

RJIL/TRAI/2023-24/257

14<sup>th</sup> December 2023

To,

**Sh. Tejpal Singh,**

**Advisor (QoS-I)**

**Telecom Regulatory Authority of India,**

Mahanagar Doorsanchar Bhawan,

Jawaharlal Nehru Marg, New Delhi - 110002

**Subject: RJIL's comments on TRAI's Consultation Paper on "Review of Quality-of-Service Standards for Access Services (Wireless and Wireline) and Broadband Services (Wireless and Wireline)".**

Dear Sir,

Please find enclosed the comments of Reliance Jio Infocomm Limited (RJIL) on the Consultation Paper dated 18.08.2023 on "**Review of Quality-of-Service Standards for Access Services (Wireless and Wireline) and Broadband Services (Wireless and Wireline)**".

Thanking you,

Yours Sincerely,

For **Reliance Jio Infocomm Limited**

**Kapoor Singh Guliani**

Authorized Signatory

**Enclosure:** As above

**Reliance Jio Infocomm Limited's comments on TRAI's Consultation Paper on  
"Review of Quality-of-Service Standards for Access Services (Wireless and Wireline) and  
Broadband Services (Wireless and Wireline)"  
dated 18th August 2023.**

**Preface:**

1. Reliance Jio Infocomm Limited (RJIL) thanks the Authority for giving an opportunity to offer comments on the Consultation Paper to **Review of Quality-of-Service Standards for Access Services (Wireless and Wireline) and Broadband Services (Wireless and Wireline)**.
2. At the outset, we agree with the Authority's view that the time is opportune to go beyond measuring Quality of Service (QoS) and instead strive for better Quality of Experience (QoE). However, we are constrained to highlight that the draft regulation enclosed with the Consultation paper is moving away from ensuring QoE and is in fact going against the Authority's cherished principle of **Ease of Doing Business (EODB) by introducing over-regulation and unnecessarily stringent benchmarks and Financial Disincentives (FD)** instead of possible simplifications.
3. We further submit that the provisions of the draft regulations are not in sync with international benchmarks, are bereft of any cost benefit analysis or regulatory impact assessment and may impact the rollouts, as detailed in following paras.
4. While RJIL has always taken pride in ensuring maximum compliance at all levels, we are constrained to submit that the present exercise tends towards over-regulation in following manner:
  - a. Over reporting in terms of parameters and higher frequency.
  - b. Persistence with unrelated parameters like registering the demand, even in case of technical infeasibility and provision of service within a benchmark number of days.
  - c. Addition of non-relevant parameters in reporting from perception of service surveys.
  - d. Infeasible requirements like geospatial service coverage map on websites, which are egregious and not only impossible to comply with required level of accuracy but of not much use to the consumers.
  - e. Infeasible benchmarks such as 100%, have been prescribed for fault repairing, which have several external influences including RoW permissions, law and order situation etc. Therefore, keeping such parameter at 100% will only result in imposition of financial disincentives.
  - f. Mechanical reduction in timelines for certain parameters like in billing and refund related issues.

- g. Increase in granularity of reporting for certain parameters like cell wise downtime reporting, which has no impact on the customer service, as even when a cell is down, customer is served by another adjacent cell and his service remains unaffected and QoE remains same. Therefore, we submit that such parameters should have been removed from QoS reporting requirements, or at the very least, kept unchanged.
  - h. Increasing the frequency of reporting for many parameters-In a sizable number of parameters, the reporting has been changed from quarterly basis to monthly basis, without any suitable justification or cost-benefit analysis on this change. We request the Authority to discard such changes.
  - i. Increasing the number of reports by requiring the simultaneous reporting at Licensed service area as well as state and Union Territory level.
  - j. The Annexure- II of the CP lists out the key QoS standards in other developed economies. The parameters related to 5G have not been listed so far, to allow organic development of customized use cases and extension of the services. We, therefore, request for withdrawal of 5G related parameters from the reporting format.
5. We submit that as the licenses are issued license area wise, the Authority should collect reports as per settled licensing structure i.e. LSA wise from the TSPs and may consider employing artificial intelligence (AI) based tools at its end to convert the reports to more granular levels, if desired, instead of burdening the TSPs with multiplicity of reporting.
6. We further submit that in the current form **the draft regulations will have an impact on Roll-out**. The Authority is aware that there are practical challenges in providing ubiquitous coverage to all Indians at same levels in all geographical parts of the country. While we are battling with these challenges, the QoS requirements and associated FD provisions should not become another impediment in the roll-out of networks.
7. Pertinently, the Unified License requirements on Roll-out obligations are limited and the TSPs are already complying with the same. Any coverage beyond this is provided by the TSPs as per their business case and that business case should not be hampered by TRAI Regulations. We submit that there are many acknowledged reasons that affect the telecom infrastructure and consequently provision of service.
8. In this context, we bring your kind attention to the **TRAI Recommendations on Improving Telecom Infrastructure in Northeastern States of India dated 22<sup>nd</sup> September 2023**. In these recommendations, under **Chapter-4 Issues affecting the Telecom Infrastructure Development in NER**, the Authority has listed various issues that affect roll-out in these regions, including and not limited to unnecessary delays in site acquisition, unnecessary levies like Tribal development charges, excessive ROW Charges, issues with power supply to the towers, issues with non-availability/non-feasibility of backhaul links and other related issues. We submit that similar issues are present in some form or the other

in many LSAs or in pockets of LSAs, be it LWE affected districts or difficult terrains. In addition to these, we have listed various operational issues in our regulation wise response, that should be considered before making the QoS requirements more stringent.

9. Considering these challenges which are out of TSP control and without any redundancy measures, it would not be appropriate to expect that the TSPs should consistently achieve the prescribed benchmarks at times, especially in rural areas and be made to pay FDs for minor transgressions without any consideration at appeal level. We would venture as much as to suggest that such stringent benchmarks with FD implications can have the counterproductive effect on TSPs opting to not rolling out in areas where QoS cannot be met immediately and on continuous basis. This will be the biggest dampener on the national proliferation missions.
10. We submit that the technology evolution should have nothing to do with QoS reporting, especially with reducing technology life cycles. Further, the complaints pertaining to a new technology that is not even available across the country or operators at a large scale should not be the trigger for an overhaul of QoS Regulations. Furthermore, from our experience we understand that the most complaints are about when the customer will get 5G and nearly none about the QoE on 5G. **Evidently, there are no valid ground for making such massive changes in a Regulation.** Especially with far-reaching changes like inclusion of new parameters; reducing the timelines for reporting; and making the benchmarks stringent. **Further, such an exercise with massive cost of compliance implications should be preceded by a regulatory impact analysis (RIA) and cost-benefit analysis.**
11. We submit that it is impossible to find a parallel to granularity and frequency of reporting and compliance mechanism for QoS prevalent in India in any global jurisdiction. Most global experiences, especially in developed countries with 4G and 5G presence indicate that QoS and QoE is collected and monitored through consumer devices in a crowd sourcing manner, without any reporting requirements. Further, the QoS parameters are also limited to customers service experience and do not get into redundant aspects like time taken to answer by a person at customer care, as long as the IVR or app are able to meet the requirements, there is no need for a human presence. We submit that these international experiences should also form our approach towards QoS monitoring. The Authority already has a MySpeed app, which can be further improved to include other QoE related aspects, and all these parameters can be removed from QoS monitoring and reporting requirements.
12. Another important insight from the international experience from jurisdictions with comparable technology spread is the absence of the concept of penalizing or financially disincentivizing the service provider. The bad customer experience and the possibility of

customer not using or leaving the service are deemed to be sufficient disincentives. It will not be out of context mention that any FD does not help to improve QoS parameters. The draft Regulation prescribes disproportionate levels of financial disincentives, which do not go hand in hand with the discussion around QoE and leveraging new technologies to facilitate customer experience. The concept of FDs is also contrary to co-regulation and collective management being promoted by the Authority in last few years. We further submit that the excessive FDs can have the counter effect of curbing the enthusiasm to cover all possible terrains all across the country and can become an impediment in roll-out, as discussed in previous section. We request TRAI's guidance and mentoring instead of policing and punishment. Therefore, we submit that the Authority should remove the financial disincentives from the Regulations and in case the Authority wants to keep the FDs as a deterrent, then only a symbolic FD not exceeding Rs. 5000 per TSP per month, should be kept.

### 13. Conclusions

- 1. The draft Regulations go against the Authority's cherished principle of Ease of Doing Business (EODB) by introducing over-regulation and unnecessarily stringent benchmarks and Financial Disincentives (FD) thereby resulting in increased cost of services.**
- 2. There is no need for a massive overhaul of QoS Regulations and proposed draft regulation should not be implemented.**
- 3. There should be a regulatory impact analysis (RIA) exercise to determine the need for a QoS Regulation overhaul.**
- 4. The existing QoS parameters should be reviewed, and redundant requirements should be repealed.**
- 5. Irrelevant parameters should be removed from QoS requirements.**
- 6. Authority should collect reports as per settled licensing structure i.e. LSA wise from the TSPs and may consider employing artificial intelligence (AI) based tools at its end to convert the reports to more granular levels, if desired, instead of burdening the TSPs with multiplicity of reporting.**
- 7. In line with international experiences the crowd sourced app-based model for measuring QoE should be adopted.**
- 8. Request for withdrawal of 5G related parameters from the reporting format to allow organic development of customised use cases and extension of the services.**
- 9. Stringent benchmarks with FD implications can have the counterproductive effect on TSPs opting to not rolling out in areas where QoS cannot be met immediately and on continuous basis. This will be the biggest dampener on the national proliferation missions.**
- 10. The provisions for Financial Disincentives should be removed and at most a symbolic FD of Rs. 5000 per TSP per month should be kept.**

**Issue wise response:**

**Question-1: What are the possible reasons for increasing gaps between the QoS reported by the service providers and the QoS experienced by the consumers? How this gap can be bridged?**

**RJIL Response:**

1. At the outset, we are constrained to highlight that this question itself is erroneous. In our humble submission, prior to this question, the important aspect which is to be examined is the approach towards methodology for prescribing regulation for quality of service. We would like to submit the specific answer to this question in the subsequent paragraphs after submission towards the basic principles of approach as detailed below:
  - A. **Is there a need for over or stringent regulation: It is submitted that there is no need for Over-Regulation by considering the following:**
2. **Unrelated parameters should be removed:** We submit that in the modern age of high competition and targets of ubiquitous wireless and wireline coverage, the TSPs are competing for the same customers and the competition is majorly in reaching the customer first and retaining him/her with better quality, with a focus on on-demand service. **In this background the parameters like registering the demand, even in case of technical infeasibility and provision of service within a benchmark number of days have become redundant. Further, no purpose will be served by registering demand and maintaining records of the same if it is technically not possible to offer service in an area due to Right of Way (ROW) permissions or site acquisition issues. Thus, such requirements should be removed from QoS requirements.**
3. **Additional parameters included in reporting are not relevant and should be removed:** In many cases, the parameters so far included in perception of service surveys have been included in the parameters to be monitored under QoS Regulations like shifting of telecom connection, and service coverage parameters and should be removed.
4. **Infeasible benchmarks proposed for certain parameters should be reverted back to current Regulation-** In many cases, such as fault repairing within a specified timeline, infeasible benchmarks such as 100%, have been prescribed. We submit that no TSP would want to keep a fault repair ticket open beyond a prescribed period of time, however, expecting that 100% of the faults will be closed within a specified timeline is

practically infeasible. The fault repair has several external influences including RoW permissions, law and order situation etc. Therefore, keeping such parameter at 100% will only result in imposition of financial disincentives.

5. **Reduction in timelines for certain parameters should be reversed: For instance, in billing and refund related issues, the focus of TSP is to ensure that all applicable refunds are provided to customers and not end up being submitted in Telecommunication Consumers Education and Protection Fund (TCEPF).** This becomes a time-consuming effort, as in many cases we have to trace the customers. However, unnecessary reduction in timelines can have the anti-consumer impact of many more refunds going in TCEPF and customers requiring approaching courts to get these refunds.
  
6. **Increase in granularity of reporting for certain parameters should be reversed.** We submit that **quality of experience of a customer is not dependent on the granularity of reporting but on the depth and breadth of coverage available to him.** The prevailing QoS Regulations have a reporting requirement for downtime of BTS, which was rooted in the assumption that the customer is primarily covered by one BTS and downtime in said BTS would affect the service. However, in the current scenario, **a customer is served by multiple cells of the same BTS or of the different BTSs. Further, with multiple technologies, the customer is severed from one of other technology. For example, the customer may be provided broadband service using any of the technology e.g. 4G, 5G or WiFi while the BTS of the other technology is non-function at that point of time.** Therefore, any regulation on the basis of an assumption that downtime of any specific BTS would affect the service to the consumer is incorrect and this parameter should be removed. We reiterate that this **granularity has no impact on the customer service, as even when a cell is down, customer is served by another adjacent cell and his service remains unaffected and QoE remains same. Therefore, we submit that such parameters should have been removed from QoS reporting requirements, or at the very least, kept unchanged.** Similar Realignment of issues like rent rebate has no relevance and may have legal ramifications in view of Hon'ble Supreme Court judgement in Call Drop verdict.
  
7. **No need to increase the frequency of reporting for many parameters:** In a sizable number of parameters, the reporting has been changed from quarterly basis to monthly basis, without any suitable justification or cost-benefit analysis on this change. We request the Authority to discard such changes.

## B. Need to consider operational issues

8. We submit that **there are various operational issues that should be considered before making the QoS requirements more stringent.**
- a) **Challenging Terrain:** The geographical characteristics of some regions pose significant challenges for network infrastructure deployment/rectification. These challenges are equally applicable in case of fault repair cases, as well and in many cases the recovery is not possible on 100% basis within the stipulated timelines.
  - b) **Local Public Issues:** Local community issues, including permissions and approvals for laying down fiber or installing a tower to meet the coverage gaps, can impact the timely addressal of QoS related issues. The unwillingness to let towers be put up is a major issue and in many cases, this leads to QoS degradation for no fault of the TSP.
  - c) **Access Issues:** Accessibility to certain areas may be limited, affecting the ability to resolve customer issues within prescribed time limits.
  - d) **Last Mile Connectivity Issues:** Re-establishing connectivity to the last mile, especially in remote or underserved areas, can be technically challenging as also noted by the Authority in its aforementioned recommendations. Thus, stringent timelines should have no relevance in such cases.
  - e) **Electrical Breakdown (EB) Issues:** Interruptions in electrical supply can disrupt wireless and wireline services and affect fault resolution. This is further complicated by the unwillingness of many site owners and public in vicinity to permit use of generators. Further, in some states there are restrictions imposed on use of generators at times under GRAP to tackle pollution. There are many cases where multiple complaints are initiated to stop the use of generators. This factor should be considered in benchmarks.
  - f) **Fiber Cuts:** Physical damage to fiber-optic cables, such as cuts, can lead to service interruptions and require time-consuming repairs. In many cases it also involves additional ROW approvals and cannot be a ground for non-compliance of QoS requirements.
  - g) **Force Majeure events:** We submit that the impact of Force Majeure events on compliance has been majorly ignored in the draft Regulations. We submit that



exemption in compliance in this case should be applicable for all QoS parameters and associated benchmarks.

9. Considering these challenges which are out of TSP control and without any redundancy measures, it would not be appropriate to expect that the TSPs should consistently achieve the prescribed benchmarks at times, especially in rural areas and be made to pay FDs for minor transgressions without any consideration at appeal level.
10. **We would venture as much as to suggest that such stringent benchmarks with FD implications can have the counterproductive effect on TSPs opting to not rolling out in areas where QoS cannot be met immediately and on continuous basis. This will be the biggest dampener on the national proliferation missions.**

### C. Need to reduce Financial Disincentives

11. Another important insight from the international experience from jurisdictions with comparable technology spread is the **absence of the concept of penalizing or financially disincentivizing the service provider. The bad customer experience and the possibility of customer not using or leaving the service are deemed to be sufficient disincentives.**
12. **It will not be out of context mention that any FD does not help to improve QoS parameters but in fact reduce the cash flow for deploying resources for its improvement.** We further submit that draft Regulation prescribes disproportionate levels of financial disincentives. The financial disincentives in current draft regulation, do not go hand in hand with the discussion around QoE and leveraging new technologies to facilitate customer experience. **The concept of FDs is also contrary to co-regulation and collective management being promoted by the Authority in last few years.**
13. We appreciate that intent to create a deterrent for smooth functioning of the regulations and timeliness of compliance submissions. **However, excessive FDs can have the counter effect of curbing the enthusiasm to cover all possible terrains all across the country and can become an impediment in roll-out, as discussed in previous section.**
14. **We expect TRAI's guidance and mentoring instead of policing and punishment. Therefore, we submit that the Authority should remove the financial disincentives from the Regulations and in case the Authority wants to keep the FDs as a**

**deterrent, then only a symbolic FD not exceeding Rs. 5000 per TSP per month, should be kept.**

15. With respect to specific question, it is submitted that as a TSP have a very active customer service and feedback mechanism. We are interacting with customers while serving them at call centres, through Interactive BOTs, through physical stores located across the country and through home visits by our agents to deliver SIMs or to address issues with respect of wireless or wireline services. **In our experience, barring a few exceptional cases, the consumers are generally happy with the services, especially tariffs, data speeds and quality of service and assistance provided to them.**
16. Therefore, we submit that this question starts with an incorrect premise by assuming that there is a gap in QoS reported and QoS experiences by the customers and that this gap is widening. **We submit that there is no such gap and customer experience is as per the QoS reported to TRAI.**
17. Nevertheless, in case the Authority has collected any such data that shows that such gap exists and is widening, then the same is not evident from the details provided in the consultation paper. **We would request the Authority to publish these details as an Addendum to the consultation paper and give us an opportunity to respond to the same.**
18. Notwithstanding the above, we reiterate that there is no gap, and all our customers enjoy best in class services. Nevertheless, we have provided our regulation wise inputs in the prescribed table at the end of response to the questions. We submit that our submissions are based on following principles.

**Question-2: To support emerging applications and use cases please suggest a transparent framework for measurement and reporting of QoS and QoE especially in 4G and 5G networks considering relevant standards and global best practices.**

**RJIL Response:**

1. We submit that vide previous amendments to the QoS Regulations 2009, the Authority has already established a transparent framework for measurement and reporting of QoS and QoE and there is no need for any more iterations in this aspect.
2. As far as 5G use cases are considered, **these are still evolving and would be more evident in years to come once the coverage is more ubiquitous and stabilized.**

**Globally, the best practice is to facilitate the organic growth of such services without encumbering these with QoS requirements.**

3. Nobody would be keener for development of 4G and 5G use cases than the service providers that have invested heavily in the spectrum and networks and need to monetize the service, however, our experience suggests that the most critical use cases are mostly an effect of unbridled innovation. Moreover, the International data shared in the CP also indicates that the other nations have not yet introduced parameters related to 5G. **Accordingly, we suggest that no framework should be prescribed, and the most beneficial policy of Forbearance should be followed.**

**Question-3: What should be the QoS parameters and corresponding benchmarks for ultra-reliable low latency communication (uRLLC), and massive machine type communications (mMTC)?**

**RJIL Response:**

1. Globally, the QoS parameters and corresponding benchmarks for ultra-reliable low latency communication (uRLLC) and massive machine type communications (mMTC) are not settled and as these enterprise grade services are still evolving. While the 3GPP Rel 15 has set the stage for reliability and latency and joint aspects under URLLC, the subsequent releases 16 and 17 have worked on various diverse aspects of the service<sup>1</sup>, including the non-radio specific aspects like QoS Monitoring, Dynamic division of Packet Delay Budget, Packet Delay Budget (PDB) and enhancements of session continuity.
2. Further many experts in IoT domain are considering the availability of uRLLC, as one of the critical QoS measures for IoT. **Thus, the standards are still evolving, and jury is still out on how to measure this parameter. The case for massive machine type communications is also similar.**
3. Another, important aspect with these specialized enterprise services is the local laws and Net Neutrality principles will also impact on how these services are offered and how the same are measured. **Therefore, we understand that it will be too pre-mature to prescribe QoS parameters for these services.**
4. We further submit that the global best practices are to let the emerging applications and services evolve fully and let the processes and service offering mature and be sufficiently prevalent in the markets before imposing any regulatory restrictions on

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<sup>1</sup> <https://www.3gpp.org/technologies/urllc-2022>

these services. **The Authority, itself has chosen not to regulate many nascent service offerings in the past. Further, being enterprise services, these will anyways be governed by service level agreements. Therefore, we request the Authority to keep these services out of the QoS monitoring.**

**Question-4: Will there be any likely adverse impact on existing consumer voice (VoLTE/VoNR) and data services (eMBB) upon rollout of enterprise use cases of uRLLC or mMTC?**

**And**

**Question-5: If answer to Question-4 is 'No' then please explain how and if the answer is 'Yes' please suggest measures to ensure minimum guaranteed QoS for voice and data service for consumers.**

**RJIL Response:**

We submit that under the **5G Stand Alone (SA) network architecture, the enterprise services are provided using technologies like Network slicing, which do not impact the generally available best effort internet. Therefore, there will be No impact on consumer voice and data services, as these services will continue to be provided using the dedicated network resources for the same.**

**Question-6: To achieve QoS and QoE end-to-end, it is essential that all network segments deliver the minimum level of QoS required by respective service, application or use case. In this context, please suggest QoS parameters and corresponding benchmarks for National Long Distance (NLD) and International Long Distance (ILD) segments of the network with supporting global benchmarks.**

**RJIL Response:**

1. The networks are designed to work at optimum QoS levels on regular basis. The carrier services i.e. NLD and ILD services work at agreed service level agreements (SLAs) and the competition in the carrier services market ensures that the SLAs are maintained, **obviating the need for prescribing any additional regulation on NLD/ILD segments. This will only have detrimental impact on competition in the sector without passing any benefits to the consumers.**
2. It is further submitted that there is no global precedent of regulation or monitoring of QoS for carrier services. Therefore, we reiterate our submission that no change is required in this aspect.

**Question-7: What should be the approach for adoption of 'QoS by Design' framework by the service providers to ensure that new generation wireless networks are planned, implemented and maintained to deliver required level of measurable QoS and QoE ?**

**RJIL Response:**

- 1. We submit that the 'Quality by Design', and 'Security by Design' are already the guiding design principles for telecommunication networks and there is no need for providing for the same through Regulations.**
2. It is worthwhile to mention here that no network is designed to provide sub-optimum QoS. Further, the highest level of QoS and QoE is maintained to meet the expectations of the customers and to retain the customer in view of the competition in the market, where customer can switch network by simply generating a UPC.
- 3. Notwithstanding the same, it is submitted that, RJIL has deployed a world class end-to-end IP network with advanced infrastructure and QoS by design is already incorporated.**

**Question-8: What measures are required to accelerate the adoption of AI for management of QoE to reduce consumer complaints protectively and to enable near real time reporting of QoS performance to consumers?**

**RJIL Response:**

1. We acknowledge possibilities offered by AI & ML. These emerging technologies can have multifaceted use cases for the TSPs, **however, these use cases are evolving and being imbibed in operations, as and when found suitable.**
2. We can expect these technologies to become more sophisticated over the time, however, the same is expected to unfold organically, as inventions and innovations cannot be forced. We do not see need for intervention by the Authority in this aspect and submit that the only measure required at this time is Forbearance.

**Chapter-3 Draft Regulation - Clause wise comments in the prescribed format**

Sl. No.	Chapter No.	Regulation No /Clause No.	Proposed provision in consultation paper	Suggested modification	Justification/ Global references with supporting data points if any
1	3	3(i)	<p>Provision of a service within 7 days of payment of demand note by the applicant</p> <p>Benchmark: 100%</p>	<p>Redundant requirement and should be removed from monitoring and reporting QoS parameters. If required can be kept part of perception of service parameters, with below benchmarks:</p> <p>Provision of a service within 15 days of payment of demand note by the applicant</p> <p>Benchmark: 100%</p>	<ol style="list-style-type: none"> <li>1. This is legacy requirement, dating to the era of wireline services and sparse mobile coverage, dominance of PSUs, non-transparent service offerings and has no relevance in current scenario of hyper competition.</li> <li>2. Currently, both wireline and wireless services are provisioned on demand basis, subject to technical feasibility.</li> <li>3. Consequently, there is no need to monitor these legacy parameters.</li> <li>4. We believe that in the current market scenario, measurements of this parameter will not yield any actionable results, as can be seen from the reports submitted by TSPs for last few quarters. However, if must, Authority may keep this</li> </ol>

Sl. No.	Chapter No.	Regulation No /Clause No.	Proposed provision in consultation paper	Suggested modification	Justification/ Global references with supporting data points if any
					<p>parameter as part of perception of service parameters.</p> <p>5. Further, in case Authority still wishes to continue to monitor this parameter we suggest benchmarks should be kept in line with the existing benchmark i.e. &lt; 15 days for broadband services which now Authority proposed to combine under Wireline services, in view of the following challenges;</p> <p>a) challenging terrain, b) local public issues / holidays, c) access issues / non-availability of customers, d) last mile connectivity issues, e) unplanned holidays declared by local authorities, f) catastrophic weather</p>

Sl. No.	Chapter No.	Regulation No /Clause No.	Proposed provision in consultation paper	Suggested modification	Justification/ Global references with supporting data points if any
2	3	3(ii)	<p>Fault incidences (No. of faults per 100 subscribers per month)</p> <p>Benchmark: <math>\leq 5</math></p>	<p>Benchmark: <math>\leq 7</math></p>	<p>We recommend that the benchmarks for wireline services should align with the current broadband service benchmarks, which are set at <math>\leq 7</math>, as per the existing benchmarks. We believe its essential due to the following challenges:</p> <p>a) <b>Challenging Terrain:</b> The geographical characteristics of some regions pose significant challenges for network infrastructure deployment/rectification.</p> <p>b) <b>Local Public Issues:</b> Local community issues, including permissions and approvals, can impact the timely restoration of services.</p> <p>c) <b>Access Issues:</b> Accessibility to certain areas may be limited, affecting the ability to resolve customer issues within prescribed time limits.</p> <p>d) <b>Last Mile Connectivity Issues:</b> Re-establishing connectivity to the last mile, especially in remote or underserved areas, can be technically challenging.</p> <p>e) <b>Electrical Breakdown (EB) Issues:</b> Interruptions in electrical supply can disrupt wireline services and affect fault resolution.</p> <p>f) <b>Fiber Cuts:</b> Physical damage to fiber-optic cables, such as cuts,</p>



Sl. No.	Chapter No.	Regulation No /Clause No.	Proposed provision in consultation paper	Suggested modification	Justification/ Global references with supporting data points if any
					<p>can lead to service interruptions and require time-consuming repairs.</p> <p>Considering these challenges, especially in rural areas, it would be exceptionally demanding for service providers to consistently achieve the prescribed benchmarks. Achieving the desired quality and coverage in these regions requires substantial investments in infrastructure and overcoming numerous logistical hurdles.</p>
3	3	3(iv)	<p>Fault repair within five days in Urban areas</p> <p>Benchmark: 100%</p>	<p>Fault repair within seven working days in Urban areas</p> <p>Benchmark: 95%</p>	<p>We recommend that the benchmarks be set at a level of 95% restoration within 7 working days. This adjustment acknowledges the practical challenges that may hinder achieving 100% compliance within specified time limits. Most of these challenges extend beyond the control of TSPs and are detailed in our response to the previous comment at Sl. No. 2 for Sub-Regulation 3(iv) and are not repeated for the sake of brevity, certain additional challenges are listed below:</p> <p>a) <b>Unavailability of Customers:</b> unavailability of customers can impact the restoration process.</p> <p>b) <b>Unplanned Holidays Declared by Local Authorities:</b> Unexpected holidays declared by local</p>

Sl. No.	Chapter No.	Regulation No /Clause No.	Proposed provision in consultation paper	Suggested modification	Justification/ Global references with supporting data points if any
					<p>authorities can disrupt service restoration schedules.</p> <p>c) <b>Catastrophic Weather:</b> Adverse weather conditions, such as storms or natural disasters, can significantly impede restoration efforts.</p> <p>In a competitive environment, it remains crucial for service providers to expedite service restoration for their consumers. However, stringent benchmarks that are technically impossible to achieve consistently, given the highlighted challenges, may result in increased compliance costs or potential non-compliance with the benchmarks. Setting the benchmark at 95% restoration within 7 working days strikes a balance between expeditious service recovery and the practical realities faced by TSPs.</p>
4	3	3(vi)	<p>Fault repair within seven days in rural and hilly areas</p> <p>Benchmark: 100%</p>	<p>Fault repair within seven working days in rural and hilly areas</p> <p>Benchmark: 95%</p>	<p>We recommend maintaining benchmarks at a 95% service restoration rate within 7 working days. This adjustment takes into account the practical constraints beyond the control of TSPs that may prevent achieving 100% compliance within specified time limits. Several of these challenges are outlined below:</p> <p><b>a) Challenging Terrain, b) Local</b></p>

Sl. No.	Chapter No.	Regulation No /Clause No.	Proposed provision in consultation paper	Suggested modification	Justification/ Global references with supporting data points if any
					<p><b>Public Issues, c) Catastrophic Weather, d) Unplanned Holidays Declared by Local Authorities, e) Access Issues or Unavailability of Customers, f) Last-Mile Connectivity Issues, g) Electrical Breakdown (EB) Issues, h) Fiber Cuts, i) customers unavailability (detailed under above para)</b></p> <p>In a fiercely competitive environment, it remains crucial for service providers to expedite service restoration for their customers. However, stringent benchmarks that are technically unattainable at all times, given the highlighted challenges, demand substantial investments in infrastructure, technology, and manpower. Rural areas often present smaller customer bases, making it more challenging for service providers to achieve the same revenue levels and return on investment as in urban or densely populated areas. Unrealistic benchmarks have the potential to discourage providers from entering or expanding into these markets.</p>

Sl. No.	Chapter No.	Regulation No /Clause No.	Proposed provision in consultation paper	Suggested modification	Justification/ Global references with supporting data points if any
5	3	3(xii)(b)	<p>Response Time to the customer for assistance</p> <p>Percentage of calls answered by the operators (voice to voice) within ninety seconds</p> <p>Benchmark: <math>\geq 95\%</math></p>	<p>Should not be considered as part of QoS KPIs to be monitored</p>	<p>1. We respectfully request the withdrawal of the monitoring of the percentage of calls answered by operators (voice to voice). We submit following reasons for this request.</p> <p>a) <b>No Impact on Service Quality:</b> Monitoring the percentage of calls answered by human operators does not directly impact the quality of service provided by telecom service providers.</p> <p>b) <b>Lack of International Standards:</b> There are no standard international practices or established industry or country norms for monitoring such parameters.</p> <p>c) <b>Technological Advancement:</b> The rapid advancement of technology, including AI-driven automation, has significantly improved efficiency, scalability, and the reliability of customer service systems, making them more favourable options than traditional voice-based interactions.</p> <p>d) <b>Complexity and High</b></p>

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					<p><b>Compliance Costs:</b> Compliance with this parameter involves significant complexity and costs, which can be better allocated to improving overall customer service through innovative means.</p> <p><b>e) Automated Systems Enhancement:</b> Automated systems have played a pivotal role in enhancing efficiency, providing 24/7 availability, scalability, and ensuring customer reliability, which complement human operator services.</p> <p>2. Evidently, the recent technological advancements have dramatically reshaped the landscape of customer service, rendering the current requirement obsolete and counterproductive.</p> <p>3. Over the past few years, we have witnessed significant transformations primarily driven by advances in technology. Automated</p>

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					<p>systems, such as TSP’s self-care apps, Interactive Voice Response (IVR) systems, chatbots, and call-back options, have become increasingly proficient in handling a wide array of customer inquiries with efficiency and accuracy.</p> <p>4. These technological innovations have substantially enhanced the overall customer service experience.</p> <p>5. It is worth noting that this particular parameter is neither monitored nor enforced by any other regulator across various industries within the country or globally.</p> <p>6. Therefore, eliminating such compliance burdens is essential as part of the Government and Authority’s EODB initiatives.</p> <p>7. Additionally, we reiterate our submission that telecom is a cost intensive service and unnecessary compliance burdens that</p>

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					<p>can disproportionately affect TSPs, may discourage investment and hinder innovation within the industry.</p> <p>8. Nevertheless, if the authority still considers this parameter for monitoring purposes, we submit that the benchmarks be reduced to a threshold of &gt;90%.</p>
6	3	3(xiv)	Refund of deposits within 45 days of closures	Refund of deposits within 60 days of closures	<p>We recommend retaining the resolution period at 60 days. Our intention is to maximize our efforts to reach out to the customer and successfully refund their account. Reducing the number of days could negatively impact customer satisfaction, as we've observed that customers often take some time to respond. Therefore, maintaining a 60-day resolution period allows us to ensure the best possible customer experience.</p>

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7	4	4(i)	<p>Registration of demand for new wireline connection irrespective of technical feasibility</p> <p>Benchmark: 100%</p>	<p>Should not be considered as part of QoS KPIs to be monitored &amp; reported</p>	<p>1. While we are cognitive of the desire to extend access to wireline telecommunications services, we submit that the current approach, may not be the most suitable method, due to following reasons:</p> <p>a) Accumulating such details will pose significant challenges for service providers, particularly in areas where network expansion is not planned in the immediate future. Providing wireline connections is subject to various technical constraints, including infrastructure availability, capacity limitations, local issues, geographical complexities, commercial viability, substantial capital expenditure (capex) requirements, and adherence to regulatory compliance (ROC) standards.</p> <p>b) Considering the high competition within the telecommunications sector TSPs are already</p>



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					<p>actively expanding their wireline networks, contingent upon technical feasibility and commercial viability. Additionally, whenever services are extended or introduced in specific areas or regions, we diligently communicate this information to the public. It is also worthwhile to mention here that as the license does not mandate 100% roll-out, thus the requirements of mandating TSPs to register demand even in absence of technical feasibility is unnecessary and will not serve any purpose.</p> <p>c) Mandating service providers to register demand for new connections without taking these critical factors into account may foster unrealistic expectations among consumers. This could ultimately lead to dissatisfaction and frustration when their requests cannot be</p>

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					<p>fulfilled due to the aforementioned constraints.</p> <p>Further, The Department of Telecommunications (DoT), through the Sanchar Sarthi portal as part of Citizen Centric Services, is already working to provide consumers with information about the Internet Service Providers (ISPs) available in their respective areas, therefore to facilitate the collection of desired information in areas where no ISP is currently available, we propose that the Authority, either centrally or through a public entity like BSNL, establishes a short code accessible across all networks. This code would allow consumers to register their demands for services that fall outside the coverage of any service provider. Based on the volume of such requests, these can be considered for service provisioning under the Universal Service</p>

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					<p>Obligation Fund (USOF). This approach would enable more efficient data collection and address the needs of underserved areas while minimizing the burden on individual service providers.</p>
8	4	4(ii)	<p>Requests for Shift of Telephone Connection to be attended within three days</p> <p>Benchmark: 95%</p>	<p>Should not be considered as part of QoS KPIs to be monitored &amp; reported</p>	<p>1. We recommend that the Authority should continue to include this parameter as part of the perception of service parameters.</p> <p>2. Shifting wireline connections within an extremely short timeframe, such as the stipulated 3 days, poses several challenges and complexities, as outlined below:</p> <p>a) <b>Last Mile Connectivity:</b> In numerous instances, last-mile infrastructure availability can be limited or already occupied. Rapidly relocating a wireline connection may prove impractical when existing infrastructure is in use or when physical constraints come into play.</p>

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					<p>b) <b>Port Availability:</b> ONT provisioned in any area offer a finite number of ports for connections. If all available ports are already engaged, swiftly shifting a connection without disrupting other customers' services becomes a considerable challenge.</p> <p>c) <b>Customer Availability:</b> Coordinating with customers to facilitate the installation or relocation of wireline services can be a formidable task. Customers may not be available or prepared for the move within the confined 3-day window from date of terminating services at existing premises.</p> <p>d) <b>Access Issues:</b> Gaining access to a customer's new location or addressing logistical obstacles (e.g., buildings lacking proper wiring) can introduce delays into the relocation process.</p> <p>In the broader perspective, the objective</p>

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					<p>remains to deliver dependable and efficient wireline services while acknowledging the practical hurdles associated with connection shifts.</p> <p>3. Therefore, in light of these challenges, we request the Authority to strike a balance between ensuring prompt service and recognizing the limitations and challenges in providing wireline services.</p>
9	4	4(iii)	<p>(a) Junctions between local Exchanges. Benchmark: 0.002</p> <p>(b) Outgoing junctions from Trunk Automatic Exchange (TAX) to local exchange. Benchmark: 0.005</p> <p>(c) Incoming junctions from local exchange to TAX. Benchmark: 0.005</p> <p>(d) Incoming or outgoing junctions</p>	Should not be considered as part of QoS KPIs to be monitored and reported	<p>1. We emphasize that the telecommunications industry has witnessed remarkable advancements, characterized by the widespread adoption of all IP-based networks and the deployment of highly advanced infrastructure. These technological strides have substantially enhanced the flexibility and capabilities of telecom networks.</p> <p>2. The relevance of these parameters may now vary significantly based on the network architecture in</p>

Sl. No.	Chapter No.	Regulation No /Clause No.	Proposed provision in consultation paper	Suggested modification	Justification/ Global references with supporting data points if any
			between TAXs. Benchmark: 0.005		<p>use. In contemporary IP-based networks, the traditional notion of "local exchanges" may no longer hold the same weight. The advent of IP-based networks and digital technology has supplanted many of the older analog and circuit-switched systems, resulting in a more adaptable and efficient infrastructure.</p> <p>3. Moreover, it's worth noting that TSPs are already actively monitoring and reporting Points of Interconnection (PoI) congestion. Consequently, the necessity of adhering to the conventional parameters has become increasingly obsolete.</p> <p>4. Alternatively, consideration should be given to aligning the applicability of this parameter with the diverse network architectures deployed by various service providers.</p>

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					<p>5. This approach accounts for the fact that some telecommunications networks may still rely on legacy infrastructure and have not completed the full migration to all-IP networks.</p>
10	6	6.A(i)(a)	<p>(a) % of commissioned cells for which geospatial service coverage map is available on service provider’s website</p> <p>Benchmark: 100%</p>	<p>Should not be considered as part of QoS KPIs to be monitored and reported</p>	<p>1. While we fully appreciate the Authority’s perspective on the importance of providing accurate and up-to-date geospatial service coverage maps on a service provider’s website, as it plays a crucial role in ensuring transparency and informed decision-making, we believe it is important to consider the challenges and issues that providers may encounter in this endeavour:</p> <p>a) Ensuring the 100% accuracy of the coverage map to consistently reflect real-time network coverage can be a complex task. Discrepancies may result in customer frustration, dissatisfaction, and an</p>

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					<p>increase in complaints.</p> <p>b) Mandating updates to the map within a strict 2-week timeframe for any addition or removal of cells/sites presents operational challenges. Given the continuous expansion of the network, especially with the rollout of 5G, daily updates to the coverage map on the website may not be operationally feasible.</p> <p>c) The potential for incorrect interpretation of coverage information, such as distinguishing between indoor and outdoor coverage or assessing signal strength, poses a challenge. Coverage maps often provide a high-level overview, which may not capture variations in signal strength, network congestion, or indoor coverage accurately.</p> <p>d) Large coverage maps with extensive data can lead to slow loading times, particularly on mobile devices, affecting</p>



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					<p>the user experience.</p> <p>e) Instances may arise where a site or cell is technically live in the system but has been forcibly shut down due to local issues or disputes, leading to discrepancies between the map and the actual network status observed by customer.</p> <p>Given these challenges, we propose an alternative approach. Instead of mandating that Telecom Service Providers (TSPs) display geospatial service coverage maps on their websites as part of Quality of Service (QoS) mandates, we recommend leaving this decision to the discretion of the TSPs.</p>

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11	6	6.A(i)(b)	<p>(b) Accumulated downtime (Cells not available for service)</p> <p>Benchmark: <math>\leq 1\%</math></p>	<p>(b) Accumulated downtime (BS not available for service)</p> <p>Benchmark: <math>\leq 2\%</math></p>	<p>1. We do not agree with the Authority's rationale for revising the parameters from Base Station (BS) level to Cell level, citing that these parameters were prescribed in 2009 and that this level of granularity will address concerns related to non-availability of cells degrading Quality of Service (QoS).</p> <p>2. We submit that measuring cell-level downtime may not accurately represent network availability and service providers service quality, as cell outages may not have a direct impact on services. <b>In scenarios where one cell within a Base Transceiver Station (BTS) experiences downtime, the remaining cells within the same BTS can continue to serve the affected area.</b> Therefore, it is incorrect to presume a lack of service availability if specific cells within a base station experience downtime especially in rural areas;</p>
12	6	6.A(i)(c)	<p>(c) Worst affected Cells due to downtime (Cells not available for service for more than cumulative 24 hrs. in a month)</p> <p>Benchmark: <math>\leq 1\%</math></p>	<p>(c) Worst affected BS due to downtime (BS not available for service for more than cumulative 24 hrs. in a month)</p> <p>Benchmark: <math>\leq 2\%</math></p>	<p><b>In scenarios where one cell within a Base Transceiver Station (BTS) experiences downtime, the remaining cells within the same BTS can continue to serve the affected area.</b> Therefore, it is incorrect to presume a lack of service availability if specific cells within a base station experience downtime especially in rural areas;</p>

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					<p>3. We further submit that while proposing to make the benchmarks more stringent, the Authority has assumed that advancements in technology, the expansion of LTE and 5G networks, the introduction of advanced Operations and Maintenance (O&amp;M) tools, improved power availability, and streamlined Right of Way (RoW) processes have substantially reduced the challenges associated with monitoring and maintaining networks.</p> <p>4. However, we believe that ground realities in many aspects continue to exhibit significant variation.</p> <p>5. We submit that regardless of technological advancements and the introduction of advanced Operations and Maintenance (O&amp;M) tools, the upkeep of networks and equipment at the site/cell level still</p>

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					<p>necessitates physical site visits.</p> <p>6. <b>While advanced technological solutions enhance network management efficiency, restoration and maintenance tasks ultimately require physical presence and intervention.</b></p> <p>7. Therefore, it is crucial to take into account the challenges and issues that service providers confront in ensuring network uptime, especially in remote service areas such as North East, Assam, Himachal Pradesh, Ladakh, etc. The Authority is itself aware of these issues and has referred to the same in its recommendations on Improving Telecom Infrastructure in Northeastern States of India dated 22nd September 2023. We have already listed most of these challenges in previous comments at Sl No. 3, 4 and 8 of this table</p>

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					<p>such as such as: i) Local Public Issues, ii) Catastrophic Weather, iii) Access Issues, iv) Last-Mile Connectivity Issues, v) Electrical Breakdown (EB) Issues, vi) Fiber Cuts, and request you to treat the same as part and parcel of this comment. We are not repeating the same for sake of brevity. Certain additional issues in this regard are added below:</p> <p>a) Equipment Unavailability: Equipment failures, for which spare parts may not be readily available nearby, can impact the restoration process.</p> <p>b) Policy (RoW &amp; Others): While we appreciate the various policy decisions taken by the central government to address the challenges encountered by service providers, it is essential to underscore that the adherence to these policy decisions by State/UT authorities remains crucial. Consequently,</p>

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					<p>Telecom Service Providers (TSPs) continue to grapple with issues related to effectively and efficiently managing and operating their networks.</p> <p>c) Lack of International Standards: There are no standard international practices or established industry or country norms for monitoring such parameters, this is also evident from the international references cited by the Authority, no regulatory body worldwide has even mandated the monitoring of such parameters for telecom service providers.</p> <p>8. In a competitive environment, it remains crucial for service providers to swiftly restore services for their consumers. However, enforcing excessively stringent benchmarks, which are technically unattainable on a consistent basis due to the outlined challenges, may lead to potential</p>

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					<p>non-compliance with these benchmarks. Such non-compliance cannot be construed as measures taken to promote the ease of doing business.</p> <p>9. In light of these considerations, we recommend that the existing benchmarks which are already hard to achieve should be maintained at the base station level only rather than at the cell level. This approach accounts for the complexities and practical challenges faced by service providers while ensuring a fair balance between service quality and regulatory compliance.</p>
13	6	6. A(i)(d)	(d) Reporting of significant network outage to the Authority within 24 hrs of start of the outage (Services not available in a district or State for more than 4 hours) Note: For significant network outages	(d) Reporting of significant network outage ( $\geq 100$ sites down) to the Authority within 24 hrs of start of the outage (Services not available in a district or State for more than 4	1. Regarding the reporting of significant network outages lasting more than 24 hours, we submit that the Authority has already proposed QoS reports covering parameters such as Network availability, Connection Establishment, and Connection Maintenance, to be reported at the State, Union Territory

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			<p>of &gt; 24 hrs: Proportional rent rebate as per plan charges for affected number of days shall be credited in next bill for post-paid consumers registered in the district. For the pre-paid consumers registered in the district, the validity of their pre-paid accounts as on outages start date shall be increased by equal number of days.</p>	<p>hours) Note: For significant network outages of &gt; 24 hrs: Proportional rent rebate as per plan charges for affected number of days shall be credited in next bill for post-paid consumers registered in the district. For the pre-paid consumers registered in the district, the validity of their pre-paid accounts as on outages start date shall be increased by equal number of days.</p>	<p>along with LSA levels on monthly basis.</p> <p>2. We believe that such granular level reporting already encompasses the monitoring of significant network outages. TSPs are already obligated to comply with the Authority's directive dated 28th March 2023. <b>Therefore, introducing an additional parameter as part of QoS reporting is unnecessary, especially if it does not have a substantial impact on the quality of service provided to customers in general.</b></p> <p>3. However, if the Authority still deems it necessary to include such a parameter under QoS regulations, we propose the following:</p> <p>4. a) Consider defining significant network outage affecting the telecom services to the entire consumer base of a revenue district as defined by the Union/State Government &amp; having over 100 sites.</p>



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					<p>This approach takes into account the fact that certain small cities or districts are covered by only 1 or 2 sites, and any downtime of these sites would indeed constitute a significant network outage in that district.</p> <p>5. b) Exclude LSAs with challenging terrain from such computations due to issues such as: i) Local Public Issues, ii) Catastrophic Weather, iii) Access Issues, iv) Last-Mile Connectivity Issues, v) Electrical Breakdown (EB) Issues, vi) Fiber Cuts, etc. In these areas, infrastructure and transportation are particularly difficult, making network restoration even more challenging.</p> <p>6. Regarding the Authority's proposal for rental rebates in the event of significant network outages, we recommend that rental rebates should not be imposed on TSPs, taking into consideration the following points:</p>

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					<p>a) Calculating rental rebates for wireless networks in a specific area presents operational and technical challenges, especially when the network is down, making it impossible to compute the impacted customers accurately.</p> <p>b) Service agreements between TSPs and their customers often specify the terms of service, including provisions for network outages. TSPs are not compelled to pay for network outages if such agreements are in place.</p> <p>c) Considering operational challenges such as: a) Challenging Terrain, b) Local Public Issues, c) Catastrophic Weather, d) Unplanned Holidays Declared by Local Authorities, e) Access Issues, f) Last-Mile Connectivity Issues, g) Electrical Breakdown (EB) Issues, h) Fiber Cuts, etc., which are beyond TSPs' control, network</p>

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					<p>restoration becomes even more challenging and time-consuming.</p> <p>d) Lack of International Standards: There are no standard international practices or established industry or country norms mandating such parameters or rebates for TSPs.</p> <p>e) The Honourable Supreme Court of India judgement has already struck down arbitrary and unreasonable regulations, reinforcing the need for balanced and practical regulatory measures.</p> <p>7. Needless to mention that regulatory mandates of this nature will only discourage TSPs from expanding their networks in remote or challenging terrains.</p>

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14	6	6.A(iii)(a)	(a) Network QoS DCR Spatial Distribution Measure for II. Packet Switched (4G/5G and beyond) network [PS_QSD(96, 96)] Benchmark: $\leq 2\%$	(a) Network QoS DCR Spatial Distribution Measure for II. Packet Switched (4G/5G and beyond) network [PS_QSD(90, 90)] Benchmark: $\leq 2\%$	<p>1. We submit that the Authority has already established one of the most rigorous benchmarks along with a percentile-based calculation methodology for Network QoS Drop Call Rate (Spatial &amp; Temporal Distribution Measures) parameters.</p> <p>2. The Authority is now proposing to further reduce the percentage of days and cells in the calculation methodology, making it exceptionally challenging and unachievable for TSPs to meet such stringent benchmarks, considering the operational challenges they face in running and maintaining vast networks. These challenges include:</p> <p>a) Operational challenges that TSPs encounter in running, maintaining and restoring extensive networks, including: i) Challenging Terrain, ii) Local Public Issues, iii) Catastrophic Weather, iv) Unplanned Holidays</p>
15	6	6.A(iii)(b)	(b) Network QoS DCR Temporal Distribution Measure for II. Packet Switched (4G/5G and beyond) network [PS_QTD(97,96)] Benchmark: $\leq 3\%$	(a) Network QoS DCR Spatial Distribution Measure for II. Packet Switched (4G/5G and beyond) network [PS_QSD(97, 90)] Benchmark: $\leq 2\%$	

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					<p>Declared by Local Authorities, v) Access Issues, vi) Last-Mile Connectivity Issues, vii) Electrical Breakdown (EB) Issues, viii) Fiber Cuts, etc., many of which are beyond the control of TSPs.</p> <p>b) The mandate for QoS reporting and applicability of benchmarks at the State/UT level on a monthly basis. This approach makes it exceedingly difficult for TSPs to achieve the 96th percentile criteria, as they have a concession of only 1 day out of 30 days for network maintenance and restoration of such a humongous network (more than 65 lakhs of cells alone in the RJILs network), apart from the work done by TSPs for expansion (5G and uncovered areas) and implementation of new technology and solutions, especially in States like Assam, North East, Ladakh, etc.</p>

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					<p>c) Lack of International Practices: It's worth noting that no regulatory body worldwide has imposed such stringent benchmarks and associated financial disincentives, particularly on commercial telecom service providers.</p> <p>d) Other factors such as customers' location, distance from the network site, the number of connected users, the type of handset used, and usage patterns, whether it's steady or on-the-go, also impact the benchmarks attained by TSPs.</p> <p>3. In light of these challenges and criteria for commercial telecom networks, we strongly recommend that the Authority should maintain the existing benchmarks and calculation methodology for Network QoS Drop Call Rate (Spatial &amp; Temporal Distribution Measures) parameters.</p>

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					<p>4. We reiterate that imposing much stricter benchmarks and computational methodologies will not achieve compliance but may lead TSPs towards avoiding to roll-out in difficult areas.</p> <p>5. We also suggest that the measurement benchmark should be standardized and consistent across all wireless technologies for a particular service as this will not only create discrimination in QoS between various segments of the customer but also act as a deterrent for TSP to upgrade their network, especially in rural and remote areas.</p>
16	6	6.A(iii)(d)	<p>(d) DL Packet Drop Rate for Packet Switched Network (4G/5G and beyond) [DLPDR_QSD(96, 96)]</p> <p>Benchmark: <math>\leq 2\%</math></p>	<p>(d) DL Packet Drop Rate for Packet Switched Network (4G/5G and beyond)</p> <p>Benchmark: <math>\leq 2\%</math></p>	<p>1. While proposing the percentile-based calculation methodology for packet drop rate parameters in packet-switched networks, <b>the Authority has focused solely on the issue that problems and poor performance related to</b></p>

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17	6	6.A(iii)(e)	<p>(e) UL Packet Drop Rate for Packet Switched Network (4G/5G and beyond) [DLPDR_QSD(96, 96)]</p> <p>Benchmark: <math>\leq 2\%</math></p>	<p>(e) UL Packet Drop Rate for Packet Switched Network (4G/5G and beyond)</p> <p>Benchmark: <math>\leq 2\%</math></p>	<p>call muting and muffling are not adequately reflected in the current benchmarks due to the averaging effect over a large dataset.</p> <p>2. However, the Authority has not taken into consideration the operational and technical challenges associated with managing and maintaining such extensive networks, as highlighted in the context of drop call rate parameters. <b>These challenges already pose significant difficulties for TSPs in achieving even the existing benchmarks.</b></p> <p>3. We submit that these challenges are not solely limited to the network reliability and maintainability but also heavily depend on factors such as customers' location, distance from the network site, the number of connected users, the type of handset used, and usage patterns, whether it's steady or on-the-go.</p>



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					<p>4. Furthermore, one of the primary reasons that makes it impossible for TSPs to achieve such benchmarks based on the revised calculation methodology is interference in the TDD band, particularly concerning UL-PDR. Hence, mandating this calculation methodology will likely result in non-compliance with the prescribed parameters.</p> <p>5. In the broader context, the goal remains to provide reliable and efficient services while recognizing the practical challenges involved. Therefore, we emphasize once again that achieving these benchmarks will not be feasible, and we strongly recommend maintaining the existing calculation methodology.</p> <p>6. Considering that the Authority has already proposed QoS reporting and the application of benchmarks at the State/UT level on a</p>

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					<p>monthly basis, we believe that such detailed reporting already addresses the Authority's concern that large datasets over a quarter may not accurately reflect the situation. Imposing such unrealistic benchmarks has the potential to discourage service providers from entering or expanding into rural and remote areas.</p>
18	6	6.A(iv)	<p>Messaging: Successful SMS delivery within service provider's network in less than 20 seconds</p> <p>Benchmark: <math>\geq 95\%</math></p>	<p>Messaging: Successful SMS delivery within service provider's own network in less than 20 seconds out of total SMSs that are successfully delivered within service provider's own network</p> <p>Benchmark: <math>\geq 95\%</math></p>	<p>1. Regarding the new parameter introduced by TRAI, 'successful SMS delivery within the service provider's network in less than 20 seconds', the measurement methodology expects this parameter to be calculated as total number of successfully delivered in 20 second out of total number of On Net + Off Net SMSs terminated in the LSA. This parameter has not much relevance. In this respect, the following considerations for the measurement methodology, to be taken</p>

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					<p>into account by the Authority:</p> <p>a) The report can be generated for SMS messages that are originated and successfully delivered only within own network. It is not technically feasible to generate a report for off-net SMS, as these SMSs do not land on terminating TSPs SMSC and therefore delivery report of such SMSs lies with originating TSP only.</p> <p>b) Providing such details at the State/Union Territory level is not feasible due to limitations within our Short Message Service Centre (SMSC) and core network equipment. These systems do not have geographical location details that would enable reporting at this level.</p> <p>c) Furthermore, this report can only be provided for SMS messages that originate from our network and are successfully delivered to</p>

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					<p>the end customer. It will not include SMS messages that remain undelivered. The reasons for delivery failure may include factors beyond the control of Telecom Service Providers (TSPs), such as:</p> <ol style="list-style-type: none"> <li>1. <b>Customer Unreachable:</b> SMS delivery may fail when the customer's mobile phone is in a no-network zone (e.g., in-flight) or switched off or no-network coverage area etc.</li> <li>2. <b>Dual SIM Handsets:</b> SMS delivery may be delayed until the customer is using the relevant SIM card (voice calls), especially in dual SIM handsets.</li> <li>3. <b>Non-Operational Numbers:</b> Although an SMS is initiated by the user or the system, it may not be delivered if the recipient's number is not in use, disconnected, suspended, or in similar states.</li> </ol>

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					<p>2. Thus, if at all this parameter is to be included, it can be done only in the following manner</p> $= \frac{\text{(Total SMSs originated in RJIL network and Successfully delivered in 20 sec)}}{\text{(Total SMSs originated in RJIL network and Successfully delivered)}}$
19	6	6.B(vii)	<p>Resolution of billing/charging complaints within four weeks</p> <p>Benchmark: 100% within 4 weeks</p>	<p>Resolution of billing/charging complaints within six weeks</p> <p>Benchmark: 100% within 6 weeks</p>	<p>1. The billing process typically occurs within 30 days for a monthly invoice. In cases where discrepancies related to billing adjustments or waivers arise, the baseline date for reflecting these changes is set for the next invoice cycle, allowing customers the opportunity to validate the adjustments.</p> <p>2. As a customer-centric organization committed to service assurance, we actively close the loop on each billing-related case with the customer until the next bill is generated and to ensure that all</p>

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					<p>issues are satisfactorily resolved.</p> <p>3. However, it's important to note that a small percentage of cases may take longer to resolve, extending beyond 28 days or 4 weeks. Therefore, we recommend allowing a 100% resolution rate within 6 weeks to accommodate these exceptional cases and also inline with the benchmarks for wireline services.</p>
20	6	6. B(ix)(b)	<p>Response Time to the customer for assistance</p> <p>Percentage of calls answered by the operators (voice to voice) within ninety seconds</p> <p>Benchmark: <math>\geq 95\%</math></p>		<p>1. We request for withdrawal of monitoring of the percentage of calls answered by operators (voice to voice).</p> <p>2. Recent technological advancements have dramatically reshaped the landscape of customer service, rendering the current requirement obsolete and counterproductive.</p> <p>3. Over the past few years, we have witnessed significant transformations primarily</p>

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					<p>driven by advances in technology. Automated systems, such as Telecom Service Providers' (TSPs) apps, Interactive Voice Response (IVR) systems, chatbots, and call-back options, have become increasingly proficient in handling a wide array of customer inquiries with efficiency and accuracy. These technological innovations have substantially enhanced the overall customer service experience.</p> <p>4. It is worth noting that this particular parameter is neither monitored nor enforced by any other regulator across various industries within the country or globally. Therefore, eliminating such compliance burdens is essential as part of the Government and Authority's EODB initiatives, ensuring a level playing field for the telecom industry. Additionally, this is crucial considering that telecom companies must make substantial investments in</p>

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					<p>infrastructure and technology to remain competitive. If there are significant compliance burdens that disproportionately affect these companies, it may discourage investment and hinder innovation within the industry. An industry level playing field can facilitate competition and driving progress.</p> <p>5. Several key reasons support our assertion that this parameter should not be considered for monitoring and reporting purposes. We have already highlighted these reasons as part of Sl. No 5 and are not repeating the same in detail here for sake of brevity. These reasons are</p> <ul style="list-style-type: none"> <li>a) No Impact on Service Quality</li> <li>b) Lack of International Standards</li> <li>c) Technological Advancement</li> <li>d) Complexity and High Compliance Costs</li> <li>e) Automated Systems Enhancement</li> </ul>



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					6. Nevertheless, if the authority still considers this parameter for monitoring purposes, we respectfully suggest that the benchmarks be reduced to a threshold of >90%.
21	3	B(xi)	Refund of deposits within 45 days of closures	Refund of deposits within 60 days of closures	<ol style="list-style-type: none"> <li>1. We recommend retaining the resolution period at 60 days. Our intention is to maximize our efforts to reach out to the customer and successfully refund their account.</li> <li>2. Reducing the number of days could negatively impact customer satisfaction, as we've observed that customers often take some time to respond. Therefore, maintaining a 60-day resolution period allows us to ensure the best possible customer experience.</li> </ol>
22	7	7.1	Registration of demand for wireless services in case services cannot be	Should not be considered as part of QoS KPIs to be	Please refer our response under clause 4(i)

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			provided due to non-availability of wireless service	monitored & reported	
23	7	7.2	<p>Service Coverage</p> <p>(i) Signal strength at street level shall be as specified in TSTP for rollout obligation issued by the Central Government for respective technology</p> <p>(ii) Signal strength in- vehicle shall be up to 10dBm below the street level signal strength for respective technology</p> <p>(iii) Signal strength for indoor as per applicable standard or as per rollout obligation for respective technology</p>	Should not be considered as part of QoS KPIs to be monitored & reported	<p>1. We suggest this parameter should not be considered as part of QoS monitored and reported rather this can continue to be part of perception of service parameters in view of the following;</p> <p>a) TSPs are already complying with the TEC standards related to service coverage and signal strength at different levels (outdoor/indoor/in-vehicle) and same are duly verified by the LSA Units of DoT at the time of verifying and certifying compliance of roll-out obligations by TSPs in adherence to license conditions and NIA for spectrum auction.</p> <p>b) Further, measuring in-vehicle and indoor signal strength accurately can be technically complex. Indoor signal strength can vary widely depending on</p>

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					<p>the building's size, construction, and location or below ground level. It may not be practical to set uniform benchmarks for all indoor environments.</p> <p>c) Customers have the option to choose from available solutions such as In-Building Solutions (IBS), Wi-Fi calling, Offloading data through Cellular Enhancement Products (ODCEP), Fixed Wireless Access (FWA), and more to improve their indoor coverage.</p> <p>2. In a competitive telecom market, service providers have an incentive to improve indoor coverage to attract and retain customers. Market forces might be sufficient to drive investments in this area without the need for regulatory mandates. Rather, regulatory authorities may encourage the adoption of such technologies to enhance overall network quality and customer satisfaction.</p>

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					<p>3. Further, for operator-assisted drive tests, a Signal-to-Noise plus Interference Ratio (SNIR) value greater than -6 should be considered, compared to the current practice, where many good samples with SINR values greater than 0 are left out and cannot be measured for LTE and advanced networks. We recommend that our earlier submissions be taken into account when finalizing the new QoS regulations in this regard.</p>
24	7	7.4	<p>Point of Interconnection (POI) performance for interconnection between packet switched networks(4G/5G) at LSA level</p> <p>(i) Latency&lt;30ms (ii) Jitter&lt;20ms (iii) Packet loss&lt;1%</p>	<p>Should not be considered as part of QoS KPIs to be monitored &amp; reported</p>	<p>1. We reiterate that, as of the current state, these parameters can only be measured within the individual service provider networks and not between different service providers. Thus, end to end measurement of these parameters across operators, irrespective of the type of POI (IP or TDM), is not technically feasible.</p>

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25	9	9.1	<p>Latency Benchmark: <math>\leq 100</math> ms (in 4G and 5G network) &amp; <math>&lt; 50</math> ms in wireline network</p>	<p>Latency Benchmark: <math>&lt; 250</math> ms (in 4G and 5G network) &amp; <math>&lt; 120</math> ms in wireline network</p>	<ol style="list-style-type: none"> <li>1. While revising the benchmarks, the Authority has referred to international examples where individual telecom service providers have achieved ultra-low latency. However, it's essential to note that such stringent benchmarks have not been widely prescribed by regulators worldwide.</li> <li>2. Moreover, we believe that the achievement of such benchmarks should primarily be driven by market forces to attract and retain customers.</li> <li>3. When recommending these stringent benchmarks, the Authority should also consider various operational challenges and factors: <ol style="list-style-type: none"> <li>a) <b>Backhaul Network Challenges:</b> Achieving higher benchmarks, regardless of deploying advanced packet core networks with LTE, LTE-Advanced, or 5G technology, depends on</li> </ol> </li> </ol>

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					<p>the quality and capacity of the backhaul network. Challenges such as challenging terrain, Right of Way (RoW) issues, the cost of fiberizing base transceiver stations (BTS), local issues, and more can impact network performance.</p> <p>b) <b>Routing Variations:</b> Depending on route occupancy and network conditions, traffic may take different paths, such as the shortest or longest route. This variation in routing can lead to latency differences.</p> <p>c) <b>Submarine Cable Damage:</b> In the event of damage to submarine cables or major fiber cuts, traffic may be rerouted through alternative paths, resulting in higher observed latency.</p> <p>d) <b>Network Congestion:</b> High numbers of connected users and a vast subscriber base, especially when compared to other nations, can lead to</p>

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					<p>network congestion, resulting in higher observed latency.</p> <p>e) <b>Interference:</b> Wireless networks, in particular, can suffer from interference, leading to latency variations. Interference may arise from physical obstacles, competing wireless signals, or environmental factors.</p> <p>f) <b>Cloud-Based Services:</b> The use of cloud-based services can introduce additional latency, as data needs to travel to and from remote cloud servers. The geographical location of these servers can impact latency.</p> <p>g) <b>Decisions outside purview of TSP-</b> It is pertinent to mention here that in many cases the decisions taken by non-licensees like CDN providers also affect the latency. For instance, a content provider's decision to have or not have CDN in a TSPs</p>

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					<p>network will impact the latency.</p> <p>h) <b>Security Measures:</b> Security measures like firewalls, intrusion detection systems, and encryption can introduce processing delays, affecting overall latency.</p> <p>4. Given that latency is measured from the user reference point at the Point of Presence (POP) or Internet Service Provider (ISP) gateway node to the international gateway (IGSP/NIXI), we recommend maintaining the same benchmarks as &lt;250ms for wireless networks and &lt;120ms for wireline networks.</p>
26	9	9.2	<p>Jitter</p> <p>Benchmark: <math>\leq 50</math> ms (in 4G and 5G network) &amp; &lt;40 ms in wireline network</p>	<p>Should not be considered as part of QoS KPIs to be monitored and reported</p>	<ol style="list-style-type: none"> <li>1. Jitter is nothing but a measure for variance in latency, whereas latency is self-sufficient parameter to give insight of QoE of user.</li> <li>2. Jitter is a micro level parameter that is used for only for fault analysis.</li> <li>3. In view of this, we recommend that there is no requirement of Jitter KPI being introduced in</li> </ol>



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					regulatory reporting separately as Latency is being measured and reported.
27	9	9.5	<p>Minimum download and upload speed against the minimum subscribed speed in offered data plans.</p> <p>Benchmark: &gt;80% of the minimum speed for wireless and 100% of the minimum speed for wireline</p>	<p>Minimum download and upload speed against the minimum subscribed speed in offered data plans.</p> <p>Benchmark: &gt;80% of the minimum speed for wireline</p>	<ol style="list-style-type: none"> <li>1. Regarding the minimum download speed for wireless networks, we would like to emphasize that neither TSPs prescribe any minimum download speed nor is it possible to guarantee any minimum speed in the case of wireless networks.</li> <li>2. The speed experienced by a customer on a wireless network depends on various factors, including the customer's handset, location (indoor or outdoor), distance from the cell site, the number of connected users, the type of website or app being accessed, whether the website is on IPv6 or IPv4, topography, backhaul connectivity, various topographical issues and much more. These factors are not under the control of telecom service providers.</li> </ol>

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					<p>3. Given the points mentioned above and considering the industry's submission on the consultation paper for wireless data services, we kindly request the authority to remove the proposed benchmarks from the QoS regulations.</p> <p>4. Further, for the benchmarks of 100% for the minimum download speed in the case of wireline networks, the calculation methodology appears to be erroneous. The authority is proposing 100% benchmarks based on the average of the lower 10% of all respective test calls. This approach seems incorrect if the benchmark is set at 100%.</p> <p>5. Nevertheless, considering the challenges highlighted for network latency and its applicability to wireline networks where the speed observed may exhibit some variation, we recommend that the</p>

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					authority retains the existing benchmarks of >80% in the case of wireline networks.
28	10	10.1.(i)	Registration of demand for new wireline broadband connection irrespective of technical feasibility  Benchmark: 100%	Should not be considered as part of QoS KPIs to be monitored & reported	Please refer our response under clause 4(i)
29	12 & 13	12.1& 12.2 & 13.1	(1) The service provider shall maintain documented process of online collection and processing of data for each QoS parameter specified by the Authority under regulation 3, regulation 4, regulation 6, regulation 7, regulation 9 and regulation 10, as applicable, and submit to the Authority, within sixty days of notification of	The QoS data should be prepared under with a well-documented process. Further the data should be submitted to TRAI through an automated system at TSP's end.	<ol style="list-style-type: none"> <li>1. The QoS KPI data for reporting, as per the required formats is prepared post extracting the same from multiple nodes/sources spread over the geography.</li> <li>2. The primary data is collected from all these nodes through various proprietary interfaces.</li> <li>3. This data is then processed through various iterations and automated processes using the formula/process prescribed by TRAI to generate the report.</li> </ol>

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			<p>these regulations, the documented online process of collection and processing of data of each QoS parameter, indicating the correlation with the primary data which are derived from system counters or codes in Operation and Maintenance Centre or Network Management System or Mobile Switching Centre or telephone exchange, along with any aggregation, transformation or computations applied including record keeping procedure.</p> <p>(2) Every service provider shall maintain and provide online access of complete and accurate records of primary and</p>		<p>4. Further, in case of any eNode B downtime, the reasons for the same are identified and tagged under the appropriate header for reporting purposes.</p> <p>5. Additionally, post processing, the raw reports and coding need to be verified periodically to identify any issues and rectify the same, as and when required.</p> <p>6. Therefore, while it is possible to automate the report submission with secondary and processed data, as is already implemented. It is not possible to provide access to primary data.</p> <p>7. In view of the above, we submit that the requirement of automated access to primary data is not possible to meet due to above mentioned technical reasons.</p> <p>8. Therefore, this requirement should be</p>

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			<p>processed data relating to the compliance of benchmark of each QoS parameters specified in regulations 3, regulation 4, regulation 6, regulation 7, regulation 9 and regulation 10, as applicable, in such manner and in such formats as may be directed by the Authority, from time to time.</p> <p>13.1 (1)Every service provider shall create secure online system within six months of notification of these regulations for collection of primary data, its processing, generation and submission of online compliance reports to the Authority with</p>		<p>removed from the Regulations.</p> <p>9. It is also pertinent to mention here that there are no international precedents of Regulator collecting primary network data from the TSPs.</p>

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			<p>online access of required supporting primary data in respect of each QoS parameters specified under regulation 3 , regulation 4, regulation 6, regulation 7, regulation 9 and regulation 10 in such manner and format, at such periodic intervals and within such time limit as may be specified by the Authority, from time to time, by an order or direction.</p>		
30	13	13.2	<p>(2) The benchmark of each QoS parameters specified in sub-regulation (1) shall be measured, reported, and complied at State or Union Territory (UT) and License Service Area level,</p>	<p>The benchmark of each QoS parameters specified in sub-regulation (1) shall be measured, reported, and complied at License Service Area level only</p>	<p>The TSP license is issued on LSA basis and the network is also planned and designed on network basis.</p> <p>As many LSAs spawn over multiple states and some cater to only part of a state, it is not possible to re-align the network to meet such requirements.</p> <p>In the past such state-wise QoS requirements were provided on</p>

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			<p>as may be specified by order or direction issued by the Authority time to time:                      Provided that the Authority may notify list of districts and QoS parameters for measurement, reporting and compliance of QoS benchmarks based on identification of areas experiencing degraded QoS.</p>		<p>demand basis. However, the data was generated with extrapolation.</p> <p>Thus, making this as part of QoS Regulation requirement would be tantamount to mandating a change in network design and structure for compliance purpose, especially when the requirements are already being met.</p> <p>Therefore, we request you to remove this requirement from the Regulations.</p>