



REPLY COMMENTS OF TELESAT CANADA

In response to:

Consultation on the Utilization of the Bands 18.8-19.3 GHz and 28.6-29.1 GHz, and the bands 17.3-17.7 GHz, 19.3-19.7 GHz and 29.1-29.25 GHz by the Fixed-Satellite Service, SMSE-016-

18

February 21, 2019

REPLY OF TELESAT CANADA

I. INTRODUCTION

1 This reply is submitted by Telesat in response to comments filed in *Consultation on the Utilization of the Bands 18.8-19.3 GHz and 28.6-29.1 GHz, and the bands 17.3-17.7 GHz, 19.3-19.7 GHz and 29.1-29.25 GHz by the Fixed-Satellite Service*, SMSE-016-18 (the Consultation Document) issued by Innovation, Science and Economic Development Canada (ISED).

2 Telesat has reviewed the comments seeking co-primary status for non-geostationary satellite orbit (NGSO) systems and geostationary satellite orbit (GSO) networks in the 18.8-19.3 GHz and 28.6-29.1 GHz bands and remains persuaded that the better approach is to grant NGSO systems primary status and GSO networks secondary status in these bands. NGSO constellations, including Telesat's LEO constellation, are being designed to serve all of Canada, not solely higher Northern latitudes and, in any event, Canada's geography does not obviate the requirement for, and costs of, NGSO-GSO coordination. Nor should NGSOs be required to shoulder the burden of GSO-NGSO coordination in the 18.8-19.3 GHz and 28.6-29.1 GHz bands simply because they must do so in other bands. To the contrary, this is precisely why a "dedicated" allocation to NGSOs in the 18.8-19.3 GHz and 28.6-29.1 GHz bands makes the most sense.

3 With regards to permitting increased fixed-satellite service (FSS) use of the 17.3-17.7 GHz, 19.3-19.7 GHz and 29.1-29.25 GHz bands, there is full agreement with the Department's proposals. There is also broad support for explicitly recognizing FSS earth stations in motion (ESIMs) as an example of permissible additional use of the spectrum. Telesat concurs with these proposals.

II. FSS USE OF THE BANDS 18.8-19.3 GHZ AND 28.6-29.1 GHZ

4 As in Telesat's initial comments, questions identified in the Consultation are highlighted in grey, with Telesat's reply on each issue following.

A. STATUS OF GSO AND NGSO SYSTEMS IN THE FSS

Question 1: ISSED is seeking comments on the proposal to give co-primary status to both GSO networks and NGSO systems in the FSS in the bands 18.8-19.3 GHz and 28.6-29.1 GHz.

5 Telesat, along with the Radio Advisory Board of Canada (RABC), recommend in their comments that the Department give NGSO systems primary status and GSO networks secondary status in the 18.8-19.3 GHz and 28.6-29.1 GHz bands. This approach will harmonize regional treatment of GSOs and NGSOs in the bands and facilitate deployment of innovative new NGSO high speed broadband services throughout the country.

6 Ciel Satellite Limited Partnership (Ciel) and its foreign affiliates, SES S.A. and O3b Limited, confirm that an NGSO primary/GSO secondary approach will work but express a preference for co-primary status. According to Ciel/SES/O3b, Canada's "unique" geography makes a co-primary allocation "more practical", while Viasat, Inc. (Viasat) claims that "higher latitudes" make coordination "simpler". In fact, most of Canada's population lives below 46° latitude and NGSOs are not being deployed simply to serve Northern regions of the country. Furthermore, the suggestion by Hughes Network Systems Canada ULC (Hughes) that because NGSOs are being designed to protect GSOs in other parts of Ka-band by complying with EPFD limits NGSOs can similarly address coordination with GSOs in the 18.8-19.3 GHz and 28.6-29.1 GHz bands assumes, without any justification, that NGSOs should shoulder the entire burden of coordinating with GSOs throughout the band.

7 The remaining justification for co-primary status – business certainty for authorized GSO networks – should not, in Telesat’s view, trump the important role that a dedicated allocation of the 18.8-19.3 GHz and 28.6-29.1 GHz bands would play in facilitating deployment of leading edge new NGSO services in Canada.

B. STATUS OF INCUMBENT FSS LICENSEES

Question 2: ISSED is seeking comments on the proposal to use the original date of authorization for domestic systems for domestic coordination purposes.

8 There is general agreement in the comments that if date priority is relevant to coordination between systems, then application of ITU date priority in domestic coordination is appropriate.

9 More generally on the issue of status of incumbent FSS licensees, Telesat believes for the reasons discussed above that sole primary status for NGSO systems in the 18.8-19.3 GHz and 28.6-29.1 GHz bands is preferable and most consistent with Canadian public policy objectives and spectrum principles. Should the Department determine, however, that business certainty for incumbent GSO FSS networks takes precedence over other policy considerations, then Telesat would support a grandfathering approach which extends co-primary status to GSO networks authorized to provide FSS in Canada in the bands as of the date of the Consultation Document. Any GSO networks authorized after issuance of the Consultation Document (i.e., after October 25, 2018) would have secondary status relative to NGSO systems operating in the 18.8-19.3 GHz and 28.6-29.1 GHz bands.

C. DOMESTIC COORDINATION

Question 3: Is there additional information on coordination practices for GSO networks and NGSO systems in the FSS that should be considered? If so, please explain in detail.

10 The RABC and Ciel Comments, consistent with those of Telesat, recognize that e.i.r.p. limits can play a useful role in GSO/NSGO sharing in the 18.8-19.3 GHz and 28.6-29.1 GHz bands, by protecting NGSO systems from interference from GSO uplinks.

11 Ciel adverts to other sharing mechanisms, such as geographic separation and time-based frequency avoidance. Geographic separation, by definition, precludes ubiquitous deployment of user terminals in the bands, while time-based frequency avoidance restricts access to the frequencies and associated capacity. Thus these sharing proposals merely serve to emphasize the importance of granting some “dedicated” spectrum to NGSOs.

12 Similarly and as previously stated, NGSO EPFD limits have a direct impact on NGSO capacity and impose the entire burden of coordination on NGSOs. The grant of primary status to NGSO systems and secondary status to GSO networks in the 18.8-19.3 GHz and 28.6-29.1 GHz bands is therefore a more equitable and pro-competitive approach.

Question 4: ISED seeks comment on its view that, at this time, the existing approach to addressing domestic coordination disputes is sufficient.

13 While most operators express support for the Department’s existing approach to domestic coordination (subject to application of ITU date priority rather than date of domestic authorization), two foreign operators, Space Exploration Technologies Corp (SpaceX) and Viasat, seek changes to the requirement for foreign satellite networks to complete coordination with licensed Canadian satellite operators before being authorized for the provision of service in

Canada. Similar arguments were tabled and addressed by ISED in *Decisions on the Licensing Framework for Non-Geostationary Satellite Orbit (NGSO) Systems and Clarification of Application Procedures for All Satellite Licence Applications* (NGSO Decisions). As ISED clarified in the NGSO Decisions, foreign licensed satellites are required to complete coordination with Canadian-licensed systems with ITU date priority prior to being authorized for use in Canada, in order to ensure that Canadian licensees are not blocked from the Canadian market. The Canadian market access process for foreign-authorized satellites is also stream-lined, and there is no requirement for a foreign operator to wait for an earth station licence application to seek access to the Canadian market. Accordingly, neither SpaceX nor Viasat has identified any new basis for re-considering the prior coordination requirement for foreign-authorized systems.

14 Viasat has also proposed that ISED consider implementing a default NGSO-NGSO sharing rule, such as the $\Delta T/T$ rule that has been adopted by the Federal Communications Commission (FCC). A default NGSO-NGSO sharing rule is not only unnecessary, as ISED expressly recognizes in the Consultation Document, but as Telesat and OneWeb have demonstrated in ongoing FCC proceedings, the $\Delta T/T$ sharing rule that has been adopted by the FCC is unworkable.

A. OTHER CONSIDERATIONS

Question 5: ISED is seeking comments on the proposed changes to the CFTA.

In providing responses, include supporting arguments for or against the proposed changes.

15 For the reasons discussed in respect of Question 1 above, Telesat reiterates its support for amendments to footnotes C16E and C16F clarifying that NGSO systems have primary status and GSO systems have secondary status in the 18.8-19.3 and 28.6-29.1 GHz bands. If grandfathering

of authorized GSO networks is deemed appropriate, this would also need to be reflected in these footnotes.

III. CHANGES TO THE SPECTRUM UTILIZATION POLICY FOR THE USE OF THE BANDS 17.3-17.7 GHz, 19.3-19.7 GHz AND 29.1-29.25 GHz

Question 6: ISED is seeking comments on the above-proposed changes to the CTFA.

In providing responses, include supporting arguments for or against the proposed changes.

16 There is uniform support for ISED's proposals to amend the spectrum utilization policy for the 17.3-17.7 GHz, 19.3-19.7 GHz and 29.1-29.25 GHz bands to provide for increased FSS use of these bands.

17 A number of commentators note that studies have demonstrated that the 19.3-19.7 GHz and 29.1-29.25 GHz bands can accommodate ESIMs without causing harmful interference to other uses of the bands. Telesat concurs with these comments and supports the proposals to expressly identify ESIMs as an example of FSS use of the bands that may be consistent with the requirement to pose minimal constraints on the deployment of fixed services.

IV. CONCLUSION

18 For all the reasons stated herein and in Telesat's initial comments, Telesat asks the Department to take steps to grant primary status to NGSO systems and secondary status to GSO networks in the 18.8-19.3 GHz and 28.6-29.1 GHz bands. Telesat further asks ISED to permit additional FSS use of the 17.3-17.7 GHz, 19.3-19.7 GHz and 29.1-29.25 GHz bands, including ESIM applications that impose minimal constraints on the deployment of fixed services.

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