

4 October 2021

Innovation, Science and Economic Development Canada  
Senior Director, Space Services and International  
Engineering, Planning and Standards Branch  
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by email: [satelliteauthorization-autorisationsatellite@ised-isde.gc.ca](mailto:satelliteauthorization-autorisationsatellite@ised-isde.gc.ca)

Dear Sirs / Mesdames,

TerreStar Solutions Inc. (“TerreStar” or “TSI”) commends Innovation, Science and Economic Development Canada (“ISED” or the “Department”) for undertaking SMSE-009-21- *Consultation on Updates to the Licensing and Fee Framework for Earth Stations and Space Stations in Canada* (Canada Gazette, Part I, Volume 155, Number 33, 14 August 2021) (the “Consultation”). The current licensing and fee framework for earth stations and space stations has become outdated in many respects and TerreStar fully supports the objectives underlying the Department’s decision to launch this initiative.

As the Department is aware, TerreStar is a licensed Canadian mobile-satellite service (“MSS”) operator which actively markets and delivers wireless connectivity services throughout Canada under the “Strigo” brand name. TerreStar is also a Canadian licensee of AWS-4 Ancillary Terrestrial Component (“ATC”) spectrum at a national Tier 1 level and is registered with the Canadian Radio-television and Telecommunications Commission as a Wireless Carrier and as a Reseller of Telecommunications Services.

In this submission, TerreStar addresses only those proposals in the Consultation which may have a direct or indirect impact on TSI’s operations.

**Q1** - ISED is seeking comments on its proposals to:

- a. use spectrum licences to authorize fixed and transportable earth stations and ESIMs within Canadian territory, with multiple earth stations authorized under a single licence*
- b. issue the proposed spectrum licences for a Tier 1 service area, and have those licences authorize the radio service and frequency bands*
- c. apply the general conditions of licence that are listed in annex A to earth station spectrum licences*

1. TerreStar supports the Department's proposal to use a single spectrum licence to authorize multiple fixed earth stations within Canada. As an MSS operator, TSI operates several feeder link and calibration earth stations at various locations throughout the country, each of which are presently authorized under individual radio licences, as well as numerous user terminals which are currently authorized under the existing TSI MSS spectrum licence. TerreStar's operations would benefit from the simplified approach proposed in the Consultation.
2. As noted by the Department in the Consultation, the geographic coverage of a satellite in geostationary orbit is typically nation-wide. Given this characteristic, the proposal made in the Consultation to issue the new earth station spectrum licences on a Tier 1 basis makes good practical sense.
3. The general conditions of licence set out in Annex A are consistent with pre-existing conditions of licence, and TSI is comfortable with the conditions proposed.

**Q2** - ISED is seeking comments on its proposals to:

*a. implement spectrum licences that require site approvals for all earth stations described above operating in any frequency band*

*b. collect and assess the technical information listed in annex B as part of the site approval process*

*c. require earth station licensees with site-approved spectrum licences to hold licences for entire spectrum blocks, as per relevant SRSPs*

4. Subject to the comments below, TerreStar generally supports the proposals made by the Department in connection with earth station spectrum licences requiring site approval, including the required technical information, which, as the Department notes, is the same information which is currently required.
5. However, TSI is concerned that the process of converting existing authorizations to new spectrum licences could potentially place an undue administrative burden on both the Department and existing site-approved earth station licensees. At paragraph 139 of the Consultation, the Department proposes that:

*As part of implementation, current licensees who are eligible for a new spectrum licence, if one is established under this process, will have an opportunity to confirm the accuracy of the parameters of their existing licences and authorizations.*

If ISED, as a result of this Consultation, adopts the proposed spectrum licensing regime for site-approved earth stations, TerreStar encourages the Department to consider a more

streamlined approach to implementation that would avoid as much as possible the need for existing licensees to refile Annex B information for reassessment by the Department.

6. TerreStar takes no position with respect to Questions 3 through 8 of the Consultation.

**Q9** - ISED is seeking comments on whether an RSS should be developed for earth stations intended for self-installation by consumers.

7. The mobile earth stations offered by TSI for use by Strigo MSS customers in Canada have been duly certified and entered in the *Radio Equipment List* maintained by ISED. TerreStar believes that an RSS, like that currently applicable to MSS earth stations, should be developed for other direct-to-consumer devices which may pose potential interference concerns and that all such devices should be made subject to certification prior to entering the Canadian market.

**Q10** - ISED is seeking comments on its proposals to:

*a. introduce spectrum licensing for space stations in all satellite services, with licences authorizing the radio service, the frequency band(s), the orbital location and a coverage area*

*b. set the licence term on a case-by-case basis for satellites that are not FSS, BSS or MSS*

*c. apply the existing conditions of licence for space stations, published as N2 – Space station licences, to the new spectrum licences.*

8. TerreStar supports the proposals made by the Department in the Consultation to introduce spectrum licensing for space stations in all satellite services. As an MSS satellite operator and service provider, TSI holds a spectrum licence authorising the MSS service, but is also required to hold a separate radio licence authorising use of the radio apparatus on the TerreStar-1 satellite. The spectrum licensing framework for space stations proposed by the Department in the Consultation would eliminate the need for such a stand-alone radio licence and streamline the required authorisations.
9. TerreStar takes no position concerning licence terms for satellites that are not FSS, BSS or MSS, and supports the Department's proposal to apply the existing N2 — *Space station licences* licence conditions to new spectrum licences.

**Q11** -ISED is seeking comments on its proposal to introduce spectrum licensing to authorize FSS feeder link and/or TT&C spectrum used by space stations to support MSS, with licences issued immediately after a favourable licensing decision and fees applicable once satellites are in operation.

10. TerreStar supports ISED's proposal to authorize FSS feeder link and TT&C spectrum used by space stations to support MSS operations through the issuance of a spectrum licence. TerreStar notes the Departments' comment at paragraph 94 of the Consultation that the spectrum licence fees are proposed to be "applied per licence, not per earth station", and supports the proposal based on that understanding.

**Q12** - ISED is seeking comments on whether to require MSS satellite operators to comply with the rules regarding minimum holdings for FSS feeder link spectrum, as defined in RP-008. In providing comments, respondents are requested to include supporting arguments and a rationale.

11. TerreStar supports the Department's proposal to require MSS satellite operators to comply with the rules regarding minimum holdings for FSS feeder link spectrum, as defined in RP-008 *Policy Framework for Fixed-Satellite Service (FSS) and Broadcasting-Satellite Service (BSS)*. The feeder link spectrum currently authorized by radio licence for use by TSI in providing the Strigo MSS service aligns with the RP-008 sub-bands.

**Q13** - ISED is seeking comments on its proposals to:

- a. issue spectrum licences instead of approvals in principle for MSS satellites, with fees remaining payable only once satellites are launched and operational*
- b. issue spectrum licences for MSS satellites with a 20-year term*
- c. issue separate spectrum licences for MSS satellites and MSS earth stations, with each licence assigned a fee*

12. TerreStar supports the proposal made by the Department in the Consultation to issue spectrum licences instead of approvals in principle for MSS satellites, with fees becoming payable only once satellites are launched and operational. The proposed licence term of 20 years is consistent with TSI's existing MSS spectrum licence. TerreStar also supports ISED's proposal to issue separate licences for MSS satellites and MSS earth stations

13. TerreStar notes the Department's comment at paragraph 67 of the Consultation that:

*No changes are proposed to the licensing procedures for earth stations operated by [MSS] service providers.*

It is unclear to TSI from this comment whether ISED intends to leave existing MSS spectrum licences in place and unchanged until a future review of RP-007 *Policy Framework for the Provision of Mobile Satellite Service Via Regional and Global Satellite Systems in the Canadian Market*, or whether existing MSS spectrum licences will be amended as part of the implementation of the decisions arising from this Consultation to remove the existing user terminal authorisation. TerreStar would appreciate further clarification from the Department in this regard.

**Q14** - *ISED is seeking comments on its proposals to:*

- a. issue the three types of satellite-related spectrum licences separately and assign a separate fee for each*
- b. allow communication with multiple GSO satellites on a single earth station licence*
- c. require separate earth station licences for NGSO systems*

14. TerreStar supports the licensing approach proposed by the Department, specifically, the proposals to issue three types of satellite-related spectrum licences separately and assign a separate fee for each, and to allow communication with multiple GSO satellites on a single earth station licence. TSI takes no position with respect to the proposals related to the licensing of NGSO systems.

**Q15** - *ISED is seeking comments on its proposal to assign a consumption-based fee to earth station spectrum licences, where site and station approvals are required, as follows:*

- below or equal to 1 GHz: \$2000/MHz*
- above 1 GHz and below or equal to 3.4 GHz: \$100/MHz*
- above 3.4 GHz and below or equal to 7.075 GHz: \$20/MHz*
- above 7.075 GHz and below or equal to 17.3 GHz: \$10/MHz*
- above 17.3 GHz and below or equal to 51.4 GHz: \$5/MHz*
- above 51.4 GHz: \$1/MHz*

15. TerreStar supports the adoption by the Department of a consumption-based fees regime for earth station spectrum licences where site and station approvals are required, and accepts the fee levels proposed.

16. TerreStar takes no position with respect to Question 16 of the Consultation.

**Q17** - ISED is seeking comments on its proposal to modify the existing consumption-based fee for spectrum licences for MSS earth stations operating in bands allocated to MSS as follows:

- at or below 3 GHz: \$1500/MHz
- above 3 GHz: \$5/MHz

17. TerreStar supports ISED's proposal to modify the existing consumption-based fee for spectrum licences for MSS earth stations as described in the Consultation and accepts the proposed fee levels.

**Q18** - ISED is seeking comments on its proposal to assign the spectrum licence fee for MSS earth stations based on the maximum amount of spectrum a system is capable of using, within a range of possible operation. This amount would be the assigned spectrum used in the fee calculation.

18. TerreStar supports SED's proposal to assign the spectrum licence fee for MSS earth stations based on the maximum amount of spectrum a system is capable of using, within a range of possible operation.

**Q19** - ISED is seeking comments on its proposals to:

- a. modify the MSS satellite spectrum licence fee to \$124.84/MHz
- b. assign a consumption-based fee for new spectrum licences for all other satellites (that are not FSS, BSS or MSS) at \$124.84/MHz

19. TerreStar accepts the Department's proposal to modify the MSS satellite spectrum licence fee to \$124.84/MHz, within the context of the other elements of the framework proposed in the Consultation.

20. TerreStar takes no position with respect to Question 20 of the Consultation.

**Q21** - ISED is seeking comments on its proposals to introduce a minimum annual spectrum licence fee of \$160 for earth stations and \$300 for space stations, and to apply these fees whenever the application of the consumption-based fee model would result in a fee lower than those amounts.

21. TerreStar supports the Department's proposals in the Consultation with respect to minimum annual spectrum licence fees.

22. TerreStar takes no position with respect to Questions 22 through 24 of the Consultation.

**Q25** - ISED is seeking comments on its proposal to apply a prorated fee, of 1/12th of the relevant annual fee for each month until March 31 of the fiscal year, for licences issued part-way through a licensing year.

23. TerreStar supports the Department's proposal to apply prorated fees to spectrum licences issued part-way through a licensing year in the manner described in the Consultation.

24. TerreStar takes no position with respect to Question 26 of the Consultation.

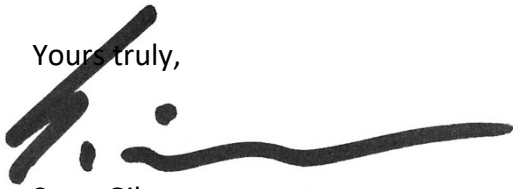
**Q27** - ISED is seeking comments on its proposals to set service standards for the issuance of licensing decisions for satellite-related spectrum licences as follows:

- *space stations: 126 days*
- *generic earth stations: 126 days*
- *site-approved earth stations: 126 days*
- *additional sites under an existing site-approved earth station licence: 49 days*

25. TerreStar supports the Department's proposal to set service standards for the issuance of licensing decisions for satellite-related spectrum licences in the manner described in the Consultation.

TerreStar thanks the Department for the opportunity to comment in this Consultation

Yours truly,

A handwritten signature in black ink, appearing to read 'S. Gibson', with a long horizontal flourish extending to the right.

Scott Gibson  
General Counsel & Corporate Secretary  
TerreStar Solutions Inc.