

COMMENTS OF TELESAT

In response to the Consultation:

Apparatus licenses in the 26GHz and 28GHz bands

Licensing, technical framework and pricing arrangements consultation paper

Consultation 25/2020

September 21, 2020

*Laura Roberti
Director, Spectrum and Market Access
LRoberti@telesat.com*

Introduction

Telesat is pleased for the opportunity to provide its comments on the Consultation *Apparatus licenses in the 26GHz and 28GHz bands* and appreciates the ACMA's innovative approach towards alternative licensing methods. This consultation is of high relevance to Telesat, as the 28GHz band under consideration is planned to be used in Australia by the gateway earth stations of the new Telesat LEO system.

Telesat has assessed technical requirements and possible implications to the extent possible, noting the relatively short time available for answering this complex consultation. Please see the Telesat responses below.

Reply to the issues for comment

- 1) **The ACMA is proposing to use a two-stage administrative allocation for apparatus licences in certain segments of the 26 GHz band and in all of the 28 GHz band. Do stakeholders agree with this approach? If not, please explain why.**

Telesat is in the process of selecting suitable sites for two gateway landing stations in Australia and will therefore not be ready for a first round of licenses allocation in October 2020.

- 2) **Do stakeholders have any concerns with the licence duration and renewal policy for AWLs in the 26 GHz and 28 GHz bands?**

Telesat has no specific concerns

- 3) **The ACMA is proposing that AWLs be available for issue for the operation of FSS earth stations in the 27–29.5 GHz range. Do stakeholders support this proposal? If not, please explain why.**

Telesat supports the proposal. The concept of an AWL also addresses, at least in principle, the issue previously raised by Telesat in relation to multiple identical antennas on one site, operating within the same satellite system and the same frequency range. While this issue can also be addressed by adequately revising the principle of “*Reductions in taxes when*

there are co-located and co-frequency earth/earth receive stations” included in the current “*Apparatus Licence Fee Schedule*” (e.g. by increasing the discount from 30% to 100%), Telesat appreciates the additional benefits related to an AWL when it comes to sharing with FWA (Fixed Wireless Access) in the portions of spectrum and geographical locations where FWA and FSS gateway earth stations are co-primary. Outside these areas/frequency ranges, there is still value in applying an area related license, if it simplifies the process and introduces a most welcome reduction of the fees. Telesat understands that, in such cases, a minimum of a single HCIS cell will be required.

- 4) The draft technical framework is optimised for both wireless broadband and FSS earth stations. Fixed earth stations in the range 29.5–30 GHz are still authorised under a fixed-earth apparatus licence. We are seeking views on a proposal to authorise FSS in the 29.5–30 GHz range with AWLs. Do stakeholders have any comments about this proposal?**

The last sentence of the previous reply still applies (i.e. there is still value in applying an area related license, if it simplifies the process and introduces a fee reduction), with the understanding that the technical framework needs optimising for both FWA and FSS earth stations, only where co-primary coexistence is required. Furthermore, Telesat understands that the current Fixed Earth Station apparatus license will still apply, at least for the downlink band (17.7-20.2GHz). In general, it would seem to make sense for the fixed earth station apparatus license to remain as a possible option, wherever is simpler and more appropriate to use. In this case, however, as already mentioned in the Telesat replies to previous consultations, a general review/reduction of the apparatus fees in relation to space systems, at least in Ka-band, is urgently required, also for coherence with the applicable fees under the proposed AWL approach. As mentioned above, the issue of multiple identical antennas on one site, operating within the same satellite system and the same frequency range would need to be adequately addressed also in the existing Fixed Earth Station apparatus fees.

- 5) Do stakeholders have any specific comments about the draft AWL LCD or RALI [new] or updated RALI MS 38?**

There are some aspects of Sec 3 of the *draft RALI [new]* that would seem to require further clarification.

- Sec.3.2.1 proposes general compliance of the antenna radiation pattern with Recommendation ITU-R S.1855, while Sec. 2.2.1.2 of the updated *RALI MS 38* suggests using Recommendation ITU-R S.1428 for antennas operating with NGSO systems. Telesat is of the view that only Recommendation ITU-R S.1428 should be referenced to in relation to NGSO, as Recommendation ITU-R S.1855 is only applicable to GSO networks
 - Sec 3.3.1: the following modification would seem appropriate: “*Calculation of the pfd at the area boundary is only required when the distance from the proposed transmitter to the licence boundary is lower than the ~~exceeds the minimum~~ distances shown in Figure 1.*”
 - Telesat also proposes a single pfd limit of $-83\text{dBW/m}^2/\text{MHz}$. If such limit is deemed sufficient to protect FWA services, there would not seem to be scope for the more restrictive $-91\text{dBW/m}^2/\text{MHz}$.
 - Further to this, it could be argued that earth stations transmission for a NGSO system changes continuously in power, pointing angle, etc. and, is, therefore, more similar to an active antenna system. The inherent dynamic operation is also such that the pfd limits will be met only occasionally and instantaneously in the worst combined cases of lowest elevation and maximum power. Telesat therefore suggests that a distinction be made between GSO and NGSO, with a suitable time percentage associated with the limit exceedance in the NGSO case.
- 6) Do stakeholders agree with the proposed apparatus licence tax? As explained in Appendix A, at this time in Australia there is limited information about the value of the spectrum on offer for administrative allocation. The ACMA is open to reviewing the apparatus licence tax for AWLs in light of developments in domestic markets that have occurred or will occur over time. What considerations should the ACMA take into account?**

Telesat has carried out a preliminary analysis and understand the proposed AWL tax would lead to a reduction in the fees, albeit the reduction does of course vary from location to location, as population dependent. A reduction of the fees is very much in line with Telesat suggestions in reply to the consultation *Implementation of the Spectrum Pricing Review* and, therefore, Telesat welcomes this excellent initiative by the ACMA.

This reduction would however seem to render a revision of the current space related apparatus license fees in the *Apparatus Licence Fee Schedule* even more imperative, also for coherency with the AWL proposed fees. Telesat also advocates for a significant reduction in the Australia wide space transmit/space receive license fee, to adequately accommodate flexible/dynamic systems like Telesat LEO, which, while capable of using spectrum in spatially focused and flexible manner, still need to flexibility across the spectrum range for an optimal operation.

Conclusions and overall recommendations

Telesat welcomes the ACMA progressive proposal for AWL licensing in the 28GHz band.

Telesat additional comments/recommendations can be summarised as follows:

- a. A single pfd limit of $-83\text{dBW/m}^2/\text{MHz}$
- b. A suitable time percentage for exceedance of such limit for NGSO systems
- c. Editorial clarifications on some aspects of Sec 3 of the *RALI [NEW]*
- d. Clarification on the future applicability of fixed earth stations apparatus licenses and suitable revision of space related apparatus license fees in the Ka-band, leading to a general reduction, including for space transmit and space receive.

As always, Telesat remains at the disposal of the ACMA for any further possible discussion/clarification on the matter.