



3rd March 2023

Shri Akhilesh Kumar Trivedi
Advisor (Network, Spectrum & Licensing)
Telecom Regulatory Authority of India
Mahanagar Doorsanchar Bhawan
Jawahar Lal Nehru Marg, (Old Minto Road)
New Delhi – 110002

Subject: TRAI Consultation Paper on Telecommunication Infrastructure Sharing, Spectrum Sharing, and Spectrum Leasing.

Dear Sir,

This is in reference to the Consultation Paper dated 13th January 2023 on “**TRAI Consultation Paper on Telecommunication Infrastructure Sharing, Spectrum Sharing, and Spectrum Leasing**”.

In this regard, we, Tata Teleservices Limited (TTSL) and Tata Teleservices (Maharashtra) Limited [together called “**TTL**”] hereby enclose our response to the questions raised in your above-mentioned Consultation Paper. We hope our response will be given due consideration.

Thanking you and assuring you of our best attention always.

Yours sincerely,

Satya Yadav
Addl. Vice President – Corporate Regulatory Affairs
Tata Teleservices Limited
And
Authorized Signatory
For Tata Teleservices (Maharashtra) Limited
Mobile: 9212109948
E-mail: Satya.yadav@tatatel.co.in

Encl: As above

TATA TELESERVICES LIMITED

CIN-U74899DL1995PLCO66685

WeWork, 19th Floor, Office Number 16A-102, Berger Tower, Delhi One, Sector-16B, Noida-201301
Tel.:0120-6901001, Fax : 0120-6901005 Website www.tatateleservices.com, E-mail-1515@tatatel.co.in
Registered Office: 10th Floor, Tower 1, Jeevan Bharati, 124 Connaught Circus, New Delhi-110001



*Consultation Paper on “Telecommunication
Infrastructure Sharing, Spectrum Sharing, and Spectrum Leasing”
Comments by Tata Teleservices Limited & Tata Teleservices (Maharashtra) Limited*

At the outset, Tata Teleservices Limited and Tata Teleservices (Maharashtra) Limited [together called “TTL”] express our sincere gratitude to Telecom Regulatory Authority of India (TRAI) for releasing Consultation Paper on “**Telecommunication Infrastructure Sharing, Spectrum Sharing, and Spectrum Leasing**” comments.

In this respect we, TTL, would like to submit our response to the issues and concerns as mentioned in the Consultation Paper is as follows:

A. Issues relating to Infrastructure sharing.

Q1. Should passive infrastructure sharing be permitted across all telecommunication service licenses/authorizations? Kindly justify your response.

Ans: Yes, in the age of conversions it should be allowed for the two things , first cost optimization and send is penetration.

Q2. Should other active infrastructure elements deployed by service providers under various licenses/authorizations, which are not permitted to be shared at present, be permitted to be shared among licensees of telecommunication services?

1. Ans: The recommended Network elements proposed to be included for sharing between TSPs are as under:

- a) **Core Voice Platforms:** including Switches (IMS, NGN), SBC, MGW, MGCF, AGCF, and associated voice network infrastructure.
- b) **Core Data and Internet Platforms:** including Service delivery nodes and respective media such as Internet Gateways, Routers, Switches, STP, IN, SMSC, MPLS, AAA, CDN, etc.
- c) **Private Network, URLCC:** Ultra reliable Low Latency communication network, which has slicing capability.
- d) **Storage**
- e) **Network Centralization:** Coming years would see Network centralization to reduce costs and increase control and monitoring. The introduction of All Internet Protocol (IP) platforms like IP Multimedia Subsystem (IMS) will lead to centralized architecture for Call control. Hence, the concept of “local Handover” of calls or Short Distance Charging Ara (SDCA) based call routing should be removed. The inter operator traffic exchange should be enabled for limited preferred Point of Interconnect (POI) locations. This will ease the network architecture and help in reducing costs. This will also help to launch wireline voice services in tier 3, 4 and beyond towns.



Q3. If your response to the Q2 is in the negative, which active infrastructure elements should not be permitted to be shared? Further, which active infrastructure elements should be permitted to be shared with which licensees/ authorization holders? kindly provide details for each authorization with detailed justification.

Ans: NA

Q4. In case it is decided to permit sharing of any additional active infrastructure elements among licensees,

(a) What precautionary conditions should be put in place to avoid disruption in telecommunication services due to any unforeseen situation? The response may be provided for each active infrastructure element.

Ans:

- a) Core Voice Platforms:** including Switches (IMS, NGN), SBC, MGW, MGCF, AGCF, and associated voice network infrastructure.
- b) Core Data and Internet Platforms:** including Service delivery nodes and respective media such as Internet Gateways, Routers, Switches, STP, IN, SMSC, MPLS, AAA, CDN, etc.
- c) Private Network, URLCC:** Ultra reliable Low Latency communication network, which has slicing capability.
- d) Storage**
- e) Network Centralization:** Coming years would see Network centralization to reduce costs and increase control and monitoring. The introduction of All Internet Protocol (IP) platforms like IP Multimedia Subsystem (IMS) will lead to centralized architecture for Call control. Hence, the concept of “local Handover” of calls or Short Distance Charging Ara (SDCA) based call routing should be removed. The inter operator traffic exchange should be enabled for limited preferred Point of Interconnect (POI) locations. This will ease the network architecture and help in reducing costs. This will also help to launch wireline voice services in tier 3, 4 and beyond towns.

(b) Whether there is a need to have a provision for permission from/ intimation to the Licensor before commencement of such sharing? If yes, what provisions and timelines need to be prescribed for each active infrastructure element?

Ans: Yes, we would like highlight that as per the only intimate the licensor before commencement of sharing of active infrastructure. Timelines for the intimation should be within 15 days from the commencement of such sharing.

Q5. Whether any other amendment is required to be made in the telecommunication services licenses/ authorizations with respect to the provisions relating to both active and passive infrastructure sharing to bring clarity and remove anomaly? If yes, clause-wise suggestions in the telecommunication services licenses/ authorizations may kindly be made with detailed justification.



Ans: We would like to highlight that with the recent amendments to license on Active Infrastructure Sharing to allow Wi-Fi related infrastructure to be shared across operators is a welcome step and will aid the penetration of internet in the country. Similar policy directions are required in the wireline infrastructure domain. The SME sector has been hit the hardest by the Covid 19 pandemic and the brunt of the impact is so severe that many seek new “digital” business models to survive in the new norm. The sharing of active infrastructure in the core networks of wireline telecom operators shall enable the delivery of low-cost voice, data, and internet products which are essential for this sector to sustain and flourish.

Q6. Should there be any obligation on telecom service providers to share infrastructure that has been funded, either partially or fully, by the Government through Universal Service Obligation (USO) Fund or otherwise, with other telecom service providers? Kindly justify your response.

Ans: We would like to suggest that there should be no obligation required however it should be based on the mutually agreed terms and conditions and it may vary from case-to-case basis.

Q7. In case it is decided to impose some obligations on telecom service providers to share the infrastructure funded by Government with other telecom service providers, is there a need to provide a broad framework for sharing of such infrastructure? If yes, kindly suggest the key aspects of such framework with detailed justification.

Ans: Same as Question 6.

Q8. Any other suggestion to facilitate infrastructure sharing may kindly be made with proper explanation and justification.

Ans: NA

B. Connectivity Issues Faced by the Subscribers in Remote and Far-flung Areas of the Country

Q9. What measures could be taken to encourage roaming arrangements among telecom service providers in remote and far-flung areas? What could be the associated regulatory concerns and what steps could be taken to address such concerns? Kindly provide details on each of the suggested measures with justification.

Ans: TTL is providing Basic Wireline services hence not applicable.

Q10. What could be the other ways to ease out the hardship faced by the subscribers in remote and far-flung areas due to connectivity issues of the home network provider? Kindly provide detailed response with justification.

Ans: TTL is providing Basic Wireline services hence not applicable.



C. Issues relating to inter-band spectrum sharing among access service providers

Q11. Whether inter-band access spectrum sharing among the access service providers should be permitted in the country?

Ans: TTL is providing Basic Wireline services hence not applicable.

Q12. In case it is decided to permit inter-band access spectrum sharing among access service providers, please provide detailed inputs to the following questions:

(a) What measures should be put in place to avoid any potential adverse impact on competition and dynamics of spectrum auction? Kindly justify your response.

Ans: TTL is providing Basic Wireline services hence not applicable.

(b) Considering that surrender of spectrum has been permitted in the country, what provisions need to be included in the guidelines for inter-band access spectrum sharing so that any possible misuse by the licensees could be avoided? Kindly justify your response.

Ans: TTL is providing Basic Wireline services hence not applicable.

(c) What should be the broad framework for inter-band access spectrum sharing? Whether the procedure prescribed for intraband access spectrum sharing could be made applicable to interband access spectrum sharing as well, or certain changes are required to be made?

Ans: TTL is providing Basic Wireline services hence not applicable.

(d) What should be the associated charges, and terms & conditions for inter-band access spectrum sharing?

Ans: TTL is providing Basic Wireline services hence not applicable.

Q13. Any other issues/ suggestions relevant to the spectrum sharing between access service providers, may be submitted with proper explanation and justification.

Ans: No Comments.

2. Issues relating to Authorised Shared Access (ASA) of Spectrum

Q14. Whether there is a need to explore putting in place a regime to implement Authorised Shared Access (ASA), wherein an access service provider as a secondary user could use the frequency spectrum assigned to a non-TSP primary user (government agencies and other entities) on a dynamic spectrum sharing basis? Kindly justify your response.

Ans: No Comments.



Q15. In case it is decided to implement ASA technique for secondary use of frequency spectrum assigned to non-TSP primary users, please provide your response to the following questions with detailed justification:

(a) What are the potential spectrum bands in which ASA implementation can be considered?

Ans: No Comments.

(b) What measures should be taken to encourage and motivate the incumbent users for participation in the spectrum sharing through ASA technique?

Ans: No Comments.

(c) What should be the broad framework for implementation of ASA technique?

Ans: No Comments.

(d) Is there a need for putting in place a mechanism for dispute handling including interference issues in case of ASA? If yes, what should be the framework?

Ans: No Comments.

(e) What methodology should be adopted for spectrum assignment to secondary users? What could be the spectrum charging mechanism for such assignment?

Ans: No Comments.

(f) Who should be entrusted the work of managing shared access of spectrum?

Ans: No Comments.

Q16. Whether there is a need to permit the ASA technique-based dynamic spectrum sharing among access service providers? If yes,

(a) What are the possible regulatory issues involved and what could be the possible solutions?

Ans: TTL is providing Basic Wireline services hence not applicable.

(b) What measures should be put in place to avoid any adverse impact on competition and dynamics of spectrum auction? Kindly justify your response.

Ans: TTL is providing Basic Wireline services hence not applicable.

Q17. In case it is decided to permit ASA technique-based dynamic spectrum sharing among access service providers in the country, please provide your response to the following questions with justification:



(a) Whether there is a need for prescribing any framework for such shared use? If yes, what should be the framework?

Ans: TTL is providing Basic Wireline services hence not applicable.

(b) Whether access service providers should be required to obtain approval or intimate to DoT before entering into such arrangement?

Ans: TTL is providing Basic Wireline services hence not applicable.

(c) Whether any fee (one time, or recurring), should be prescribed on the spectrum sharing party(ies)? If yes, what should be the fee and who should be liable to pay such fee?

Ans: TTL is providing Basic Wireline services hence not applicable.

(d) What should be the treatment of spectrum shared through ASA technique for the purpose of computation of spectrum cap?

Ans: TTL is providing Basic Wireline services hence not applicable.

(e) Whether there is a need for an independent entity for managing spectrum access? If yes, who should be entrusted this work? If not, how should the spectrum access be managed?

Ans: TTL is providing Basic Wireline services hence not applicable.

(f) Is there a need for putting in place a mechanism for dispute handling including interference issues or should it be left to the access service providers? If yes, what should be the framework?

Ans: TTL is providing Basic Wireline services hence not applicable.

(g) What other terms and conditions should be applicable for the sharing parties?

Ans: TTL is providing Basic Wireline services hence not applicable.

Q18. Suggestions on any other spectrum sharing technique(s), which needs to be explored to be implemented in India, may kindly be made along with the relevant details and international practice. Details of likely regulatory issues with possible solutions, interference management, dispute handling etc. may also be provided.

Ans: NA

E. Issues relating to Leasing of Spectrum

Q19. Where there is a need to permit spectrum leasing among access service providers? Kindly justify your response.



Ans: Yes, In addition to Spectrum trading and sharing, spectrum leasing should also be allowed which would be highly effective in ensuring optimal utilization of spectrum. We are of the view that Spectrum leasing would further expand the market by way of more Operators using the licensed spectrum which will strengthen the competition thereby benefitting both the Customer as well as Government. Thus, allowing spectrum leasing would be a win-win for all stakeholders. Spectrum leasing would make participation in the spectrum auction more viable for Service Providers catalyzing higher participation in the auction. Spectrum leasing would also ensure that the spectrum should not be underutilized or remain idle, as observed in the recent spectrum auction of 2021, where only 37% (in term of quantity) was sold and rest of the spectrum remains unsold. Allowing leasing of spectrum by the winning bidder would provide the necessary impetus to various entities to participate in the auction process. This will not only support in creation of networks for different 5G use cases, but also support reduction in CAPEX expenditure related to Spectrum to the licensees who would acquire spectrum in auction thereby ultimately increasing revenue for exchequer. Therefore, we strongly recommend that spectrum leasing should be permitted as a mechanism for ensuring optimal utilization of the available spectrum.

Q20. In case it is decided to permit spectrum leasing among access service providers, please provide detailed response to the following questions:

(a) Whether spectrum leasing should be permitted for short-term period only, or for both short-term as well as long-term?

Ans: We suggest that spectrum leasing should be permitted for both short term as well as long-term depending on the requirement and availability, which may vary case to case basis.

(b) In case only short-term leasing is to be permitted, what should be the maximum duration for such spectrum leasing? Should there be any restrictions on renewal of such short-term lease?

Ans: Maximum duration for short term lease should be 3 years. No, restriction on the renewal is required.

(c) In case it is decided to permit long term leasing, please provide your response to the following questions with justification:

(i) What measures should be put in place to avoid any adverse impact on competition and dynamics of spectrum auction?

Ans: Spectrum leasing is step forward to the spectrum sharing and trading and this would expand the market by way of more operators using the licensed spectrum which will strengthen the competition and thereby benefiting both government as well as customers. Accordingly, we see no adverse impact on competition and dynamics of spectrum auction.

(ii) Whether there should be a maximum duration for which spectrum leasing may be permitted?

Ans: Yes, it should be co-terminus with the expiry of the license.

(d) What should be the applicable roll-out obligations for the Lessee (the access service provider which takes spectrum through leasing arrangement from the Lessor)?



Whether the spectrum leasing should have any effect on the roll-out obligations applicable for the Lessor (the access service provider which has leased out the spectrum)? Whether the provisions for roll-out obligation require to be different for short-term and long-term spectrum leasing?

Ans: Roll-out obligations which is already defined in the license for the spectrum holder (lessor) and he has to fulfill the this condition in the time bound manner. Since the Lessee is only an extension of lessor so no further roll out obligation should be applicable on lessee.

(e) Should the spectrum leasing charges be levied on similar lines as applicable for spectrum trading? If no, what charges should be made applicable in case of spectrum leasing?

Ans: Leasing Spectrum is different from spectrum trading. In Spectrum trading the ownership is transferred from one party to the other, whereas in the spectrum leasing ownership remains with the same party with the right to use for specified period to the another party. Hence no spectrum charges are required to be levied.

(f) Should there be a lock-in period, after acquisition of spectrum, to become eligible for spectrum leasing as applicable in spectrum trading? If yes, what should be the lock-in period post which, spectrum holder would become eligible to lease it to another access service provider?

Ans: Yes, it should be allowed to lease only after the completion of defined roll out obligation by the lesser.

(g) Whether there is a need for an approval from, or intimation to DoT before the proposed leasing of spectrum? If yes, whether prior approval/ prior intimation requirement be different for long-term and short-term spectrum leasing? What should be the timelines for approval from, or intimation to DoT in each case?

Ans: There is only need for intimation of proposed leasing of Spectrum to DOT. Timelines for the intimation should be 30 days before the commencement of such leasing.

(h) Whether the spectrum held by an access service provider on short term, or long-term lease be included to calculate compliance to spectrum caps?

Ans: NO

(i) Considering that surrender of spectrum has been permitted in the country, what provisions need to be created in the guidelines for leasing of spectrum between access service providers so that any possible misuse by the licensees could be avoided?

Ans: We suggest there should be provision of prior intimation of 90 days before surrender of the license to avoid any misuse by the licensees.

(j) What other terms and conditions need to be prescribed in respect of spectrum leasing between access service providers?



Ans: Should be left for the mutual agreement between the TSP's.

Q21. Any other issues/ suggestions relevant to spectrum leasing, may be submitted with proper explanation and justification.

Ans: Na