



Canadian Space Agency
Agence spatiale canadienne



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Ref: Livelink# 293988634

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**Subject: Consultation on a Policy, Licensing and Technical Framework for
Supplemental Mobile Coverage by Satellite - SMSE-006-24 June 2024**

Dear Ms. Scott,

The Canadian Space Agency (CSA) is pleased to submit its comments in the attachment on ISSED's "Consultation on a Policy, Licensing and Technical Framework for Supplemental Mobile Coverage by Satellite".

The CSA remains at your disposal should you have any questions about this submission.

Sincerely,

Michel Doyon

Manager, Flight and Systems Operations

Attachment

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ATTACHMENT

The Canadian Space Agency's comments on Consultation on a Policy, Licensing and Technical Framework for Supplemental Mobile Coverage by Satellite

1. Introduction

In this consultation (SMSE-006-24), ISED is initiating a consultation on a policy, licensing and technical framework for the use of certain bands allocated to flexible use and/or commercial mobile services to support the expansion of coverage via satellite, referred to as supplemental mobile coverage by satellite (SMCS). The Canadian Space Agency (CSA) understands the importance of SMCS and how such a service has the potential to close the mobile service coverage gaps for many Canadians living in areas where the mobile connectivity doesn't exist or isn't sufficient to serve the needs of the community.

The CSA is commenting on Questions that could impact the services it operates.

2. ISED is seeking comments on the following questions:

Q5 ISED is seeking comments on the proposal to apply the SMSC framework to the following initial bands:

600 MHz (617-652 MHz/663-698 MHz)
700 MHz (698-756 MHz and 777-787 MHz)
800 MHz Cellular (824-849 MHz/869-894 MHz)
PCS (1850-1915 MHz/1930-1995 MHz)
AWS-1 (1710-1755 MHz/2110-2155 MHz)
AWS-3 (1755-1780 MHz/2155-2180 MHz)

The CSA operates two ground stations, located in Saint-Hubert, Quebec and Saskatoon, Saskatchewan. In partnership with Natural Resources Canada, the CSA also uses their three ground stations, located in Cantley, Québec; Prince Albert, Saskatchewan and Inuvik, Northwest Territories. All these ground stations provide space operation services (SOS), space research services (SRS) and Earth-exploration-satellite services (EESS) in the frequency bands 2025-2110 MHz (Earth-to-space) and 2200-2300 MHz (space-to-Earth). The CSA operates in these frequency bands to perform the critical functions of tracking, commanding, and receiving telemetry for all its space stations (RADARSAT Constellation Mission, RADARSAT-2, SCISAT, and NEOSSAT). In addition, the 2200-2300 MHz frequency band is used to receive critical telemetry from launch vehicles that launch satellites into orbit. When the CSA is tracking



the launch vehicles, the antenna tries to lock on to the signal as soon as the launch vehicles appears over the horizon. It is at this time when the ground station's antenna is most susceptible to interference from terrestrial stations, as has been seen in the recent past with the increase of terrestrial systems in adjacent bands, even for the ground stations that are in a rural environment.

The CSA will continue to use the above-mentioned frequency bands to support its future missions, including the funded QEYSSAT, WildFireSat and HAWCSat. The CSA also has plans to use these frequency bands for other future missions: RCM+, RCM Next Generation, and the potential Terrestrial Snow Mass and Arctic Observing Missions, among others. Many government departments rely on these space stations to provide them with the data they need to fulfil their respective mandates.

Among the frequency bands listed in section 26 of the consultation, the CSA is concerned about the future use of the Advanced Wireless Services (AWS)-3 and AWS-1, as they are adjacent to the frequency bands where CSA operates. ISED should implement a SMCS framework that will ensure protection of the incumbent satellite services systems and their future use.

Q8 ISED is seeking comments on its proposal to enable SMCS on a no-interference, no-protection basis with respect to all radiocommunication services.

The CSA requests that the Department ensures that enabling SMSC will not constraint the operation of the existing and planned SRS, EESS and Space Operations. The CSA is concerned about how the department will ensure the protection of these systems. ISED should ensure that the framework includes appropriate and timely enforceable interference protection measures to resolve any interference problems that may occur.

Q24 Interference resolution: Given that SMCS is proposed to operate on a NINP basis, ISED is seeking comments on its proposal to require operators of SMCS (both earth stations and satellite licensees) to assume the onus of mitigating any interference that occurs to licensed in-band and/or adjacent band/block terrestrial operations. ISED is seeking comments on any potential challenges in complying with the existing coexistence measures prescribed in the applicable technical standards.

The CSA agrees with ISED's proposal that will require operators of SMCS (both earth stations and satellite licensees) to assume the onus of mitigating any interference that occurs to licensed in-band and/or adjacent band/block terrestrial operations, as well as satellite services in adjacent bands. The SMCs operators should provide their contact information with incumbents prior to being licensed, so that if interference occurs, the incumbents can act quickly to resolve the issue.



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In case of any interference from SMCS to any service, the CSA is supportive of having both the satellite operator and mobile service provider jointly responsible for eliminating such interference, regardless of compliance with all technical requirements. The two entities should have agreements in place to ensure that the partner satellite operators have adequate provisions to implement any required measures.