Submission to the Australian Communications and Media Authority: Five Year Spectrum Outlook 2012-2016

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1. Introduction

The Australian Subscription Television and Radio Association (**ASTRA**) welcomes the opportunity to provide input to the Australian Communications and Media Authority's *'Five Year Spectrum Outlook 2012-2016: The ACMA's spectrum demand analysis and strategic direction for the next five year*s' (the Outlook).

About ASTRA

ASTRA is the peak industry body for subscription television in Australia. ASTRA was formed in September 1997 when industry associations representing subscription (multi-channel) television and radio platforms, narrowcasters and program providers came together to represent the new era in competition and consumer choice. ASTRA's membership includes the major subscription television operators, as well as channels that provide programming to these platforms.

Overview of the STV Sector

The Subscription Television (STV) sector gives Australians access to quality, exclusive, live, original and award-winning international and Australian programming across many genres, including movies, news, children's, documentary/current events, light entertainment, lifestyle and drama, live local and international sport, music, ethnic language, local weather and pay per view events.

With over 200 channels owned by over 30 different media companies, the breadth, range and diversity of STV programming remains unsurpassed in the Australian broadcasting environment.

2. Spectrum Management Decision-Making Framework

ASTRA has, in previous submissions, expressed support for the ACMA's decision making framework, including its Principles for Spectrum Management and the Total Welfare Standard.

ASTRA welcomes the continued dialogue with the ACMA in relation to spectrum demands/drivers and commends the ACMA on its evidence-based approach to spectrum management decisions.

Pressure for more efficient spectrum allocation and management approaches will continue to grow with increasing demands for spectrum, not only from the growth of mobile broadband but through many other commercial and non-commercial uses.

There will continue to be a need for licensing access to spectrum, to manage and minimise interference and to ensure essential non-commercial spectrum needs are appropriately accommodated. In its Final Report the Convergence Review Committee argued there should be a common approach to the planning, allocation and management of both broadcasting and non-broadcasting spectrum that includes a market-based pricing approach for the use of spectrum, and one that provides greater transparency when spectrum may be used for public policy reasons.

As a general point, market-based pricing of spectrum is more likely to encourage the most efficient use of spectrum to provide the services that consumers of media and communications services want. ASTRA supports consideration of market-based options that could encourage spectrum sharing arrangements that maximise spectrum use, and

believes there would be value in examining whether greater flexibility could be built in to the regulator's licensing arrangements.

3. Future Spectrum Needs

Future Television Broadcasting Standards

Market-based approach to broadcast spectrum allocation

The Outlook notes that new transmission technologies have the potential to enable significantly more efficient use of existing spectrum allocated for television broadcasting:

> *"Enhancements can offer better or different services for consumers (E.g. HDTV and 3DTV) whilst achieving greater spectral efficiency"* (p63)

The Outlook also states that:

> *"the availability of digital television receivers that are capable of using these new technologies is limited. ACMA acknowledges that government does not propose any move to new standards before switchover is completed…. Steps to facilitate technical evolution in future may be taken by the ACMA if it is clear they do not affect switchover"* (p64)

New transmission technologies and standards (such as MPEG-4 and DVB-T2) have the potential to enable significantly more efficient use of existing spectrum allocated for television broadcasting, including increasing capacity for additional terrestrial broadcast services from either existing broadcasters or new entrants in the broadcasting environment. Greater efficiencies should also enable the allocation of further broadcast spectrum beyond the digital dividend for broadband wireless and other non-broadcast services.

Spectrum allocated to commercial free-to-air (FTA) broadcasters is not subject to a competitive process. More spectrum than necessary has been allocated to deliver particular services, and there has been little scope for reallocating spectrum from less to more valuable uses. Market-based pricing of broadcast spectrum would encourage incumbent broadcasters to be more proactive in working with equipment manufacturers and suppliers to ensure a swift uptake of terrestrial digital television receivers that are compatible with more efficient technical transmission standards. In ASTRA's view, while spectrum allocation to FTA broadcasters is not subject to competitive market valuation, commercial FTA broadcasters will have little incentive to move to more efficient technologies, nor to develop cooperative approaches to migrate the terrestrial broadcasting network to new technologies (for example, by sharing multiplexes).

ASTRA recognises that in performing its role, the ACMA's management of spectrum needs to balance competing public policy objectives while allowing sufficient flexibility for the market to efficiently determine allocations appropriate to the evolving needs of the communications and media environment. However, ASTRA firmly believes that, in the allocation of broadcast spectrum for commercially-driven services, market-based spectrum pricing is the most appropriate means to ensure sufficient industry incentive to ensure a smooth and speedy transition to more efficient transmission technologies. This in turn will enable the ACMA to re-farm parts of the spectrum for other valuable uses.

Standards for digital terrestrial broadcasting

While ASTRA acknowledges that commercial FTA broadcasters do not have the same control over equipment at the 'receiver end' as the STV broadcasting sector, commercial FTA broadcasters would have greater imperative to encourage the development and use of consistent and more efficient receiver standards if broadcast spectrum was subject to market-based pricing. Regulatory intervention to guide and direct technical migration of terrestrial television broadcasting need only be at a bare minimum were there to be sufficient market-based incentives for broadcasters to both make more efficient use of spectrum and to ensure their audiences are ready to make the transition to new transmission and reception standards with them.

The Outlook states that:

> *"consideration may be given to emerging television broadcasting technological advancements such as successor standards to MPEG 4 in H.265 HEVC or the standards for Ultra High Definition Television (UHDTV). Such developments and any potential spectrum benefits arising from their adoption will be monitored by the ACMA"* (p64)

In ASTRA's view, the ACMA has a greater role to play than 'monitoring' development. The ACMA has a key role in managing Australia's radiofrequency spectrum and it is imperative that all efforts are made to maximise the efficient allocation and use of spectrum to realise the greatest public benefit while maximising opportunities for Australian industry. Pressure on incumbent broadcasters to make better use of the spectrum currently allocated for digital television broadcasting will also drive those broadcasters to take a more active role in encouraging the development of new generation reception equipment as it is developed.

Satellite Earth stations

The development of a long-term strategy for meeting the future requirements for satellite Earth stations must take into account long-term commercial sustainability and the significant investment already made in existing Earth station infrastructure. The Australian STV sector makes significant use of fixed-satellite services (FSS) operating in the 3.6-4.2 GHz band ('C-band'), including Foxtel, Fox Sports and Sky Racing. A wide range of programming delivered by Australian STV platforms is directly sourced from satellite feeds operating in the C-band, including from Disney Channels, Discovery Channels, BBC, Eurosport, Bloomberg, TCM, Cartoon Network, Boomerang, Sky News UK, Fox News, CNBC, Animal Planet, ESPN, Kids Co, Al Jazeera and CNN.

ASTRA recognises that there is growing international pressure to make some accommodation for mobile services in the C-band. ASTRA notes that, in Australia, there is substantial existing investment in C-band infrastructure by broadcasters for the transmission and reception of international television programmes, and by telecommunications providers for international data and voice services. Therefore, we do not support Earth stations operating in the C-Band being compulsorily moved from urban to less populated areas. The re-siting of earth stations would result in very substantial costs for the STV sector and program providers associated with infrastructure relocation and ongoing operational costs.

ASTRA welcomes the ACMA's acknowledgement in the Outlook that earth station siting and the potential sharing of the C-band with mobile services is a complex issue requiring extensive consultation with stakeholders over the coming years. Any sharing of the band would require careful coordination between mobile networks and earth stations to avoid

interference with earth station facilities, and the possibility of such coordination requires further exploration by the ACMA.

4. Significant Spectrum Projects

New Arrangements in the 2.5GHz Band

ASTRA has been involved in consultations regarding the review of the 2.5GHz band plan and has provided the ACMA with input regarding the policy and technical issues associated with reallocation of this spectrum. ASTRA notes that the Paper flags the ACMA's intention of converting existing Television Outside Broadcast (TOB) apparatus licences from 2570–2620 MHz to 15-year spectrum licences (2.5 GHz mid band gap) for TOB use (p.32). ASTRA supports the limitation on spectrum licences in the mid-band gap to TOB purposes,[1] as well as the operational flexibility not to limit the technology used to undertake TOB operations, as proposed in the ACMA's recent discussion paper on converting the existing apparatus licences to spectrum licences.

TOB Spectrum for non-FTA operators

ASTRA re-iterates the importance of adequate, secure and direct access for STV to spectrum suitable for electronic news gathering (ENG), electronic field production (EFP) and television outside broadcast (TOB) operations is essential to ensure current and future coverage of sporting and other major events broadcast by STV. Increased sports programming, such as the launch of FOX FOOTY and new innovations such as FOX Sports Umpire Glasses (camera in glasses worn by the umpire) and Oktocopter (remote control flying camera) add to spectrum requirements for STV sports coverage.

As detailed in ASTRA's submission to the ACMA in June 2012 on TOB spectrum allocation, an analysis by independent consultant Kordia demonstrated that the 60MHz identified in the initial ACMA proposal for TOB/ENG spectrum arrangements for other industry (non FTA) users of TOB spectrum would be insufficient to meet the needs of this sector, and that the proposed FTA allocations of 250 MHz exceed what is required to meet the FTA broadcasters' ENG requirements.

ASTRA welcomes the ACMA's acknowledgment and consideration of the current and future spectrum needs for STV in its revised proposal, which envisages "supporting shared usage between TOB planned events and FTA broadcasters TOB activities" in the 2200–2290 band. ASTRA understands that FTA broadcasters would be guaranteed apparatus licences for this spectrum, with other operators such as STV free to apply for apparatus licences. The effect would be that 150 MHz—including the 60 MHz originally identified by the ACMA and 90 MHz more recently identified—of spectrum (equating to approximately 140MHz of usable spectrum when accounting for guard bands) would be available on a shared, non-exclusive basis for TOB events.

ASTRA considers the revised proposal a significant step towards more equitable and efficient use of spectrum for TOB purposes. ASTRA does, however, maintain that the re-allocation of the 1980-2110 MHz and 2170-2300 MHz bands provides the ACMA with a unique opportunity to advance greater efficiency in the use of spectrum for ENG and TOB purposes, and ASTRA believes that the ACMA can go further in promoting greater spectrum certainty for users other than the incumbent FTA broadcasters.

[1] As proposed in the ACMA discussion paper, *Review of the 2.5 GHz band and long-term arrangements for ENG – Conversion Plan*, July 2012.

The STV sector is keen to work with the ACMA and all TOB spectrum users to develop an agreed model for spectrum sharing that would ensure spectrum certainty for all users in the most efficient and effective means practicable and which recognises the spectrum requirements of the STV sector which engages in significantly more TOB operations than the FTA sector on an annual basis. ASTRA firmly believes that certainty in access to spectrum for ongoing and increasing STV TOB requirements can be achieved while ensuring sufficient spectrum is available for the news gathering operation of FTA broadcasters, and that a model can be agreed for TOB spectrum sharing that would not only be in the public interest but also represent a highly efficient and effective use of that spectrum to the benefit of all TOB spectrum users.

Use of the 7.2GHz Band

As ASTRA has previously submitted, spectrum in the 7.2GHz band is far less suitable than spectrum in the 2GHz to 3GHz bands for TOB operations, including technical problems with non-line of sight propagation and fast-moving camera links, as well as health and safety concerns from higher power required to transmit at higher frequencies.