OW/IN/TRAI/127
13th May 2026

To,
Shri Akhilesh Kumar Trivedi
Advisor (Networks, Spectrum and Licensing)
Telecom Regulatory Authority of India,
World Trade Centre, Nauroji Nagar,
New Delhi – 110029

Subject: **OneWeb India's Comments on Consultation Paper on *the Framework for Satellite Communication Network Authorisation, and Assignment of Spectrum to Satellite Communication Network Providers***

Reference: TRAI's Consultation Paper dated 8th April 2026

Dear Sir,

This is in reference to TRAI's Consultation Paper on *the Framework for Satellite Communication Network Authorisation, and Assignment of Spectrum to Satellite Communication Network Providers* dated 08.04.2026.

In this regard, we are pleased to enclose our comments on the said consultation paper for your kind consideration.

Thanking You,

Yours' Sincerely,
For **OneWeb India Communications Private Limited**

Rahul Vatts
Director

Encl: a.a

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Preamble:

OneWeb India thanks the Authority for giving it the opportunity to comment on this critical Consultation Paper (**"CP"**) titled, *The Framework for Satellite Communication Network Authorisation, and Assignment of Spectrum to Satellite Communication Network Providers*.

The Consultation Paper builds on earlier TRAI recommendations and DoT back-reference to propose a dedicated SCN authorisation under Section 3(1)(b) of the Telecom Act, which would allow network-layer entities to establish and operate satellite communication networks and offer SCN as a Service ("SCNaaS") to service providers. **OneWeb India strongly supports the introduction of such a network-layer authorisation.**

As OneWeb India has highlighted in previous consultations on Satellite Earth Station Gateway ("SESG") License and satellite-spectrum assignment, **the current framework often compels global satellite operators – who do not intend to provide retail services in India – to obtain a Unified License and comply with full-fledged service-license obligations, merely to set up SESGs or Satellite Network Portals ("SNPs") and supply capacity to licensed service providers. This misalignment increases compliance costs, complicates business models and may discourage global operators from locating significant infrastructure in India.**

A well-designed SCN authorisation can address these concerns by:

- recognising SCN providers as network-layer entities, focused on establishing and operating SESGs/SNPs, baseband systems and related infrastructure
- allowing such entities to obtain and use feeder-link spectrum necessary to operate their networks
- enabling licensed service providers to procure SCNaaS and use it to offer services to end users under their own service licenses

This structure would align India with **international practice where satellite operators often act as merely wholesale capacity providers to national service providers**.

A critical design choice is the allocation of spectrum between SCN operators and service providers. OneWeb India submits that **only feeder-link spectrum (in FSS bands) should be assigned to SCN operators, while user-link spectrum – including FSS, MSS and IMT bands used for access to end users – must remain with service providers**. This follows logically from the network-layer character of the SCN authorisation: SCN operators do not provide retail services to end users, and therefore do not need user-link spectrum.

Assigning user-link spectrum to SCN operators would blur the intended separation between network and service layers under the Telecom Act, and could create confusion around consumer-facing responsibilities for QoS, lawful interception, billing and grievance redressal. By contrast, assigning only feeder-link spectrum to SCN operators, on terms consistent with the Authority's earlier recommendations on satellite spectrum, preserves the integrity of the licensing construct and ensures regulatory continuity.

OneWeb India also submits that security and compliance obligations for SCN operators should be calibrated to their network-layer role. Since SCN operators would not be providing services directly to

end users, and service providers would remain responsible for user-facing obligations, **SCN operators should not be subjected to stringent security conditions applicable to retail service providers.**

In summary:

- ✓ *There should be a separate authorisation for installation/operation of SESGs/SNPs, with the provision to obtain feeder link spectrum assignment only – either by expanding the scope of the proposed SESG Authorisation or by introducing separate SCN Authorisation.*

  The eligibility conditions for such authorisation should be analogous to those proposed for SESG Authorisation; the area of operation should be National service area; and the validity period should be 20 years.

- ✓ *The user link spectrum should be allocated to the respective service providers.*

- ✓ *The terms and conditions, as recommended for spectrum assignment to service providers, should apply* mutatis mutandis *to SCN operators.*

- ✓ *Network-layer specific security conditions should be imposed on SCN operators, with no duplication of compliances between SCN operators and service providers.*

- ✓ *The LF framework for an SCN operator should be at par with that of the service providers. Any rationalisation of levies must be applied uniformly across service providers and SCN operators.*

- ✓ *The requirement for BGs (both PBG and FBG) should be done away with. However, if the requirement of BGs is to be retained, an appropriate amount should be recommended by the Authority based on the corresponding requirements for service providers, while taking into account the restricted scope of the SCN authorisation being merely a network-layer authorisation.*

- ✓ *An SESG/SCN operator should also be allowed to connect its SESGs/SNPs with its PoPs without having to acquire any other license/authorisation.*

- ✓ *Only entities holding the UL (Access/Internet/NLD/Commercial VSAT CUG/GMPCS), or equivalent service authorisations for NSOs under the new authorisation regime, and not VNOs, should be permitted to seek SCNaaS from SCN operators.*

- ✓ *The SESGs/SNPs established in India should also be allowed to be used to provide feeder-link connectivity to satellites that are providing connectivity to customers outside of India, under a light-touch enabling framework.*

  Similarly, users in India should also be allowed to be served fully/partially through SESGs/ SNPs located outside India.

- ✓ *There should be no mandatory requirement for SatCom operators to extend control/visibility/ resource allocation/management to service providers.*

- ✓ *The agreements between SCN operators and service providers should be left to mutual commercial negotiation and market forces with no mandatory reference agreement.*

- ✓ *The charges payable by service providers to SCN operators for SCNaaS, should be left to mutual commercial negotiation and market forces.*
- ✓ *The charges paid for SCNaaS should be allowed as deductions from the ApGR for arriving at the AGR for levy of LF/SUC on service providers.*
- ✓ *There is no need for an interconnection framework for satellite-based telecommunications networks with other telecom networks at this stage.*

OneWeb India now provides its replies to the specific questions asked in the sections that follow.

Q1. What should be the eligibility conditions, area of operation, validity period of authorisation and the scope of the proposed Satellite Communication Network (SCN) authorisation under Section 3(1)(b) of the Telecommunications Act, 2023? Kindly provide a detailed response with justification.

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Q2. What should be the terms and conditions (general, technical, operating, security related etc.) that should be made applicable for the proposed Satellite Communication Network authorisation? Kindly provide a detailed response with justification.

Response:

There is no separate license/registration for SESG/SCN operators under the extant regime in India. The Authority has recommended that a separate SESG License/Authorisation be introduced; and the same has been incorporated in the Draft Telecommunications (Authorisation for Telecommunication Network) Rules, 2025 dated 9th October 2025 (**"Draft Telecom Network Authorisation Rules"**). However, we believe that there are some important considerations which have not been taken into account in the said Recommendations and subsequent draft rules. These include:

The current regime forces even satellite operators to obtain UL:

The current regime in India is such that even satellite operators – who only wish to set up Satellite Earth Station Gateways (SESGs)/Satellite Network Portals (SNPs) and acquire satellite spectrum to operate the SESG/SNP to provide satellite bandwidth to TSPs and do not intend to provide any retail services to end customers directly – have no choice but to take a UL.

Consequently, they have to deal with various onerous conditions, including security compliances like LIM facilities and the payment of hefty LF, even though they have no intention of ever providing satellite communication services to end consumers. In fact, the cost of such compliance makes up a significant portion of the estimated revenue of satellite operators.

The regime for the SatCom sector in India has not evolved over the past 20 years and has thus not kept pace with the sector's significant technological advancements. It is high time that the framework was holistically reviewed, especially in light of the recent opening up of the space sector for private players.

TRAI's Recommendations and Draft Telecom Network Authorisation Rules did not review the issue holistically:

The Authority recognised this issue and recommended, vide its Recommendations dated 29th November 2022[1], for a separate SESG License – a simple registration for establishing and operating SESGs. However, the Authority failed to address the issue holistically, as it recommended that SESG licensees should not be allowed to install baseband equipment at the SESG and, accordingly, should also not be permitted to obtain/use spectrum (which is required for establishing the feeder link between the SESG and satellites).

[1] https://trai.gov.in/sites/default/files/Recommendation_29112022.pdf

Subsequently, the Authority reconsidered the issue; however, even vide its Recommendations dated 17th February 2025[2], it recommended for installation of baseband equipment by SESG operators only on behalf of service licensees.

Thereafter, DoT, vide its Back-Reference dated 3rd July 2025, stated that SESG Provider may require that the baseband equipment be owned and operated by them in view of proprietary nature of the equipment and absence of 3GPP standards for same. Accordingly, DoT suggested that the baseband equipment to be installed at SESGs may also be allowed to be owned by SESG Providers, provided that the control, visibility and management of users through such baseband equipment should be with the eligible service providers only.

Consequently, the Authority, in its response dated 13th August 2025[3], modified its earlier recommendation in line with DoT's suggestion. The Draft Telecom Network Authorisation Rules are aligned with the same.[4]

Nonetheless, spectrum assignment is still outside the scope of such SESG Authorisation. Rule 49(4) specifically provides that "*The authorised entity holding the SESG provider authorisation may utilize the spectrum of the partnering entity for the limited purpose of configuration, while the right to use of spectrum shall remain with the partnering entity*".

The framework proposed by the Authority and incorporated under the draft rules is largely based on the one followed for terrestrial services and does not acknowledge the unique requirements and business models of global-level satellite operators, and more specifically, NGSO-based systems.

Unlike GSO-based systems which involve only a single satellite, NGSO-based systems involve constellations with hundreds/thousands of satellites. Effective communication with these constantly moving satellites requires the global infrastructure to be supervised/controlled centrally by a single entity i.e. the satellite operator. Thus, SESGs/SNPs are technically required to be installed and operated by the satellite operator itself – and operation of SESGs/SNPs may not be possible without feeder link spectrum.

It should be recognized and facilitated that the control/supervision of the global satellite constellation and its feeder-link stations may be done centrally outside India.

Feeder link spectrum should be assigned to SESG/SCN operators:

Following on from the above, in order to effectively operate the SESGs/SNPs and provide SCNaaS to service providers, feeder link spectrum should be assigned to SESG/SCN operators. To this effect, the Government may decide to either expand the scope of the proposed SESG Authorisation or introduce a separate SCN Authorisation.

Needless to say, user link spectrum should be allocated to respective service providers.

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[2] https://www.trai.gov.in/sites/default/files/2025-02/Recommendations_17022025.pdf
[3] https://www.trai.gov.in/sites/default/files/2025-08/Response_13082025.pdf
[4] Rule 47(3) reads: "*An authorised entity holding SESG provider authorisation may establish, operate, maintain, or expand the baseband systems, along with SESG, for such satellite systems as specified in sub-rule (2).*"
Also, Rule 49(5) reads: "*The authorised entity holding the SESG provider authorisation establishing, operating, maintaining, or expanding the baseband systems under sub-rule (3) of rule 47 shall extend control, visibility, resource allocation and management of the telecommunication services, being provisioned using satellite system to users, to the partnering entity on mutually agreed terms and conditions.*"

As noted by the Authority itself in the consultation paper preceding the recommendations on SESG License, multiple jurisdictions follow the approach of having a separate registration for SESG operators and allocating feeder link spectrum to SESG operators and user link spectrum to service providers.

It is to be noted that even in the broadcasting sector, teleport operators are allowed to obtain the spectrum required to uplink signals from a teleport to the satellite. Similarly, SESG/SCN operators should also be permitted to obtain spectrum required to operate SESGs/SNPs.

Terms & Conditions

The eligibility conditions, area of operation and validity period for the SCN Authorisation should be analogous to the proposed SESG Authorisation.

Further, all consumer-facing obligations, like KYC, should attach only to service providers, who hold the direct contractual relationship with end users. Since SCN operators would be controlling the network, including the baseband equipment, such obligations as relevant for the network-layer should be applicable to them. As such, there should be no duplication of compliances between SCN operators and service providers.

SESG operators also need to be allowed to carry traffic from SESGs/SNPs to PoPs:

On a separate note, it is also pertinent to highlight the operating model of global-level NGSO operators – in addition to SESGs/SNPs, they also set up multiple Points-of-Presence (PoPs). It is at the PoP, and not the SESG/SNP, where the traffic is handed back over to the different service providers. Now, a PoP may not necessarily be located at the same location as the SESG/SNP and, when at different locations, they would need to be connected with each other through a fibre/leased line. Therefore, it follows, that in order to enable such global-level players to efficiently operate in India, it would be essential to allow these operators to also be able to connect the SESG/SNP with the PoP, including through a leased line from licensed/authorised TSPs, without having to acquire any separate license/authorisation.

Therefore, OneWeb India recommends the following:

(i) There should be a separate authorisation for installation/operation of SESGs/SNPs, with the provision to obtain feeder link spectrum assignment – either by expanding the scope of the proposed SESG Authorisation or by introducing separate SCN Authorisation.

(ii) The eligibility conditions, area of operation and validity period for such authorisation should be analogous to those proposed for SESG Authorisation.

(iii) The user link spectrum should be allocated to the respective service providers.

(iv) Network-layer specific security conditions should be imposed on SCN operators, with no duplication of compliances between SCN operators and service providers.

(v) An SESG/SCN operator should also be allowed to connect its SESGs/SNPs with its PoPs without having to acquire any other license/authorisation.

Q3. Which type of authorised entities should be permitted to seek Satellite Communication Network as a Service (SCNaaS) from the entities holding the proposed Satellite Communication Network authorisation? Whether virtual network operators (VNOs) should also be permitted to seek SCNaaS? Kindly provide a detailed response with justification.

Response:

Only entities holding relevant service authorizations under the Unified License (UL) i.e. Access, Internet, NLD, Commercial VSAT CUG or GMPCS, or equivalent service authorisations for NSOs under the new authorisation regime, should be permitted to seek SCNaaS from the entities holding the proposed SCN authorisation. **VNOs should not be permitted to seek SCNaaS.**

The VNO framework was introduced to facilitate service-level resale and enhance competition by allowing VNOs to provide services using a parent NSO's infrastructure. VNOs are only designed as extensions of their parent NSOs and are not permitted to operate standalone networks or provide services independently without an NSO partner.

Since SCN operators are authorized to establish and operate core baseband equipment and utilize spectrum, permitting VNOs to obtain SCNaaS would enable VNOs to **provide services directly to end users without the involvement of an NSO**. This would effectively **blur the regulatory distinction between NSOs and VNOs**, creating arbitrage opportunities and undermining the licensing structure that clearly separates NSOs from VNOs.

Therefore, OneWeb India recommends that only entities holding the UL (Access/Internet/NLD/ Commercial VSAT CUG/GMPCS), or equivalent service authorisations for NSOs under the new authorisation regime, and not VNOs, should be permitted to seek SCNaaS from SCN operators.

Q4. Whether the SCN authorised entity establishing, operating, maintaining, or expanding the baseband system alongwith SCN should be mandated to extend control, visibility, resource allocation and management of the telecommunication services, being provisioned using SCN to users, to the partnering entity on mutually agreed terms and conditions? Please provide a detailed response with justification.

Response:

No, the SCN authorised entity establishing, operating, maintaining, or expanding the baseband system along with SCN should not be mandated to extend control, visibility, resource allocation and management of the telecommunication services, being provisioned using SCN to users, to the partnering entity on mutually agreed terms and conditions.

Satellite operators employ diverse technical models with proprietary systems, and SCNaaS use cases vary significantly – from standalone GSO/NGSO systems to hybrid networks. A mandatory requirement would force unnecessary disclosure of confidential information and prove unworkable for certain architectures. The extent of control and visibility needed depends on the specific technical model and use case, which can be effectively addressed through mutual commercial agreements between parties. There is no market failure justifying regulatory intervention at this stage.

Therefore, OneWeb India recommends that there should be no mandatory requirement for SatCom operators to extend control/visibility/resource allocation/management to service providers.

Q5. What provisions should be included in the terms and conditions of Satellite Communication Network (SCN) authorisation considering the policy/Act in the Space sector? Kindly provide a detailed response with justification.

Response:

The Indian Space Policy 2023 paves the way for India becoming a leader in the SATCOM industry in the South Asian region by laying out a roadmap to encourage Indian entities to provide their services outside of India.

Specifically, the following clauses of the Space Policy mentioned under the head 'Non-Governmental Entities' need to be highlighted:

> "*NGEs would be encouraged to:*
>
> 1. *offer national and **international** space-based communication services, through self-owned or procured or leased GSO/NGSO communication satellites.*
> 2. *…*
> 3. *use Indian Orbital Resources and/or Non-Indian Orbital Resources to establish space objects for communication services over India and **outside India**.*
> 4. *…*"

The Indian Space Policy gives adequate recognition to the fact that **satellite networks are inherently international**. The same transponders are used to provide services in multiple countries. Further, just one SESG/SNP is capable of serving huge areas. It is, therefore, neither technically nor legally required that a satellite operator establish an SESG/SNP in every country it wishes to serve.

In this regard, the **SESGs/SNPs established in India**, too, could be capable of providing feeder-link connectivity to satellites as far as even 3000 km from their locations, including satellites overseas. This means that an operator may be able to provide connectivity to all its customers – not just within the territorial boundaries of India but potentially the **majority of the South Asian region (including high seas and airspace above it)**.

In fact, even the Authority, in its **Recommendations dated 18th September 2024** on the 'Framework for Service Authorisations to be Granted Under the Telecommunications Act, 2023', has recommended that **operators should be permitted to use the SESGs/SNPs established in India for providing service in foreign countries after obtaining the Central Government's permission**. Subsequently, DoT also published draft guidelines on the issue, for stakeholder comments. However, the **final guidelines are still awaited**.

In line with the vision of the Government of India encapsulated under the Space Policy as well as the Authority's Recommendations, the SESGs/SNPs established in India should be permitted to be used for providing feeder-link connectivity to satellites that provide connectivity to customers outside of India – under an **enabling framework with no unnecessarily onerous requirements, with due respect to international laws and jurisdiction of other countries**. Needless to say, the connectivity services in these other countries would be provided subject to their respective and applicable

licensing/regulatory frameworks.

On similar lines, it should also be allowed to provide services in India, partially/fully through SESGs/ SNPs located outside India. This approach recognizes the transnational character of SatCom services, and is also aligned with the global best practices followed in multiple jurisdictions around the world as per our experience as a global SatCom operator.

Therefore, OneWeb India recommends the following:

(i) SESGs/SNPs established in India should be allowed to be used to provide feeder-link connectivity to satellites that are providing connectivity to customers outside of India, under a light-touch enabling framework.

(ii) **Similarly, users in India should also be allowed to be served fully/partially through SESGs/ SNPs located outside India.**

Q6. Whether there is any need for mandating a reference agreement between the entities holding the proposed Satellite Communication Network authorisation and the authorised entities providing telecommunication service? If yes, what should be the salient features of the reference agreement between such entities? Kindly provide a detailed response with justification.

Response:

No, there is no need for mandating a reference agreement between the entities holding the proposed Satellite Communication Network authorisation and the authorised entities providing telecommunication service.

As mentioned in our response to Q4 above, technical and operational models for SCNaaS differ significantly across satellite operators and service providers, and a standardized reference agreement cannot adequately capture the nuances of each model or use case. Commercial agreements negotiated between parties can more effectively address specific requirements based on the technical architecture and business arrangement.

As noted by the Authority itself in the instant Consultation Paper, reference agreements are typically required where two networks offer substitute services and are horizontally related, with potential incentives for foreclosure through anti-competitive practices. However, SCN operators and service providers are vertically related – SCN operators provide wholesale network services while service providers deliver services to end users – eliminating the need for a reference agreement.

Furthermore, there is no precedent for mandatory reference agreements in other network-layer authorizations (IP-I, DCIP, CTN Provider, IXP Provider) or in B2B arrangements such as NSO-VNO relationships, spectrum sharing/trading, or infrastructure sharing. In such cases, parties simply file intimations with DoT for oversight purposes.

Therefore, OneWeb India recommends the following:

(i) The agreements between SCN operators and service providers should be left to mutual commercial negotiation and market forces with no mandatory reference agreement.

(ii) If required, SCN operators may be mandated to intimate DoT regarding the agreements entered into with service providers.

Q7. With respect to the interconnection with the proposed Satellite Communication Network Authorised Entities, whether there are any other issues in addition to those raised in TRAI's consultation paper on 'Review of existing TRAI Regulations on Interconnection matters' dated 10.11.2025, which require to be addressed in this consultation process? Please provide a detailed response with justification.

Response:

Currently, satellite-based telecommunications networks operate independently and separately from other telecom networks. There is no interconnection between SatCom and terrestrial networks. In fact, there is no interconnection even among the various SatCom operators inter-se. **Each SatCom network – whether GSO or NGSO and MSS or FSS – operates as a standalone network.**

While technological advancements in the future may require different SatCom networks to interconnect with each other as well as with terrestrial networks, a discussion on interconnection framework at this stage may be too premature.

Therefore, OneWeb India recommends that there is no need for an interconnection framework for satellite-based telecommunications networks with other telecom networks at this stage.

Q8. Any other inputs or suggestions relevant to the proposed Satellite Communication Network authorisation may kindly provided with detailed justification.

Response:

No comments.

Q9. Which of the following services should be permitted to be provided by using the SCNs established by the proposed SCN authorised entities:

(a) Fixed Satellite Service (FSS);
(b) Mobile Satellite Service (MSS);
(c) Direct-to-Device (D2D) Service via satellite by using MSS spectrum;
(d) Direct-to-Device (D2D) Service via satellite by using IMT spectrum?

Kindly provide a detailed response with justification..

Response:

All satellite communication services that service providers are permitted to offer using their own infrastructure should equally be permitted when using SCNaaS from SCN operators.

Any restriction would create level playing field issues, encourage regulatory arbitrage, and defeat the purpose of introducing SCN Authorisation.

Therefore, OneWeb India recommends that the range of SatCom services which may be provided by a service provider using SCNaaS from SCN operators, should be the same as the services which may be provided by the respective service provider using its own infrastructure/network.

Q10. Whether D2D Service via satellite by using IMT spectrum should be permitted at this stage itself, or should this matter be examined after considering the outcome of WRC-2027? Kindly provide a detailed response with justification.

Response:

D2D Service via satellite by using IMT spectrum should be permitted at this stage itself. There is no need to wait for the outcome of WRC-27.

Alignment with global ecosystem and 3GPP
D2D over IMT is part of the mainstream 5G/IMT roadmap, not an experimental side-track. Multiple operators and satellite players abroad are already running D2D/NTN trials in IMT bands, signalling clear ecosystem direction; India should join this trajectory now, with deployments allowed on a no-interference, no-protection basis.

Consumer and societal benefits
Permitting D2D on IMT spectrum will significantly improve connectivity in remote, rural, hilly and disaster-prone areas where terrestrial rollout is slow or uneconomic, directly advancing Digital India and universal service objectives. It also strengthens resilience during disasters by adding a satellite-based backup layer integrated with existing mobile networks and devices.

Regulatory certainty for investments
Satellite-based D2D over IMT requires large investments in payloads, gateways, integration and devices; investors need a firm signal that such services are permitted in India. Delaying until after WRC-27 would prolong uncertainty and risk pushing capital and partnerships to other markets.

Coexistence and protection of terrestrial IMT
Because IMT spectrum is already assigned to access-service providers under detailed technical conditions, any D2D deployment will be planned and controlled by the same licensees, ensuring protection of terrestrial networks. India can allow D2D now with appropriate technical limits (power, coordination, phased roll-out), refining these later in light of WRC-27 outcomes.

WRC-27 not a precondition
ITU/WRC decisions matter for long-term harmonisation, but they are not a legal precondition for India to authorise innovative uses of nationally assigned IMT bands, so long as existing ITU allocations are respected. Gaining early, controlled deployment experience – like US, UK, Australia and Canada are already doing – will put India in a stronger position going into and after WRC-27.

Q11. From the perspective of holding spectrum for the feeder link and the user link on SCNs, which of the following combinations should be permitted at the SCNs established by the proposed SCN authorised entities:

Combination No.	Spectrum for the feeder link held by –	Spectrum for the user link held by –
1	SCN authorised entity	SCN authorised entity
2	SCN authorised entity	Partnering entity (service provider)
3	Partnering entity (service provider)	SCN authorised entity
4	Partnering entity (service provider)	Partnering entity (service provider)

Kindly provide a detailed response with justification.

Response:

Please refer to OneWeb India's response to Q1. **SCN operators should be allowed to obtain feeder link spectrum and user link spectrum should be allocated to the respective service providers. Accordingly, from the perspective of holding spectrum for the feeder link and the user link on SCNs, Combination No. 2 should be permitted at the SCNs established by the proposed SCN authorised entities.**

SCN Authorisation is a network-layer authorization, and SCN operators require only feeder link spectrum (for SESG-to-satellite communication) to provide SCNaaS. User link spectrum (for UT-to-satellite communication) is needed by service providers who deliver retail services to end users.

Why other combinations are unsuitable:

- **Combination No. 1** (both held by SCN operator): Assigning user link spectrum to a network-layer entity blurs the separation between network and service providers and complicates consumer-facing obligations like QoS and lawful interception.

- **Combination No. 3** (feeder link with service provider, user link with SCN operator): Neither party's requirements are met – service providers using SCNaaS do not need feeder link spectrum, and SCN operators do not need user link spectrum.

- **Combination No. 4** (both held by service provider): This is no different from the current regime and defeats the purpose of introducing SCN Authorisation.

Combination No. 2 provides a clear delineation of responsibilities, enables efficient spectrum use, and aligns with international practice where SESG/SNP operators hold feeder link spectrum while service providers hold user-side spectrum and retail obligations.

Therefore, OneWeb India recommends that SCN operators should be allowed to obtain feeder link spectrum, while user link spectrum should be allocated to the respective service providers.

Q12. Which of the following types of spectrum should be assigned to the proposed SCN authorised entities:

(a) Spectrum in the frequency bands allocated for FSS
(b) Spectrum in the frequency bands allocated for MSS
(c) Any other?

Kindly provide a detailed response with justification.

Response:

Please refer to OneWeb India's response to Q1 and Q11. **Only feeder link spectrum should be assigned to SCN operators. Accordingly, only spectrum in the frequency bands allocated for FSS may be required to be assigned to the proposed SCN authorised entities.**

As noted by the Authority itself in the instant Consultation Paper, **feeder link spectrum in all kinds of satellite services – FSS, MSS as well as D2D – lies in the FSS bands**. Since SCN operators may only require feeder link spectrum for their operations, only FSS bands may be relevant for them.

Therefore, OneWeb India recommends that only spectrum in FSS bands should be assigned to SCN operators.

Q13. What should be the broad policy and regulatory framework for the assignment of FSS spectrum and/or MSS spectrum to the proposed SCN authorised entities? Specifically, –

(a) NGSO-based FSS and GSO/NGSO-based MSS: Whether in respect of NGSO-based FSS and GSO/NGSO-based MSS, TRAI's recommendations dated 09.05.2025 on 'Terms and Conditions for the Assignment of Spectrum for Certain Satellite-Based Commercial Communication Services' to DoT (read with the TRAI's response dated 08.12.2025 to DoT's back-reference dated 12.11.2025) should be made applicable to SCN authorised entities with necessary modifications? If yes, what modifications would be required in the terms and conditions for the assignment of spectrum for NGSO-based FSS and GSO/NGSO-based MSS? If no, what should be the terms and conditions for this purpose?
(b) GSO-based FSS: Whether the terms and conditions for the assignment of spectrum to SCN authorised entities for GSO-based FSS should be analogous to those recommended by TRAI for NGSO-based FSS and GSO/NGSO-based MSS through its recommendations on 'Terms and Conditions for the Assignment of Spectrum for Certain Satellite-Based Commercial Communication Services' dated 09.05.2025 (read with the TRAI's response dated 08.12.2025 to DoT's back-reference dated 12.11.2025) with necessary modifications? If yes, what modifications would be required for GSO-based FSS? If no, what should be the terms and conditions for this purpose?

Kindly provide a detailed response with justification.

Response:

Please refer to OneWeb India's response to Q1 and Q11-12. **Only spectrum in FSS bands, specifically for feeder links, should be assigned to SCN operators. Further, the terms and conditions for spectrum assignment, as recommended for service providers, should be made applicable to SCN authorised entities *mutatis mutandis*.**

The Authority has, after extensive consultation, already provided a comprehensive framework for the assignment of spectrum for SatCom (including feeder link) – albeit for services provided directly by service providers using their own infrastructure/network. Since SCN operators would be facilitating similar SatCom services, extending the same framework to them will ensure continuity and regulatory certainty. It would also maintain competitive neutrality between service providers using their own infrastructure/network and service providers using SCNaaS – services offered to end users being identical.

Therefore, OneWeb India recommends that the terms and conditions as recommended for spectrum assignment to service providers should apply mutatis mutandis to SCN operators.

Q14. What should be the eligibility conditions for seeking administrative assignment of FSS spectrum and/or MSS spectrum by the proposed SCN authorised entities? Kindly provide a detailed response with justification.

Response:

Please refer to our response to Q1 and Q11-12 above. **Only spectrum in FSS bands, specifically for feeder link, should be assigned to SCN operators. Such assignment may be done on administrative basis.**

Entry 12 of the First Schedule to the Telecom Act, provides for administrative assignment for "***Radio backhaul for telecommunication services***". Further, the term 'radio backhaul' has been defined as "*the use of radio frequency only to* ***interconnect telecommunication equipment, other than the customer equipment*** *in telecommunication networks*". Since feeder link spectrum would only be used to connect SESGs with satellites, and not customer equipment, it would fall within the scope of 'radio backhaul'. Hence, in line with Section 4(4), such assignment may be done through administrative process only.

Therefore, OneWeb India recommends that only spectrum in FSS bands, specifically for feeder link, should be assigned to SCN operators, and such assignment may be done administratively.

Q15. Whether there are any other inputs or suggestions relevant to the assignment of FSS spectrum and/or MSS spectrum to the entities holding the proposed SCN authorisation? Kindly provide a detailed response with justification.

Response:

No comments.

Q16. In case it is decided to permit the proposed SCN authorised entity to utilize the FSS spectrum and/or MSS spectrum assigned to a service authorised entity ("partnering entity") for the purpose of providing SCNaaS to the partnering entity – whether there is a need to establish a policy and regulatory framework for enabling the SCN authorised entity to enter into an agreement/arrangement with the partnering entity to utilize FSS spectrum and/or MSS spectrum assigned to such partnering entity for the purpose of providing SCNaaS to the partnering entity?

(i) If yes, what should be the terms and conditions under such a framework?
(ii) If no, in what manner such agreements/arrangements should be enabled and regulated?

Kindly provide a detailed response with justification.

Response:

Please refer to our response to Q1 and Q11 above. **SCN operators should be allowed to obtain feeder link spectrum, and user link spectrum should be allocated to respective service providers. Accordingly, there may be no requirement/use case for spectrum sharing between SCN operators and service providers.**

As mentioned in our response to Q6 above, SCN Authorisation is merely envisaged to be a network-layer authorisation. Services to end users may only be provided by service providers. Thus, assignment of feeder link to SCN operators may adequately serve their purposes. We do not foresee any situation or use case where the FSS/MSS spectrum assigned to service providers for user link, may be required to be used by the SCN operator.

Therefore, OneWeb India recommends that there is no need to establish a policy and regulatory framework for enabling the SCN authorised entity to enter into an agreement/arrangement with the partnering entity to utilize FSS spectrum and/or MSS spectrum assigned to such partnering entity for the purpose of providing SCNaaS to the partnering entity.

Q17. Whether there are any other inputs or suggestions relevant to the agreement/ arrangement between the proposed SCN authorised entities and service authorised entities ("partnering entities") to utilize the FSS spectrum and/or MSS spectrum assigned to such partnering entities? Kindly provide a detailed response with justification.

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Q18. In case it is decided to permit D2D service via satellite by using the spectrum in the frequency bands allocated for MSS such as L-band and S-band, whether there is a need to establish a policy and regulatory framework for enabling and regulating such a service? If yes, kindly suggest a broad framework for this purpose and the key terms and conditions to be included under such a framework? Kindly provide a detailed response with justification.

Response:

No comments.

Q19. In case with a view to enable D2D service via satellite using IMT spectrum, it is decided to permit the proposed SCN authorised entity to utilize IMT spectrum assigned to a service authorised entity ("partnering entity") for the purpose of providing SCNaaS to the partnering entity, –

(a) whether there is a need to establish a policy and regulatory framework for enabling the SCN authorised entity to enter into an agreement/arrangement with the partnering entity to utilize IMT spectrum assigned to such partnering entity for the purpose of providing SCNaaS to the partnering entity? If yes, what should be the terms and conditions under such a framework? If no, in what manner such arrangements should be enabled and regulated?

(b) Which frequency bands identified for IMT should be considered for this purpose? Specifically, whether only FDD-based frequency bands should be considered?

(c) For the frequency bands identified for IMT where D2D is decided to be permitted, whether the National Frequency Allocation Plan (NFAP) should be modified to include MSS on a secondary basis? If yes, kindly furnish your suggestion for the proposed modification(s).

(d) To mitigate the issues related to cross-border interference, whether any other condition in addition to Article 4.4 of the ITU-Radio Regulations is required to be made applicable?

(e) What regulatory framework should be established for ensuring interference-free operation of D2D service via satellite by using IMT spectrum within the country? Specifically, which of the following methods should be followed:

(i) The SCNs established by SCN authorised entities should be permitted to be used to provide D2D service via satellite by using IMT spectrum only if a single partnering entity (access service provider) holds the relevant IMT frequency channel in all the 22 LSAs of the country and agrees to permit the usage of its IMT frequency channel by the SCN authorised entity at its SCN for the purpose of providing SCNaaS; or

(ii) The SCNs established by SCN authorised entities should be permitted to be used to provide D2D service via satellite by using IMT spectrum if one or more access service providers – together holding the assignment of the relevant IMT frequency channel across all 22 licensed service areas of the country – agree to allow the usage of their IMT frequency channel by the SCN authorised entity at its SCN for the purpose of providing SCNaaS; or

(iii) Any other method?

Kindly provide a detailed response with justification.

Response:

(a) whether there is a need to establish a policy and regulatory framework for enabling the SCN authorised entity to enter into an agreement/arrangement with the partnering entity to utilize IMT spectrum assigned to such partnering entity for the purpose of providing SCNaaS to the partnering entity? If yes, what should be the terms and conditions under such a framework? If no, in what manner such arrangements should be enabled and regulated?

SCN operators should be allowed to obtain feeder link spectrum and user link spectrum should be allocated to the respective service providers. Accordingly, there may be no requirement/use case for spectrum sharing between SCN operators and service providers.

As mentioned in response to Q16, SCN Authorisation is envisaged to be a mere network-layer authorisation. Services to end users should only be provided by service providers. Thus, assigning just a feeder link to SCN operators should serve their purpose adequately. We do not foresee a situation or use case where the user link spectrum (including the IMT spectrum in the case of D2D services) assigned to service providers could be required for use by the SCN operator.

(b) Which frequency bands identified for IMT should be considered for this purpose? Specifically, whether only FDD-based frequency bands should be considered?

Only FDD-based mid-bands (1800/2100 MHz) should be considered for the purposes of D2D via IMT spectrum at this stage.

Why TDD and sub-GHz should wait

- In TDD bands, uplink/downlink synchronisation issues can cause serious interference to existing terrestrial TDD deployments; in sub-GHz, large-scale satellite downlinks could disturb IMT uplinks, and the already scarce sub-GHz spectrum is unlikely to support both IMT and D2D adequately.
- These more complex bands can be revisited later, once global standards, coexistence studies and international experience for D2D in TDD and sub-GHz bands are mature.

Why 1800/2100 MHz FDD are suitable now

- FDD inherently separates uplink and downlink into different bands, making interference scenarios more predictable and reducing the risk of satellite downlinks desensitising terrestrial uplinks (and vice versa) under appropriate technical conditions.
- 1800/2100 MHz are already widely deployed for nationwide coverage and are strongly supported in the global device/chipset ecosystem, enabling early D2D without bespoke hardware or fragmented band support.

Regulatory prudence and future flexibility

- Starting D2D only in 1800/2100 MHz lets the regulator gain operational experience, fine-tune rules (power limits, beam footprints, protection criteria) and monitor interference, while keeping more sensitive TDD and sub-GHz bands insulated during the learning phase.
- Once there is sufficient real-world evidence and clearer global best practice for D2D in TDD and sub-GHz, TRAI can consider a carefully controlled expansion through a separate consultation.

(c) For the frequency bands identified for IMT where D2D is decided to be permitted, whether the National Frequency Allocation Plan (NFAP) should be modified to include MSS on a secondary basis? If yes, kindly furnish your suggestion for the proposed modification(s).

The National Frequency Allocation Plan (NFAP) should be modified to include satellite-based D2D services on a secondary basis for the frequency bands identified for IMT where it has been decided to permit D2D – to provide an official backing for such services.

(d) To mitigate the issues related to cross-border interference, whether any other condition in addition to Article 4.4 of the ITU-Radio Regulations is required to be made applicable?

No condition in addition to Article 4.4 of the ITU-Radio Regulations is required to be made applicable to mitigate the issues related to cross-border interference at this stage. The same may be reconsidered post the outcome of WRC-27.

(e) What regulatory framework should be established for ensuring interference-free operation of D2D service via satellite by using IMT spectrum within the country? Specifically, which of the following methods should be followed:

(i) The SCNs established by SCN authorised entities should be permitted to be used to provide D2D service via satellite by using IMT spectrum only if a single partnering entity (access service provider) holds the relevant IMT frequency channel in all the 22 LSAs of the country and agrees to permit the usage of its IMT frequency channel by the SCN authorised entity at its SCN for the purpose of providing SCNaaS; or

(ii) The SCNs established by SCN authorised entities should be permitted to be used to provide D2D service via satellite by using IMT spectrum if one or more access service providers – together holding the assignment of the relevant IMT frequency channel across all 22 licensed service areas of the country – agree to allow the usage of their IMT frequency channel by the SCN authorised entity at its SCN for the purpose of providing SCNaaS; or

(iii) Any other method?

In order to ensure that D2D services operate interference-free via satellite by using the IMT spectrum within the country, <u>model no. (i)</u> should be followed at this stage, i.e., D2D services should be permitted to operate only if a single partnering entity (access service provider) holds the relevant IMT frequency channel in all the 22 LSAs of the country.

Why Model (ii) should be avoided for now

- Allowing different operators to use the same satellite beams in different LSAs (Model (ii)) would require highly complex, real-time coordination of beam footprints, power levels and handovers at every inter-LSA boundary, increasing the risk of harmful interference, inconsistent user experience and disputes over responsibility for any impact on terrestrial IMT.

Advantages of Model (i) and need for harmonisation

- Model (i) offers the cleanest, lowest-risk approach: a single nationwide holder of the band manages coexistence between its terrestrial and satellite use, in line with international practice where early D2D/NTN launches ride on nationwide or near-nationwide holdings.
- This provides a single point of accountability for staying within technical limits, though in practice nationwide contiguity will often require spectrum harmonisation, which should be undertaken promptly.

Q20. Whether there are any other inputs or suggestions with respect to the delivery of D2D services via satellite through SCNs established by the proposed SCN authorised entities? Kindly provide a detailed response with justification.

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Q21. Any other inputs or suggestions related to the use of spectrum on SCNs established by the proposed SCN authorised entities may be submitted with proper explanation and justification.

Response:

No comments.

Q22. Regarding the agreement between SCN Authorised entity and a Service Authorised entity providing FSS/MSS to the end user, for provision of SCNaaS to the Service Authorised entity, which may or may not include provisions for utilisation of FSS/MSS spectrum assigned to the Service entity, is there a need to regulate charges exchanged between the two entities under such an agreement? If yes, what would be the possible parameters, including SLA parameters, Spectrum utilisation etc., which would form the basis of regulation? Please provide your response with justification.

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Q23. In case of an agreement between an SCN Authorised entity and a Service Authorised entity providing D2D services using MSS spectrum, for provision of SCNaaS to the Service Authorised entity, which may or may not include provisions for utilisation of MSS spectrum assigned to the Service entity amongst other possible spectrum utilisation arrangements, is there a need to regulate charges exchanged between the two entities under such an agreement? If yes, what would be the possible parameters, including SLA parameters, Spectrum utilisation etc., which would form the basis of regulation? Please provide your response with justification.

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Q24. In case of an agreement between an SCN Authorised entity and a Service Authorised entity providing D2D services using IMT spectrum, for provision of SCNaaS to the Service Authorised entity, which may or may not include utilising spectrum for feeder link assigned to the service entity, besides utilising IMT spectrum assigned to the Service Authorised entity, is there a need to regulate charges exchanged between the two entities under such an agreement? If yes, what would be the possible parameters, including SLA parameters, Spectrum utilisation etc., which would form the basis of such regulation? Please provide your response with detailed justification.

Response:

There is no need to regulate charges exchanged between the two entities under an agreement between SCN Authorised entity and a Service Authorised entity providing FSS/MSS/D2D services to the end user, for provision of SCNaaS to the Service Authorised entity.

As mentioned in our response to Q4 above, Satellite operators employ diverse technical models with proprietary systems, and SCNaaS use cases vary significantly from operator to operator. **A uniform regulated charging framework may not be adequate in this constantly evolving market.**

In the absence of any demonstrated market failure, charges (including any spectrum-related components and SLA parameters) should therefore be left entirely to mutual commercial negotiation

and market forces, as is the case for other network-layer authorisations (IP-I, DCIP, CTN, IXP) and comparable B2B arrangements (e.g., NSO-VNO, IFMC-UL, spectrum sharing/trading, infrastructure sharing). If regulatory oversight is considered necessary, it can be adequately ensured through a simple requirement for SCN operators to intimate DoT of the agreements entered into with service providers, rather than through ex-ante tariff regulation.

Therefore, OneWeb India recommends the following:

(i) The charges payable by service providers to SCN operators for SCNaaS, should be left to mutual commercial negotiation and market forces.

(ii) If required, SCN operators may be mandated to intimate DoT regarding the agreements entered into with service providers.

Q25. Should the charges paid by the Service Authorised entity (providing either FSS, MSS or D2D service to the end user) to SCN Authorised entity for provisioning of Satellite Communication Network as a Service (SCNaaS), be permitted to be deducted from ApGR of the Service Authorised entity for the purpose of arriving at AGR for levy of License/ Authorisation Fees and Spectrum charges? Please provide your response with justification.

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Q26. If the answer to the above question is no, please suggest the methodology for considering such charges in determination of AGR of both the service authorised and SCN authorised entities, for purposes of levying Authorisation/License fees & Spectrum Charges? Please provide your response with justification.

Response:

Yes, the charges paid by the Service Authorised entity (providing either FSS, MSS or D2D service to the end user) to SCN Authorised entity for provisioning of Satellite Communication Network as a Service (SCNaaS), should be permitted to be deducted from ApGR of the Service Authorised entity for the purpose of arriving at AGR for levy of License/Authorisation Fees and Spectrum charges.

If such a deduction is not allowed, the same revenue would suffer a cascading "levy-on-levy" – first as AGR of the SCN operator and again as AGR of the service provider, artificially inflating effective levies and making satellite-backed services to remote and underserved areas less viable and affordable. SCNaaS payments are wholesale network inputs, analogous to interconnection and roaming charges that are already recognised as pass-throughs, and should be treated consistently so that levies fall on value added rather than on intermediate inputs.

Allowing deduction of SCNaaS charges would avoiding double charging, preserve neutrality between in-house and outsourced network models, and support efficient, shared SCN infrastructure deployment.

Q27. What should be the appropriate definition of GR, AGR, and ApGR for SCN Authorisation, including the relevant items of revenue, exclusions and deductions? Additionally, are there any operational or non-operational revenue elements specific to SCN Authorised entities that should be considered within the scope of definitions of GR, AGR and ApGR? Please provide detailed response with specific line items of revenue, exemptions and deductions, and specific definitions for GR/ApGR/AGR.

Response:

We wish to make certain submissions in respect of the definitions of GR, AGR and ApGR – which may be relevant for the proposed SCN Authorisation, as well as the licensing/authorisation framework in entirety. We request that these definitions be reviewed across all licenses/authorisations, in line with the below suggestions:

Cabinet Reforms of September 2021:

In September 2021, the Cabinet brought out structural reforms in the telecom licensing regime. Along with various measures to support the telecom industry, the definition of Adjusted Gross Revenue (**"AGR"**) was also reformed, by excluding certain non-telecom revenue items from the ambit of revenue for purposes of levying the LF and SUC. Accordingly, the license conditions were amended by DoT in October 2021 – the method of calculation of AGR was modified and the concept of Applicable Gross Revenue (**"ApGR"**) was brought in. Later, i.e., in July 2023, in order to address various issues raised by the industry, DoT issued a clarification regarding the revised definition of AGR.

As per the clarification, AGR would now include revenues from all non-licensed telecom activities as well as non-telecom activities if bundled with licensed services or provided by a licensed entity to any other non-licensed/licensed entity as ancillary to a telecom service.

Challenges that continue post the September 2021 reforms:

These changes posed the following key challenges for the industry and require urgent attention of the Authority:

Definition of Gross Revenue: Since the definition of Gross Revenue (**"GR"**) has not been changed and continues to be the same as it was prior to the Cabinet Reforms, many activities which do not require a license under the current section 3 of the Telecom Act (earlier section 4 of the Telegraph Act) continue to form part of the revenue. Additionally, the anomaly within the definition of GR has also not been addressed – **for instance, items that are not revenue in nature, such as forex, set-off of related items of expense, etc. continues to be part of GR.**

Exclusion of Non-Telecom vs. Non-Licensed Activities: A concept of ApGR was introduced, wherein the items for exclusion from GR have been listed. However, this did not exclude all non-licensed telecom activities, like sale of user terminals or handsets, standalone OTT subscriptions (other than telecom packs), management support charges or supplementary services, etc. The impact of this is that all such non-licensed and non-telecom activities continued to be part of AGR and thus under the LF/SUC ambit.

Limited Scope of Deductions: The deductions allowed from ApGR for the purposes of AGR remained restricted to IUC, Roaming Revenue and GST (if included in revenue). This is despite the fact that IUC

has effectively been removed by the Authority and there has been no concept of Domestic Roaming now in the last 7-8 years. Thus, practically, the scope of deduction has been curtailed.

Since these reforms were based on the Authority's recommendations of 2015 (issued 6-7 years before the reforms), they completely overlooked the technological advancements in the industry and the changes in consumer preferences that had taken place in the meantime. They also overlooked the future technological changes and possibility of emergence of new business opportunities in the larger telecom sector – let alone the SatCom sector.

The cost of regulatory levy being 8-12% on GR, without necessary set-offs for expenses, is a substantial cost, which has the potential to nullify any value creation by an operator. **Therefore, the current definitions of GR/ApGR/AGR need to be reconsidered.**

Proposal:

OneWeb India believes that it is crucial to re-evaluate the definitions of GR, ApGR and AGR.

The authorities must reconsider these definitions with respect to the following aspects to enable not just the SatCom industry but also the larger telecom industry to transform and compete and be ready to thrive in the future:

- Align the definitions of GR, ApGR and AGR with the objectives of the Telecom Reforms of September 2021 as granted by the Union Cabinet and allow co-existence of licensed as well as non-licensed telecom/non-telecom services/products.

- Increase the scope of deduction to make it effective and remove the cascading effect of regulatory levy. This can be done by allowing the deduction for charges paid by one operator to another operator for licensed telecom services.

In view of the above, OneWeb India urges the Authority to recommend a definition of revenue restricting it to the licensed telecom activities as envisaged under Section 3 of the Telecom Act.

Co-existence of Non-Telecom/Non-Licensed with Licensed Activity and Revenue:

Simultaneously, OneWeb India also advocates for the coexistence of other products and services that do not require a license or authorisation with telecom services. **DoT may also wish to protect its share of legitimate revenue for the value arising from the services granted under the License/Authorisation in such scenarios of coexistence of other products and services. This can be ensured by introducing the concept of fair valuation of each product and/or services bundled.**

The Authority may recommend fair valuation of price for telecom services in cases of co-existing telecom + non-telecom products/services, thereby protecting the Government's revenue while allowing the operators a chance to re-position themselves in the market and compete effectively.

To summarise, with respect to the definition of GR, ApGR and AGR, OneWeb India recommends the following:

(i) The scope of revenue should be limited to revenue from licensed activities only. The activities that do not require authorisation under the Act should be excluded from the ambit of LF/SUC.

(ii) The scope of deduction should be increased to make it effective and should include charges paid by one operator to another operator to avoid the cascading effect of LF/SUC.

(iii) Co-existence of licensed telecom services with non-licensed services/products should not attract levy on composite products/services. DoT can protect its legitimate revenue by adopting a fair valuation approach.

Q28. In case FSS/MSS or any other spectrum is assigned to the Satellite Communication Network (SCN) authorised entities for provisioning of SCNaaS to Service authorised entities, what should be the broad financial terms & conditions of such an assignment?

Response:

Please refer to our response to Q1 and Q11-13 above. **Only feeder link spectrum in FSS bands should be assigned to the SCN authorised entities for provisioning of SCNaaS to Service authorised entities. Further, the terms and conditions, including the broad financial terms and conditions, as recommended for spectrum assignment to service providers, should apply mutatis mutandis to SCN operators.**

Q29. Should the spectrum charges for Satellite Communication Network (SCN) authorised entities be based on the spectrum charging framework as per the Recommendations dated 09.05.2025 applicable for Satellite based commercial communications services? Accordingly, what should be the appropriate spectrum charging framework and spectrum charges applicable for a SCN Authorised entity? Please provide your response with detailed justification.

Response:

Yes, the spectrum charges for SCN authorised entities should be based on the spectrum charging framework as per the Recommendations dated 09.05.2025 applicable for Satellite based commercial communications services.

The recommendations were arrived at after detailed consultations, already cover feeder-link spectrum, and extending the same framework to SCN operators will ensure continuity, regulatory certainty, and avoid reopening issues that have been thoroughly debated and settled.

Using the same charging principles for SCN operators and service providers will also maintain a level playing field between operators that deploy their own satellite infrastructure and those that rely on SCNaaS, so that functionally similar services face comparable spectrum costs. From an implementation standpoint, the 2025 framework can be applied to SCN entities with minimal tailoring, mainly to reflect that SCN operators hold only feeder-link spectrum in FSS bands, while user-link spectrum remain with service providers.

Therefore, OneWeb India recommends that the spectrum charging framework, as recommended for service providers, should apply to SCN operators – with necessary modifications to reflect that SCN operators hold only feeder-link spectrum in FSS bands.

Q30. If spectrum charges are to be levied on the basis of AGR of the SCN Authorised entity, are there any specific operational/non-operational revenue items that should be excluded from AGR for the purpose of determination of spectrum charges? Please provide your response with detailed justification.

Response:

Please refer to our response to Q27 for suggestions in respect of the definitions of GR/ApGR/AGR. For the purpose of determination of spectrum charges, the operational/non-operational revenue items arising from activities not involving spectrum, should be excluded.

Q31. If the spectrum charges are not to be levied on basis of AGR of the SCN Authorised entity, what should be the appropriate spectrum charging mechanism and the corresponding level of spectrum charges applicable to Satellite Communication Network (SCN) authorised entities? Please provide your response with detailed justification.

Response:

Please refer to our response to Q29 above. **The spectrum charging framework, as recommended for service providers, should apply to SCN operators – with necessary modifications to reflect that SCN operators hold only feeder link spectrum in FSS bands.**

Q32. In case D2D services are permitted to be provided using the MSS frequency bands such as L & S bands, what should be the appropriate spectrum charging framework for such bands when utilised for provision of D2D satellite based services? Please provide detailed justification for your response, including the methodology for determination of such spectrum charges, if required.

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Q33. In case D2D services are permitted to be provided using the IMT spectrum assigned to the Service Authorised entity ('partnering entity') providing D2D satellite-based telecommunication services, should any additional spectrum charges be levied on the Service Authorised entity ('partnering entity') for use of IMT spectrum in the provision of satellite based D2D services? If yes, what should be the basis and quantum of such additional spectrum charges payable by the Service Authorised entity to the Government? In either case, please provide detailed justification for your response, including the detailed methodology for determination of such spectrum charges.

Response:

No additional spectrum charges should be levied on the Service Authorised entity ('partnering entity') for use of IMT spectrum in the provision of satellite based D2D services.

Technology-neutral use of auctioned spectrum

- IMT spectrum is already acquired via auctions on a liberalised, technology- and service-neutral basis and is used across 2G–5G (and future 6G) without incremental SUC for specific applications.
- Treating D2D as a special, surchargeable use would effectively re-price already-paid-for rights, undermine regulatory predictability, and constrain operators' ability to choose the most efficient terrestrial–satellite mix within their existing IMT holdings.

Avoiding double-charging and supporting coverage

- D2D over IMT does not involve additional spectrum; it uses the same licensed carriers in the same geography, so extra charges would amount to double-charging and would deter adoption of innovations that improve rural, remote and disaster-area connectivity.
- A charge-neutral framework avoids distorting technology choices and promotes efficient, high-value use of scarce IMT spectrum in the public interest.

Q34. In case spectrum is assigned to Satellite Communication Network (SCN) authorised entities, what should be the appropriate payment terms for spectrum charges payable by Satellite Communication Network (SCN) authorised entities? Please provide your response with justification.

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Q35. In case Minimum Spectrum Charges are to be applicable for SCN authorised entities, what should be the payment terms for the minimum spectrum charges for SCN authorised entities? Please provide your response with detailed justification.

Response:

Please refer to our response to Q29 and Q31 above. **The spectrum charging framework, including the payment terms and minimum spectrum charges, as recommended for service providers, should apply to SCN operators – with necessary modifications to reflect that SCN operators hold only feeder link spectrum in FSS bands.**

Q36. What should be the minimum equity and minimum networth requirements for a Satellite Communication Network (SCN) authorised entity? Please provide detailed justification in support of your response.

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Q37. What should be the entry fee for proposed Satellite Communication Network (SCN) authorisation? Please provide detailed justification in support of your response.

Response:

The Authority may recommend appropriate amounts for minimum equity, minimum networth requirements and entry fee for proposed SCN Authorisation – based on corresponding requirements for service providers, while taking into account the restricted scope of SCN

Authorisation being merely a network-layer authorisation. The recommended levels should be such that only serious players enter the market, ensuring financial viability, deterring speculative applications, and protecting the efficient allocation of scarce spectrum resources.

Given the high upfront and ongoing capital demands of SESG/SNP infrastructure, baseband systems, PoP connectivity and operations, it is important to keep the requirements meaningful enough to ensure that only financially credible players enter the market – thereby reducing the risk of non-deployment, spectrum hoarding or project failure.

At the same time, appropriately scaled thresholds will protect the integrity of the wholesale market, give service providers confidence that their SCNaaS partners are stable long-term capacity providers, and avoid artificially favouring or penalising outsourced versus vertically integrated models.

Therefore, OneWeb India recommends that the minimum equity, minimum networth requirements and entry fee for SCN operators should be benchmarked to the corresponding requirements for service providers, but calibrated to reflect the restricted network-layer scope of SCN Authorisation, while also balancing the need to only allow serious players.

Q38. What should be the rate of Authorisation Fee for a Satellite Communication Network (SCN) authorised entity? Please provide detailed justification in support of your response.

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Q39. Should a Minimum Authorisation Fee be applicable for the proposed SCN Authorisation? If yes, what should be the Minimum Authorisation Fee be for the proposed SCN Authorisation? Please provide detailed justification in support of your response.

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Q40. What should be the appropriate payment terms & conditions for Authorisation Fees? Please provide detailed justification in support of your response.

Response:

The rate of Authorisation Fee, Minimum Authorisation Fee and payment terms & conditions for Authorisation Fees for an SCN authorised entity should be at par with service licensees.

Why SCN should be at par with service licensees

- SCN operators are network-layer entities that establish and operate SESGs/SNPs with baseband and hold feeder-link FSS spectrum to provide SCNaaS, performing essentially the same network-infrastructure functions as the network arm of vertically integrated satellite service providers.
- Since they manage the same type of spectrum and face similar coordination and interference-management obligations, the LF regime on their network operations should mirror that on service providers' network operations, avoiding artificial advantages or penalties for either integrated or outsourced models.

Technology and business-model neutrality

- Telecom policy in India aims for technology- and business-model-neutral levies; applying the same percentage-of-AGR LF (currently 8% including 5% USOF) to SCN operators and service providers ensures that the decision to build in-house SCN capabilities or buy SCNaaS is driven by efficiency, not by tax arbitrage.

Rationalisation, if any, must be uniform

- While the industry continues to seek overall rationalisation of LF/USOF, any reduction should apply uniformly to both service providers and SCN operators to preserve a level playing field and stable investment incentives.

Q41. What should be the terms and conditions for Bank Guarantees, including both Performance Bank Guarantee (PBG) and Financial Bank Guarantee (FBG), for SCN authorised entities? Please provide detailed justification in support of your response.

Response:

At the outset, OneWeb India recommends that the requirement for a BG should be done away with – for the entire telecom industry.

We acknowledge that the 2021 Cabinet reforms have already reduced the BG requirement substantially. However, at this nascent stage of the SatCom industry, further rationalization is the need of the hour. It would free up precious capital/funds to be deployed into networks and services.

The amount blocked in BGs benefits no one (neither TSPs nor the DoT), except perhaps the lenders. Rather, if such securities are released, it will free up the working capital flow for the TSPs and remove the infructuous payment of charges and generate value for the TSPs.

On the aspect of securitising Government dues, the risk to government dues is actually emerging more due to the high levels of recurring and sector-specific levies, i.e., LF/USOF levy/SUC rather than the failure of TSPs to pay the same. The time has come to substantially rationalise these levies and recover only the cost of administration of license. Moreover, the imposition of such BGs to securitise dues is not consistent with other statutory dues like tax dues – there is no requirement for BGs under the Income Tax Act or under GST laws to securitise such due payments.

Thus, OneWeb India believes that the government can go a step further in having faith in sectoral players and, in the spirit of reform, do away with the BG requirements (PBG and FBG both) altogether. The time has come to enable industry to mobilise and deploy precious funds/capital in generating value for all stakeholders by putting more investments into digital infrastructure, networks and services rather than blocking those funds in the form of BG.

However, in case the Government still believes that the requirement of BG cannot be dispensed with, an appropriate amount may be recommended by the Authority – based on corresponding requirement for service providers, while taking into account the restricted scope of SCN Authorisation being merely a network-layer authorisation.

In summary, OneWeb India recommends the following:

(i) The requirement for BGs (both PBG and FBG) should be done away with.

(ii) However, if the requirement of BGs is to be retained, an appropriate amount should be recommended by the Authority based on the corresponding requirements for service providers, while taking into account the restricted scope of the SCN Authorisation being merely a network-layer authorisation.

Q42. What should be the application processing fee for Satellite Communication Network (SCN) authorised entity? Please provide detailed justification in support of your response.

Response:

The application processing fee for SCN authorised entity should be benchmarked to the corresponding requirement for service providers – while factoring in the restricted network-layer scope of SCN Authorisation.

This approach recognises that DoT/WPC will still incur meaningful administrative effort in assessing technical and financial eligibility and proposed SESG/SNP infrastructure, while avoiding a fee level that assumes full service-layer scope and compliances.

Therefore, OneWeb India recommends that the application processing fee for SCN authorisation should be benchmarked to the fees applicable to satellite-based service authorisations but may be calibrated to reflect the network-layer scope of the authorisation.

Q43. Apart from the financial provisions discussed earlier, are there any other financial terms and conditions that should be made applicable for the proposed Satellite Communication Network authorisation? Kindly provide a detailed response with justifications.

Response:

No comments.