

**ASTRA submission to the Australian Communications and Media Authority
discussion paper 'Towards 2020—Future spectrum requirements for mobile
broadband'**

4 July 2011

Introduction

ASTRA welcomes the opportunity to comment on the Australian Communications and Media Authority discussion paper 'Towards 2020—Future spectrum requirements for mobile broadband'.

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.

The subscription television (STV) industry is the undisputed leader of digital broadcasting. A dynamic sector that is constantly evolving and growing, it is received nationally by 34% of Australians through their homes and many more through hotels, clubs and other entertainment and business venues.

General comments

The STV industry is a major user, both directly and indirectly, of radiofrequency spectrum, and will require sufficient certainty for spectrum availability to ensure the industry can continue to expand and provide an increasing range of services and programs for Australian consumers. ASTRA recognises that the growth of wireless broadband and mobile telecommunications will require additional allocations of spectrum to accommodate future data needs. However, ASTRA argues that future spectrum for mobile broadband should be allocated carefully to avoid disruption to existing and future fixed-satellite services (FSS) and, in particular, should avoid impacting on future electronic news gathering (ENG), television outside broadcast (TVOB) and electronic field production (EFP) needs given that existing spectrum for ENG is to be reserved only for free-to-air broadcasters after digital dividend reallocation.

Comments on specific issues raised in the discussion paper

The 2010-2025 MHz band

ASTRA members have previously argued the importance to Australia's growing STV industry of secure and certain access to appropriate spectrum capacity for ENG, TVOB and EFP.¹ As the ACMA is aware, the STV industry has significant and growing ENG, TVOB and EFP spectrum requirements, and ASTRA reiterates its opposition to the ACMA's decision to convert existing apparatus licences issued to free-to-air broadcasters in the 2.5 GHz bands to spectrum licences, rather than enable access to the 'mid-band gap' for STV and other service providers through an open, competitive auction process.

As noted in the discussion paper, the ACMA has identified the 2010-2025 band as a potential alternative to the 2.5 GHz bands for ENG services, including exclusive use of those bands in capital cities. ASTRA supports the exclusive allocation of the 2010-2025 band for ENG purposes, and would support an open and competitive auction process for its allocation.

The 3.8 GHz band ('C-band')

The Australian STV industry makes significant use of fixed-satellite services (FSS) operating in the 2.6-4.2 GHz band ('C-band'), including AUSTAR, FOXTEL, Optus, 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, Discovery, BBC, and CNN.

¹ See submissions by AUSTAR, FOXTEL and Fox Sports to ACMA's Review of the 2.5 GHz band and long-term arrangements for ENG.

Secure and continuous interference-free operation of FSS in the C-Band is essential to ensure continued growth in the service delivery and program choice in the STV sector.

As the ACMA would be aware, the satellite communications sector has long been concerned about potential and actual interference from broadband wireless access (BWA) networks operating in the same spectrum bands as FSS. In 2007 the International Associations of the Satellite Communications Industry warned that:

The satellite systems that operate in the 3.4-4.2 GHz band (C band) are suffering substantial interference, to the point of system failure, in places where national administrations are allowing Broadband Wireless Access systems like wi-fi and wi-max to share the same spectrum bands already being used to provide satellite services. The same will happen if 3G and the planned 4G mobile systems (also referred to as IMT systems) are allowed to use the frequencies used in the C band for satellite downlink services...²

ASTRA notes that the November 2010 ITU Report regarding *Studies on compatibility of broadband wireless access (BWA) systems and fixed-satellite service (FSS) networks in the 3.4-3.6 GHz band* (ITU-R Report S.2199) concluded that:

...to provide protection to FSS receive earth stations, some separation distance between the stations of the BWA network and the FSS receive earth stations is required. The magnitude of this separation distance depends on the parameters of the networks, the protection criteria of concerned satellite networks and the deployment of the two services and if the two services operate in the same or in adjacent frequency bands.³

In particular, the report concluded that, where BWA and FSS operate in overlapping frequency bands, the approximate required separation distance would be several tens to in excess of 100km.⁴

While the Report notes that, when the FSS earth stations are individually licensed or registered such that the locations of the stations are known and the location of the BWA base stations and user terminals can be controlled, mitigation techniques to protect the FSS earth stations can be achieved by means of ensuring a minimum separation distance, the Report also concludes that:

...deployment of BWA in any portion of the 3 400-4 200 MHz band would likely pose limitations on future deployment of FSS earth stations in the entire 3 400-4 200 MHz band.⁵

ASTRA strongly opposes any proposed uses of the C-Band for mobile wireless services that would interfere with the operation of existing and future fixed satellite services in these frequencies. At a minimum, wireless mobile networks should not be authorised to operate in proximities to existing earth stations which are likely to cause interference with satellite communications.

ASTRA is aware that the ACMA has been considering the possibility of FSS earth stations operating in the C-Band being moved from urban to less populated areas to reduce spectrum congestion and minimise interference where spectrum is shared by mobile wireless services and satellite communications. As previously noted by satellite service providers, and recognised by the ACMA in its *Five Year Spectrum Outlook 2011-2015*, the movement of earth stations is likely to result in substantial costs for Australia's STV industry associated with infrastructure relocation and the transmission of programming data.

ASTRA also notes that the ACMA is expecting to release a discussion paper on this issue in the third quarter of 2011. ASTRA looks forward to providing more detailed comments in response to that discussion paper.

² CASBAA, APSCC, SUIRG, GVF, *Position Paper on Interference in C-band by Terrestrial Wireless Applications to Satellite Applications*, 2007.

³ ITU, *Studies on compatibility of broadband wireless access (BWA) systems and fixed-satellite service (FSS) networks in the 3.4-3.6 GHz band* (ITU-R Report S.2199), November 2010, p. 18.

⁴ Ibid.

⁵ Ibid.

Please contact myself or Simon Curtis, ASTRA Policy and Regulatory Affairs Manager on (02) 9776 2684, if you wish to discuss further any of the issues raised above.

Kind regards

A handwritten signature in black ink that reads "Petra Buchanan". The signature is written in a cursive, flowing style.

Petra Buchanan
CEO