September 13th, 2019

The Manager

Spectrum Engineering and Space Section

Australian Communications and Media Authority

PO Box 78

Belconnen ACT 2616

AUSTRALIA

**RE: Planning of the 3700-4200 MHz band**

Dear Sir/Madam,

Eutelsat Group, here represented by its affiliate Eutelsat Asia based in Singapore (together, *Eutelsat*), hereby submits its comments to the *Planning of the 3700-4200 MHz band* discussion paper, August 2019 (the Paper), issued by the Australian Communications and Media Authority (the ACMA).

Eutelsat would like to thank the ACMA for raising questions and asking for comments to this Paper, and to give the opportunity to contribute to the national consultation for potential evolution of the 3700-4200 MHz band in Australia.

**About Eutelsat**

Eutelsat Communications is one of the world's leading operators in the commercial satellite business. The company provides capacity on a fleet of 37 satellites in geostationary orbit serving broadcasters, video service providers, telecom operators, ISPs and government agencies operating in more than 150 countries across Europe, Africa, Asia and the Americas. Eutelsat’s focus is on delivering the highest quality of service through technological performance, market expertise and innovation. With head offices in Paris, Eutelsat has a workforce of 1,000 commercial, technical and operational professionals of 46 nationalities, and sales offices in key markets around the world.

Based in Singapore, Eutelsat Asia Pte Ltd embodies Eutelsat long-term commitment to the Asia-Pacific region. Our commitment is to help our clients to grow their business in the Asia Pacific region and to connect them to the rest of the world.

The recent years have witnessed the rapid expansion of Eutelsat in Asia-Pacific. In September 2012, Eutelsat bought the GE-23 satellite from GE Capital operating under orbital rights at 172 degrees East. The satellite was later renamed EUTELSAT 172A and integrated into Eutelsat’s global fleet. EUTELSAT 172A offered until 2017 a unique coverage spanning the Pacific Ocean from Los Angeles to Beijing and from Anchorage to Perth in C-band and Ku-band and as an exceptional platform to serve the dynamic markets in Asia-Pacific. EUTELSAT 172A was then replaced in 2017 by EUTELSAT 172B satellite, which on top of continuity mission in C and Ku bands added an innovative HTS payload in Ku/Ka bands focusing on mobility market. EUTELSAT 172A was then relocated at 174 degrees East and renamed EUTELSAT 174A and ensure growth of activity in the Asia-Pacific region. Eutelsat’s development in Asia was also reinforced by the launch of EUTELSAT 70B satellite at 70.5 degrees East with a dedicated Asian Ku-band coverage and cross straps capabilities between Europe, Africa and Asia. The combination of the three satellites’ footprints provides a complete coverage of Asia-Pacific and those satellites are particularly solicited for data and mobility applications. Eutelsat is also exploring axis of further development in Asia-Pacific region and for this reason is highly attentive to and interested in regional spectrum policy evolution.

**Replies to the issues for comment**

Eutelsat has noted with great interest and attention the ACMA discussion Paper on *Planning of the 3700-4200 MHz band*, as the frequency band considered is currently used on our operational satellites and will be used in our future satellites. Eutelsat is convinced that satellite will continue to play a key role in the future telecommunications ecosystem. As such Eutelsat is welcoming initiative from the ACMA to consult with all interested actors before making a decision on a frequency band of primary importance for satellite ecosystem.

Eutelsat would like to bring the following elements for the consideration by the ACMA, in response to some questions raised in the Paper. Questions where Eutelsat has no elements to bring to the attention of the ACMA are not covered herebelow.

1. Are there any other international developments in the 3700–4200 MHz band that the ACMA should be aware of?

Eutelsat appreciates the approach of the ACMA to refer to international situation and developments at national and regional level before making a decision on Australian regulations.

Beyond the references listed in the Paper, we would like to raise attention of the ACMA to some recent developments regarding adjacent bands compatibility. After having reviewed the planning of the 3400-4200MHz band to permit deployment of WBB systems to the detriment of FSS systems in some parts of the band, the question of coexistence of both types of systems in adjacent bands (limit being commonly at 3700 or 3800 MHz) has recently appeared. And this topic is addressed differently among the countries, with different solutions envisaged. Therefore, as this compatibility topic may have consequence on the planning of 3700-4200 MHz band, we request the ACMA to address this case of adjacent band compatibility in the framework of this Paper to get the global picture before making a decision.

1. What are the future requirements of point-to-point links and FSS earth stations in the 3700–4200 MHz band? Does this differ by geographical area and/or segment of the band?
2. If licensed point-to-point links and FSS earth stations are affected by replanning activities in the 3700–4200 MHz band, what alternative deployment options could be considered?

From Eutelsat point of view and experience, the 3700-4200MHz band is in usage in Australia for reception of signals from remote stations located outside Australia into gateways located in teleports in Australia. And to a lesser extent this receive band is also used by some remote sites located within Australia. This band is also used for satellite operations matters such as telemetry and ranging.

We do not anticipate significant change in the current situation, as usage of this band in Australia is deeply linked with its usage in the rest of Asia-Pacific region. And this band is vital in many countries where in particular climate conditions require resilient links.

The ACMA suggests some possible planning options for FSS at page 21 of the Paper. And we would like to raise the following comments:

* Restacking earth stations into some limited segments of the 3700-4200 MHz band: this appears complex, and in particular in the case of international links. Such restacking would require frequency change and constraint on range accessible on the uplink part from the associated earth stations. Such conditions may constitute a serious burden for existing links already licensed for transmission from their respective countries, and even potentially impossible if the frequency range is not accessible for these stations in these countries.
* Relocating existing earth stations to defined geographical areas: in the case of teleports, such relocation does not seem practical. In the case of individual remote sites, they are usually installed at locations where the content received is directly used. Therefore moving these stations would at least add complexity to the overall link with addition of a terrestrial part between the earth station and the location where content is to be used. And earth stations are usually located directly where content is used because such terrestrial part is simply not available.
* Relocating services to a different band: the downlink part in C-band of a satellite link is commonly associated to an uplink part in C-band also. Particularly in the case where the uplink station is located in a country with harsh climate conditions, there is no equivalent alternative to the C-band for this uplink. Therefore, changing the frequency band to Ku-band for instance would not be possible in these cases.

Telemetry and ranging carriers are usually at both edges of spectrum range, for redundancy and to not overlap with traffic transponders of the satellite and of neighbouring satellites. Therefore, any replanning in Australia that would reduce the spectrum accessible to satellite networks would create difficulties for operations of satellites currently in orbit but also to be launched.

1. What services/applications should be accommodated in the 3700–4200 MHz band?
2. Which frequencies ranges should be made available for these services/applications?
3. Which geographic areas should be made available for these services/applications?
4. On what basis should access be provided? Should access be granted on an exclusive or shared basis, on a coordinated or uncoordinated basis, et cetera?
5. What licensing mechanisms are appropriate (spectrum, apparatus or class licensing)?

Eutelsat is of the view that the whole 3700-4200 MHz band should remain allocated and accessible by FSS in Australia. Australia is widely used as a gateway for Asia-Pacific region, where the 3700-4200MHz band is deeply used. Therefore, any restriction on the 3700-4200 MHz band in Australia may impact satellite activities in other countries, and consequently satellite operators and space industry.

For what concerns teleports, the outcome of this consultation should ensure on the long-term the protection from external interference of their operations in the 3700-4200 MHz, as well as no constraint to be added on the deployment of future links at new frequencies in the 3700-4200 MHz range.

As indicated by the ACMA on page 22 of the Paper, “*Several submissions to the draft FYSO indicated interest in accelerating consideration of the 3700–3800 MHz frequency range for use by fixed and mobile WBB services.*”. On this basis, we understand no interest was raised for the 3800-4200 MHz band. Therefore we invite the ACMA to ensure there is a requirement to address the 3800-4200 MHz band before taking any decision on this band.

As highlighted above, and although not identified in the “*Compatibility with adjacent band services*” section on pages 31 and after in the Paper, the compatibility between WBB and FSS systems in adjacent bands should be addressed in the context of this Paper before making any decision. Should specific conditions be required to permit this compatibility (such as a guard band), we encourage the ACMA to make these conditions applicable only to the new allocation being at their origin. For instance, should some additional spectrum be allocated to WBB in a band adjacent to FSS allocation, the potential guard band should be defined only within the WBB newly allocated spectrum.

If you have any questions, please contact:

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Respectfully submitted,

/s/ Christophe Cazes

Christophe Cazes

CEO

Eutelsat Asia