



**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*

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**TELESAT CANADA**

Leslie Milton  
Senior Counsel, Regulatory Affairs  
160 Elgin Street, Suite 2100  
Ottawa, ON  
Canada, K2P 2P7  
(613) 748-8700 ext. 2263

## COMMENTS OF TELESAT CANADA

### I. INTRODUCTION

1 Telesat welcomes the opportunity to provide these comments 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 (the Consultation Document) issued by Innovation, Science and Economic Development Canada (ISED). The Consultation Document seeks comments on proposals to clarify the status of geostationary satellite orbit (GSO) and non-geostationary satellite orbit (NGSO) fixed-satellite service (FSS) satellite networks operating in the 18.8-19.3 GHz and 28.6-29.1 GHz bands, as well as on proposals to permit additional FSS use of the 17.3-17.7 GHz, 19.3-19.7 GHz and 29.1-29.25 GHz bands.

2 Telesat supports primary status for NGSO FSS systems and secondary status for GSO FSS networks operating in the 18.8-19.3 GHz and 28.6-29.1 GHz bands. Proposed new NGSO systems, including Telesat's Ka-band low earth orbit (LEO) NGSO constellation, will support fibre-like, low latency broadband service to every part of Canada. A dedicated NGSO FSS allocation of the bands in Canada, consistent with the U.S., will facilitate the rollout of these innovative new systems and services to Canadians.

3 With regards to the 17.3-17.7 GHz, 19.3-19.7 GHz and 29.1-29.25 GHz bands, Telesat endorses the Department's proposals to permit greater use of these bands for the provision of FSS. This will assist in addressing spectrum constraints faced by the increasing number of satellite networks operating in Ka-band frequencies.

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

4 This section provides Telesat’s response to each of the questions raised in the Consultation Document. Telesat has participated in the Radio Advisory Board of Canada’s (RABC) development of common industry positions on the questions raised in the Consultation Document, and supports the positions set out in the RABC submission.

5 For convenience, questions identified in the Consultation are highlighted in grey, with Telesat’s comments on each issue following.

### **A. STATUS OF GSO AND NGSO SYSTEMS IN THE FSS**

Question 1: ISED 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.

6 Under international rules that have been adopted by Canada, NGSO systems are generally secondary to GSO systems operating in Ka-band segments allocated to FSS. This means that NGSO systems must not cause harmful interference to GSO systems. The 18.8-19.3 GHz and 28.6-29.1 GHz bands are the exception – in these bands, GSO and NSGO systems are co-primary with the result that under international rules, coordination between GSO and NGSO systems in these bands is based on ITU date priority.

7 Telesat supports the RABC proposal that NGSO FSS be granted primary status and GSO FSS be granted secondary status in the 18.8-19.3 GHz and 28.6-29.1 GHz bands. As noted in the Consultation Document, the Federal Communications Commission (the FCC) has adopted this approach, in order to provide some “dedicated” or “primary” spectrum for proposed new NGSO systems. While GSO satellites have and will continue to support rural and remote connectivity, innovative new NGSO low earth orbit constellations have the ability to support low latency

communications, and extend fibre-like high-speed broadband services to all Canadians regardless of location. The allocation of dedicated Ka-band spectrum for Ka-band NGSO systems will harmonize regional spectrum allocations and facilitate the rollout of these new broadband services on a regional basis.

## **B. STATUS OF INCUMBENT FSS LICENSEES**

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

8 As discussed above, Telesat supports designating the 18.8-19.3 GHz and 28.6-29.1 GHz bands for use by NGSO FSS systems on a primary basis and by GSO FSS networks on a secondary basis, as the RABC has also proposed. Under this approach, GSO networks must not cause interference to, or claim protection from, NGSO systems. However, date priority does remain relevant to NGSO-NGSO coordination. Telesat supports the application of ITU date priority to domestic coordination between NGSO systems.

## **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.

9 The Consultation Document references the potential implementation of e.i.r.p. limits to improve GSO-NGSO sharing in the 18.8-19.3 GHz and 28.6-29.1 GHz bands. Telesat supports the development of uplink power levels for GSO earth stations, to protect NGSO satellite receivers from interference from these transmissions. However, the development of appropriate limits for GSO earth stations requires careful study.

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

10 Telesat concurs with the Department that its existing approach to domestic coordination disputes is sufficient. In particular, Telesat supports reliance on the well-established international rules – namely date priority and the obligation to coordinate in good faith – for coordination, with recourse to ISED on a case-by-case basis if operators are unable to reach agreement.

#### **D. OTHER CONSIDERATIONS**

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

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

11 ISED proposes to amend the Canadian Table of Frequency Allocations (the CTFA) to reflect its established policy that fixed service (FS) is secondary in the bands, and to clarify the status of GSO and NGSO networks operating in the 18.8-19.3 GHz and 28.6-29.1 GHz bands.

12 As noted in the Consultation Document, the 18.8-19.3 GHz and 28.6-29.1 GHz bands are allocated internationally and in Canada for high-density FSS. Ka-band satellite systems that address the digital divide by blanketing rural and remote areas of Canada and the rest of the world with high-speed broadband coverage, including the Telesat Ka-band LEO NGSO constellation, must have access to dedicated satellite spectrum for the ubiquitous deployment of fixed and mobile end user earth stations. This spectrum cannot feasibly be shared with fixed services. Accordingly, Telesat concurs with ISED's proposal to update the CTFA to identify fixed service as secondary in 18.8-19.3 GHz and 28.6-29.1 GHz to accord with established ISED policy regarding fixed service use of the bands.

13 For the reasons discussed in response to Question 1, Telesat proposes that Canadian footnotes C16E and C16F be amended to reflect primary NGSO status and secondary GSO status in the 18.8-19.3 GHz and 28.6-29.1 GHz bands. Telesat does not support any edits to the introductory sentence of footnotes C16E and C16F. In accordance with the decisions of the Department in SP 3-30, *Revisions to Spectrum Utilization Policies in the 3-30 GHz Frequency Range and Further Consultation* (SP 3-30), the first sentence of footnotes C16E and C16F identifies portions of Ka-band where the FSS has priority over the fixed service, namely, the 18.3-19.3 GHz, 28.35-29.1 GHz and 29.25-29.5 GHz bands.<sup>1</sup> Accordingly, Telesat proposes that footnotes C16E and C16F be revised as follows:

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**C16E (CAN-18)** In the frequency band 18.3-19.3 GHz, the use of this band by the fixed-satellite service has priority over the use by the fixed service. Use of this band by the fixed service ~~in~~ shall be limited to applications that pose minimal constraints on the deployment of fixed-satellite services. ~~Domestic implementation of fixed-satellite services in the band 18.8-19.3 GHz will be governed by spectrum utilization policies to be developed. These policies will take regional developments into consideration in the designation and authorization of spectrum for particular systems and technologies. The band 18.8-19.3 GHz is designated for use by NGSO systems in the FSS on a primary basis and by GSO networks in the FSS on a secondary basis.~~

MOD

**C16F (CAN-18)** In the frequency band 28.35-29.1 GHz and 29.25-29.5 GHz, the use of this band by the fixed-satellite service has priority over the use by the fixed service. Use of this band by the fixed service ~~in~~ shall be limited to applications that pose minimal constraints on the deployment of fixed-satellite services. ~~Domestic implementation of fixed-satellite services in the band 18.8-19.3 GHz will be governed by spectrum utilization policies to be developed. These policies will take regional developments into consideration in the designation and authorization of spectrum for particular systems and technologies. The band 28.6-29.1 GHz is designated for use by NGSO~~

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<sup>1</sup> SP 3-30, pages 27-28, 32, 35-36 and 38.

systems in the FSS on a primary basis and by GSO networks in the FSS on a secondary basis.

### **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.

14 ISED seeks comments on its proposal to amend the Canadian footnotes to the CTFA to permit low density deployments of earth stations communicating with GSO satellite networks in the identified frequency bands namely, 17.3-17.7 GHz, 19.3-19.7 GHz and 29.1-29.25 GHz. The proposed amendments will provide additional flexibility for deployment of FSS earth stations.

15 Telesat endorses the Department's proposal to permit additional FSS use of the 17.3-17.7 GHz, 19.3-19.7 GHz and 29.1-29.25 GHz bands, and supports the Canadian footnote amendments proposed by the RABC to implement this flexibility in the CTFA.

### **IV. CONCLUSION**

16 Telesat commends ISED for initiating this consultation and 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. Telesat further asks ISED to implement its proposal to permit additional FSS use of the 17.3-17.7 GHz, 19.3-19.7 GHz and 29.1-29.25 GHz bands.

All of which is respectfully submitted on behalf of TELESAT CANADA

/s/ \_\_\_\_\_

Leslie Milton  
Senior Counsel, Regulatory Affairs  
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