 700 MHz lower band.

As stated above, these limits are in line with those determined during the TLG.

Provided the emission limits are a core condition of the licence and therefore must be adhered to as part of the licence conditions, Free TV queries the use of 'may' in the note included after 3.2(2). The note states:

"Implementation of the -40 dBm/MHz limit may be achieved through user equipment design and/or network operation and deployment measures"

To avoid any confusion regarding the obligation on a spectrum licensee to meet the emission limits, Free TV suggests that words such as 'may' be avoided as they could be interpreted as implying choice on the part of the licensee in complying with the emission limits.

If the intent of this statement is to stipulate the flexibility available to the spectrum licensee in deciding how the -40 dBm/MHz limit is implemented, Free TV suggests that alternative language be used. Indeed, the use of 'must' instead of 'may' communicates the same



message without mistakenly suggesting that the emission limits are an optional element of the licence.

5.2 Digital television receivers operating in the 700 MHz band

Part 4 of the Advisory Guidelines provide that separation distances must be implemented by a spectrum licensee to mitigate potential interference to reception of planned terrestrial television broadcasting service.

The separation distances are based on exclusion zones identified in the maps to be published by the ACMA.

Free TV notes that the TLG process has yet to finalise the interference model and relevant propagation parameters required to produce the maps. Free TV looks forward to finalising this aspect of the TLG to ensure that suitable exclusion zones are identified.

Free TV is supportive of the implementation of separation distances provided the exclusion zones are suitably identified in the maps.

Free TV submits that Part 4 be included in the final instruments.