

19 September 2022

[REDACTED]  
Ofcom  
Riverside House  
2a Southwark Bridge Road  
London, SE1 9HA

**Subject: Application for NGSO Earth Station Network License**

[REDACTED]  
Many thanks for the letter dated 7<sup>th</sup> September 2022 and for publishing the details of non-confidential responses to the Telesat application on the Ofcom's website.

Telesat is pleased to provide some additional information regarding the Earth Station Network licence application. Please find below the answers to Ofcom's requests, indicating also the parts that should remain confidential.

*Q1. Could you provide evidence regarding the general approach that Telesat is taking/will take in cooperation discussions with existing licencees and future operators, along with evidence that it is conducting these discussions "in good faith" (as per our statement)?*

Telesat is conducting coordination in accordance with industry practice as developed through the relevant international expert group, which is ITU WP 4A. Notably, recent contributions have interpreted Recommendation ITU-R S.1323, that falls in the purview of ITU-R Study Group 4, responsible for all satellite matters, as promoting coordination based on (1) average degradation in spectral efficiency, (2) increase in unavailability of the lowest C/N objective. Telesat is in advanced discussions with several NGSO (coordination under No. **9.12** of the Radio Regulations) and GSO (coordination under Nos. **9.12A** and **9.13** of the Radio Regulations) operators.

[REDACTED]

[REDACTED]

Q2. Could you provide information regarding, but not limited to:

- a) Any mitigations that you might have in place to protect GSO networks e.g. angular avoidance of GSO arc.

The Telesat Lightspeed system will use mitigation techniques made possible by state-of-the-art satellite technology to ensure that it will comply with both “single-entry” and “aggregate” EPFD limits indicated in the Radio Regulations. These include, but are not limited to, the use of: steerable and shapeable narrow beams operating in a multi-colour frequency reuse scheme, dynamic modulation of the EIRP spectral density of the transmissions generated by a satellite or earth station, depending on its pointing direction with respect to the GSO arc, use of beam-hopping, use of a minimum separation angle between two or more satellite beams operating simultaneously and co-frequency.

[REDACTED]

- b) Compliance with the EPFD limits in Article 22 of the ITU-R Radio Regulations (single entry and aggregate interference).

Telesat will operate its Lightspeed system in order to comply with all applicable provisions of the ITU Radio Regulations with respect to meeting “single-entry” limits (i.e. Nos. 22.2, 22.5C, 22.5D and 22.5F of the Radio Regulations) and with respect to meeting the “aggregate” limits indicated in Annex 1 to Resolution 76 (Rev. WRC-15). Telesat notes that WRC-23 is likely to amend this Resolution under Topic J of its Agenda Item 7 and highlights that Telesat is actively engaged in the discussions related to this topic and will comply with any provisions that may come into force following the Conference’s

deliberations on the matter. Telesat also notes that the COMMSTELLATION, CANSAT-LEO and TELSTAR-LEO satellite systems to which Telesat is licensed by the administration of Canada have each received a favourable finding following the Bureau's examination under Resolution 85.

Finally, Telesat would like to take the opportunity to address the issues highlighted in the only document that was published on the Ofcom website in response of Telesat's application: Viasat's "input on the issue of Telesat's applications for NGSO earth station network licences to operate their user terminals in 27.5 –27.8185 GHz, 28.4545 – 28.8265 GHz and 29.5 – 30 GHz bands". Telesat understands that Viasat's concerns with Telesat's application is related on "single-entry and aggregate equivalent power flux density (EPFD) emissions by both Telesat's NGSO system and all other NGSO systems serving the UK". Beyond confirming that, as stated above, Telesat will operate its Lightspeed system by complying with all relevant and applicable provisions of the ITU Radio Regulations, including Nos. 22.2, 22.5C, 22.5D and 22.5F, Telesat would like to note that Section A2.6 of the Statement on "Non-geostationary satellite systems" published by Ofcom on 10 December 2021 states:

*"A2.6 We already have conditions in our NGSO licences requiring all operators to comply with Article 22.2 of the ITU Radio Regulations (the full NGSO network and gateway licences can be found in Annexes A4 and A5 respectively). At this time, we do not think that there is a material risk to GSO systems that cannot be addressed by Article 22.2. Nonetheless, we note that the issues raised by stakeholders are currently being discussed at an international level through the work of ITU-R Working Party 4A (WP 4A) and we will continue to engage in these international discussions."*

Based on the above, Telesat believes that the course of action and the conditions proposed by Viasat are not appropriate to be applied to the Telesat Lightspeed system, subject of this application.

To conclude, Telesat welcomes this opportunity to provide additional comments pertaining to its Earth Station Network licence application. We remain available for any possible additional clarification you may need and look forward to continuing the discussion and collaboration.

Kind regards

