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Comments on the Consultation Paper on The Terms and Conditions of Network Authorisations to be Granted Under the Telecommunications Act, 2023

Kuiper Systems LLC (**Kuiper**), a wholly owned subsidiary of Amazon.com Services LLC (together, **Amazon**), welcomes the opportunity to submit these comments on the Consultation Paper on The Terms and Conditions of Network Authorisations to be Granted Under the Telecommunications Act, 2023 (**Consultation Paper**).

On July 30, 2020, the U.S. Federal Communications Commission (**FCC**) issued an Order and Authorisation permitting Kuiper to deploy a constellation of Non-Geostationary Satellite Orbit (**NGSO**) Fixed-Satellite Service (**FSS**) satellites in low Earth orbit (**LEO**) (**Kuiper System**) using Ka-band frequencies.¹ On October 6, 2023, Amazon launched two (2) satellites into space as part of its Protoflight mission of tests to validate the Kuiper System design and network performance. Within 30 days of sending these satellites into space, we achieved a 100 percent success rate for our mission, validating key technologies that underpin the Kuiper network and moving the program another step closer toward our long-term vision of providing fast, affordable broadband to unserved and underserved communities around the world. These tests allowed us to optimize the architecture and design of our satellite constellation, and we have now begun mass satellite production ahead of a full-scale deployment of Project Kuiper in the months to come.

Project Kuiper’s NGSO constellation will bring fast, affordable broadband to unserved and underserved communities around the world. Project Kuiper will provide ubiquitous, high-capacity, high-speed, low latency broadband services to residential customers, schools, businesses, and institutions, and also backhaul connectivity to terrestrial mobile network operators, global enterprises, and government users,

¹ Kuiper Systems LLC, Order and Authorisation, ICFS File No. SAT-LOA-20190704-00057 (rel. July 30, 2020) (FCC 20-102), available online at <https://docs.fcc.gov/public/attachments/FCC-20-102A1.pdf> ; Erratum to Kuiper Systems LLC, Order and Authorisation, ICFS File No. SAT-LOA20190704-00057 (rel. September 4, 2020) (FCC 20-102), available online at <https://docs.fcc.gov/public/attachments/DOC-366700A1.pdf> ; Kuiper Systems LLC, Order and Authorization, IBFS File No. SAT-MOD-20211207-00186 (rel. February 8, 2023) (DA 23-114), available online at <https://docs.fcc.gov/public/attachments/DA-23-114A1.pdf> ; Kuiper Systems LLC, Order and Authorization, ICFS File Nos. SAT-MOD-20230228-00043 & SAT-AMD-20230613-00140 (rel. March 8, 2024) (DA 24-224), available online at https://licensing.fcc.gov/myibfs/download.do?attachment_key=26928238 ; Kuiper Systems LLC, Order and Authorization, ICFS File Nos. SAT-MOD-20210806-00095 & SAT-AMD-20230329-00067 (rel. April 22, 2024) (DA 24-376), available online at https://licensing.fcc.gov/myibfs/download.do?attachment_key=27625490.

among others. Through Project Kuiper, Amazon will enable connectivity where it is lacking, thereby helping to close the digital divide and ensure reliable access to communications.

A. General Comments

Amazon respectfully submits that the TRAI should recommend that Satellite Earth Station Gateways (SESG) authorization-holders be permitted to work with satellite operators and Service Licensees wherein the satellite operators and / or the entities holding appropriate service license from the Department of Telecommunications (“DoT”) (“**Service Licensees**”) can bring their own spectrum and use the SESG to provide greater flexibility in the satellite-based communications services business and, thereby, facilitate ease of doing business and enable further innovations in the satellite industry in India. Amazon submits that the TRAI should recommend adopting a consistent approach between service and network authorisations while considering merger guidelines. Lastly, the migration framework should be based on the principle that entities providing the same services should be regulated in a similar manner.

B. Specific Comments

Q1. N/A.

Q2. N/A.

Q3. N/A.

Q4. N/A.

Q5. N/A.

Q6. N/A.

Q7. Whether there is a need to make any changes in the eligibility conditions, area of operation, validity period of authorisation, scope, and terms & conditions (general, technical, operational, security etc.) of the Satellite Earth Station Gateway (SESG) authorisation, as recommended by TRAI on 29.11.2022? If yes, what changes should be made in the eligibility conditions, area of operation, validity period of authorisation, scope, and terms & conditions (general, technical, operational, security etc.) of the SESG authorisation? Kindly provide a detailed response with justification.

AND

Q8. Whether there is a need to introduce a new authorisation for establishing, operating, maintaining or expanding satellite communication network, which may be used to provide network as a service to the entities authorized under Section 3(1)(a) of the Telecommunications Act, 2023? If yes- (a) What should be the eligibility conditions, area of operation, validity period of authorisation, scope, and terms & conditions (general, technical, operational, security etc.) of such authorisation? (b) Whether an entity holding such authorisation should be made eligible for the assignment of spectrum for both feeder link as well as user link? Kindly provide a detailed response with justification

Amazon agrees with the TRAI that the scope of the satellite communication network authorisation envisaged by the DoT is analogous to the SESG authorisation recommended by it and, accordingly, is providing a common response to Questions 7 and 8.

Under this framework, the SESG authorisation holder, the satellite operator and the Service Licensee will be the relevant stakeholders which the TRAI's recommendation should consider while evaluating terms and conditions. Amazon submits that, currently, a Satellite operator cannot sell services to another Service Licensee directly without a Virtual Network Operator (VNO) regime. Whereas multiple Service Licensees may want to serve their customers (B2C and B2B), by providing customized services, -- either through geostationary satellite orbit (**GSO**) or NGSO systems. This can be enabled by permitting a satellite operator to obtain the SESG authorisation and provide services directly to multiple Service Licensees who can be treated as a Network Service Operator (**NSO**) and can further resell, if required, to another VNO. Amazon respectfully submits that the TRAI may consider the following terms to enable a facilitative regulatory regime for enabling SESG authorisation holder to offer services to Service Licensees:

For Authorised SESG authorisation holders

- SESG authorisation holders should be permitted to own and operate SESG by entering into an arrangement with the satellite operator/their Indian entity (who either owns a Service License or SESG License).
- As recommended by the TRAI, the SESG authorisation holder should not be assigned spectrum. Instead, the SESG authorisation holder should utilize the spectrum (for configuration and provisioning purposes) assigned to the Service Licensee who has an agreement with the satellite operator/their Indian entity for providing satellite-based services. Amazon submits that the SESG authorisation holder should be allowed to deploy baseband for the NGSO operator/their Indian entity (who has been assigned frequencies), particularly since baseband is an integral component of the earth station infrastructure, and an enabling framework for the same would be well-received.

For Service Licensees

- The Service Licensee should be permitted to apply for the necessary spectrum assignment from the DoT, consistent with the regime which is in place today. The Service Licensee should also be permitted to enable the SESG authorisation holder to utilize the spectrum in order to operate the SESG. This would be consistent with the operational set-up envisaged by the TRAI for digital connectivity infrastructure providers (**DCIP**), wherein the TRAI has recommended that the DCIP should not be permitted to hold spectrum.
- This framework would provide Service Licensees with greater flexibility to serve customers (B2B or B2C).

Q9. N/A.

Q10. N/A.

Q11. N/A.

Q12. N/A.

Q13. N/A.

Q14. What should be the terms and conditions for the merger, demerger, acquisition, or other forms of restructuring of the entities holding network authorisations under Section 3(1)(b) of the Telecommunications Act, 2023? Please provide a detailed response with justifications in respect of each network authorisation.

Amazon submits that it would be prudent for the TRAI to adopt a consistent approach between service and network authorisations while considering merger guidelines. Consistent with what the TRAI observed in its Consultation Paper on the Framework for Service Authorisations to be Granted Under the Telecommunications Act, 2023, it may be more feasible for terms and conditions for mergers and other forms of restructuring to be developed, as appropriate, once an authorisation framework for telecommunication networks is put in place and the scope of various network authorisations is determined.

Q15. What conditions should be made applicable for the migration of existing network licenses, registrations etc. to the new network authorisation regime under Section 3(1)(b) of the Telecommunications Act, 2023? Kindly provide a detailed response with justifications.

AND

Q16. What procedure should be followed for the migration of existing network licenses, registrations etc. to the new network authorisation regime under Section 3(1)(b) of the Telecommunications Act, 2023? Kindly provide a detailed response with justifications.

Consistent with Section 4(6) of the Telecommunication Act, 2023 (“Telecom Act”), the TRAI should clarify that entities that have been authorized to provide network services prior to introduction of updated authorisations under the Telecom Act may voluntarily migrate to the new terms and conditions. The migration framework should be based on the principle that entities providing the same services should be regulated in a similar manner. If relaxations are provided under the new framework in relation to fees and terms and conditions, similar relaxations should be provided to licensees under the extant licensing framework, and any excess fees and / or bank guarantee submitted should be refunded/returned (respectively) within a stipulated timeframe. This would create greater regulatory certainty regarding the new authorisation framework. Amazon submits that the migration framework for any proposed network authorisations should ensure that there is no disruption to the business of entities providing services under the current regime.

With respect to fees, to the extent that fees are lower under the new framework compared to the existing framework, such fees should be waived or pro-rated. Further, the application processing fee should be limited to any administrative costs for processing the application.

Q17. N/A.

Q18. N/A.

Q19. N/A.

Q20. N/A.

Q21. N/A.

Q22. N/A.

Q23. N/A.

Q24. N/A.

Q25. N/A.

Q26. N/A.

Q27. Whether there is a need to change/ modify any of the financial conditions of the Satellite Earth Station Gateway (SESG) authorization from those recommended by TRAI on 29.11.2022? If yes, please provide a detailed response with justification(s).

AND

Q28. In case it is decided to introduce a new authorisation for establishing, operating, maintaining or expanding satellite communication network under Section 3(1)(b) of the Telecommunications Act, 2023, then, what should be the financial conditions for such authorisation?

Amazon submits that given the scope of the satellite communication network authorisation envisaged by the DoT is analogous to the SESG authorisation recommended by the TRAI, the same financial conditions as recommended by the TRAI for the SESG authorisation may be re-iterated. The TRAI had recommended prudent financial conditions by prescribing an appropriate license fee, no requirement to furnish bank guarantees, and no minimum net worth or equity requirements. This approach will decrease the operational expenses for entities wishing to provide satellite communication networks as a service.

Q29. N/A.

Q30. N/A.

Q31. N/A.

Q32. N/A.

Q33. N/A.

Q34. N/A.

Q35. N/A.

Q36. N/A.

Q37. N/A.