



**DG/COAI/2023/627**  
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**Subject: COAI Counter comments to TRAI Consultation Paper on Review of Quality-of-Service Standards for Access Services (Wireless and Wireline) and Broadband Services (Wireless and Wireline).**

Dear Sir,

This is with reference to the TRAI's CP on "Review of Quality-of-Service Standards for Access Services (Wireless and Wireline) and Broadband Services (Wireless and Wireline)" issued on 18<sup>th</sup> August 2023.

In this regard, please find enclosed COAI's counter comments to the Consultation Paper.

We trust our above request would merit your kind consideration and look forward to your valued support on the same.

With Regards,

Digitally signed  
by Lt. Gen Dr. SP  
Kochhar  
Date: 2023.12.28  
19:21:42 +05'30'

Lt. Gen. Dr. SP Kochhar  
Director General

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**COAI counter comments on Consultation Paper on Review of Quality-of-Service Standards for Access Services (Wireless and Wireline) and Broadband Services (Wireless and Wireline).**

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- A. We thank the Authority for providing us with the opportunity to share the counter comments to this Consultation Paper on Regulatory Review of Quality-of-Service Standards for Access Services (Wireless and Wireline) and Broadband Services (Wireless and Wireline).
- B. At the outset we reiterate our **key submission** that **deregulating quality of service parameters could empower market forces to drive efficiency, innovation, investment, and improved service standards.**
- C. In **developed markets, regulators mostly refrain from outlining specific Quality of Service (QoS) regulations.** Instead, they assess network performance using third-party applications and conduct annual studies. The findings are subsequently made available to the public, promoting transparency and enabling consumers to make informed decisions.
- D. Given the maturity of the telecom sector of India, the practices prevailing in developed countries should be adopted and TRAI should **define a glide path for deregulating QoS parameters.**
- E. In subsequent paragraphs, we now provide our counter to some of the comments raised by a few stakeholders who, while have argued for making more interventions on QoS, but have failed to provide any information/ data/ analysis/rationale whatsoever to support their submissions.
- F. In summary, we would like to re-iterate:
- In the short term, the **Authority may consider moving towards a light touch regulatory framework for QoS** i.e., only limited parameters should be measured and reported on a quarterly basis.
  - **In the long-term, the Authority should deregulate the QoS parameters while maintaining the oversight** through drive tests and/or (a mix of) drive tests and 3rd party surveys.
- G. We have mentioned in our comments that the consultation paper does not provide any information/data, basis which it proposes stringent QoS norms. We have mentioned that the QoS and QoE has not degraded, and no analysis has been shared by TRAI over a period of time. After going through the comments, we find that only one organization representing consumers has submitted comments to the paper, and even they have not provided any supporting data analysis, information on consumer feedback or any statistical analysis related to change in parameters/benchmarks/assessment period. Furthermore, we have not seen any comments/data submitted by consumers, that would support the basic premise on which this consultation was issued.
- H. Considering the comments of all stakeholders, we would again like to request the Authority for carrying our detailed analysis of feedbacks, scientific and statistical assessment of sample sizing and Regulatory impact assessment. This should be shared



with operators under a consultative process and any change in QoS norms should be finalized only after that.

In view of the above our counter comments are as follows:

1. One of the stakeholders has stated as follows:

***“Also, the QoS requirements are closely intertwined with the changes in consumer preferences and experience and the QoS of the Telcos must reflect these changes over time. translate into better Quality of Experience (QoE) for the consumers and overall consumer satisfaction. The time is ripe to review of Quality-of-Service Standards for Access Services (Wireless and Wireline) and Broadband Services (Wireless and Wireline). The time is ripe to review of Quality-of-Service Standards for Access Services (Wireless and Wireline) and Broadband Services (Wireless and Wireline).”***

### **COAI Response**

- a. We do not agree with this statement as it is not backed by any analysis or data. Any change in the regulation based on mere assumptions would disturb a well working regulatory regime. However, in current case, we do not see any data being provided either in consultation paper or the stakeholders seeking change.
- b. Further, as stated in our response to the CP, we reiterate that there are factors and challenges beyond TSPs control that impact the QoE/QoS. There is no substantial difference between QoS reported to TRAI and QoE by customers, even though by basic definition itself QoS and QoE are completely different matrices. The external challenges TSPs face in provision of services include issues such as **RoW issues, Fiber Cuts, interference from illegal boosters, poor quality of handsets used by customers, geographic barriers, consumer density** etc.
- c. **Many of these issues have not been resolved and these problems still persist at ground level. On the other hand, the QoS benchmarks have been tightened by the TRAI over the years without taking these problems into consideration.**
- d. Clearly, QoS and QoE are thus, influenced by a complex interplay of factors, many of which TSPs cannot control. The above factors are critical and directly influence the QoS of the TSPs and should not be ignored while reviewing the parameters and its benchmarks by TRAI.
- e. Hence, we submit that emphasis should be given on resolving these challenges first rather than tightening the QoS Benchmarks.

2. One of the stakeholders has stated that:

***As per the existing norms, call drops should be less than 2%. However, when reviewed over an LSA instead of the entire country, the call drops were found to be above the desired level. Hence, there is a need to review the criteria. This requires norms to measure network performance at a district level instead of at the LSA. It will involve measuring the quantum of packet drop rate for 5G networks and take a combined approach to fixed line and wireless services instead of segregating them***



***and categorizing them under different heads with different performance levels. Thus, if the norms are not revised periodically, gaps between QoS reported by the TSPs and the QoE of the consumers are bound to increase.***

**COAI Response:**

- a. As stated by us in the previous response, there are various factors that impact the QoS including call drops. In this regard, it is pertinent to reiterate that the Hon'ble Supreme Court has made the following observations on the Call Drop Regulation, which would be relevant for reviewing QoS parameters as well:
  - i. A Regulation framed by TRAI should be 'Reasonable', i.e., framed with intelligent care and deliberation i.e. choice of a course which reason dictates, and that the Regulation must be the result of that reason. (Page 50 para 29).
  - ii. That while public interest is important, it is not enough that the Regulation is in the interest of general public alone (Page 51-52 para 31). That a balance must be achieved for orderly growth of telecom sector between protecting the interest of consumers as also of Service Providers. (Page 46 para 24).
- b. We reiterate our request that the Authority will take into account the above observations from the Hon'ble Supreme Court while reviewing the network related QoS standards.
- c. We do not agree with district level or more granular reporting. In this regard, we submit that the License provided under Section 4 of Indian Telegraph Act, provides a defined geography viz. License Service Area, on which the Licensing and Regulatory framework apply.
- d. The vast network in India is created based on the LSA-based licensing framework. TRAI's regulations therefore must also be consistent with this licensing regime. The Indian telecom market is divided into 22 licensed service areas (LSAs). These LSAs are categorised into Metro, A, B, and C categories which have been decided based upon the socio-economic conditions of these LSAs; and the entire network architecture of the industry, planned and built over the years, is based on this. In accordance with this present licensing regime the TSPs make their submission of data LSA wise.
- e. If the QoS gets measured differently at state, city and district levels, it will be in contradiction to the present licensing regime, and lead to complexity and confusion. It is also submitted that TRAI's approach in this draft regulation will be further in contradiction to past and present Rollout guidelines including as specified in the Notice Inviting Applications (NIAs), wherein the (minimum) rollout criteria have been given by the licensor.
- f. Furthermore, while the license for access services is divided into 22 LSAs across Pan-India, there are 36 State-UTs across pan-India. This leads to complex scenarios where the state area will comprise of multiple LSAs e.g. Maharashtra State will be a combination of Maharashtra LSA and Mumbai; Haryana State will be a combination of geography of Punjab LSA, Haryana LSA and Delhi LSA; UP state will be a combination of 3 LSAs i.e. UP-East LSA, UP-West LSA and Delhi LSA. In such scenario, there will be a confusion regarding which LSA will be responsible for measurement, reporting and compliance of State-UT level QoS parameters.



- g. Further, it is not clear as to how TRAI expects one LSA to ensure QoS parameters over another LSA, even though if the licensed entity is same. Such conditions are fraught with serious legal and licensing implications, extent of which can't be comprehended fully at this stage. For example, in case of levy of penalty, say **for an instance of non-compliance in Noida, the penalty might get levied for the LSA of Delhi and State of U.P. as well, thereby leading to dual levy of penalty.**
  - h. Any regulatory intervention inconsistent with India's licensing regime will risk causing complexities and implementation challenges.
  - i. **It is therefore suggested that the prevailing reporting at LSA level, which is in line with the licensing framework be continued.**
3. One of the stakeholders has stated that:

***QoS monitoring: In order to secure the necessary quality level of Services, appropriate regulatory guidance and comprehensive performance targets need to be established. Basically, it would be possible to refer to basic performance measurements of respective carrier services (such as SMS, telephony for DTMF or IVR) or packet data. Due to the nature of services implementation this will, however, be a surrogate with considerable risk of predicting actual service performance incorrectly. It is therefore – owing to the importance of the service – assumed that a better way of monitoring needs to be established. This monitoring should – while being fully aware of practical issues in definition and implementation – use actual use cases. The monitoring is proposed to have multiple forms that cover all stages of the technical life cycle of any service implementation.***

**COAI Response:**

- a. As stated in our response to the CP, we reiterate that under the current prevailing QoS Regulations, **the transparent framework for measurement, reporting and monitoring of QoS is already established and there is no need for any more iterations or tightening in this respect. Instead, as submitted earlier, the time has come to significantly deregulate the QoS regulations.**
- b. We reiterate our submission **that in the short term, the Authority may consider moving towards a light touch regulatory framework for QoS i.e., only limited parameters should be measured and reported on a quarterly basis. In the long-term, the Authority should deregulate the QoS parameters while maintaining the oversight** through drive tests and/or (a mix of) drive tests and 3rd party surveys.
- c. Further, as the 5G use cases are still evolving and would be more evident in years to come once the coverage is more ubiquitous and stabilized, therefore, there is no need to make amendments at present. Globally, the best practice is to facilitate the organic growth of such services without encumbering these with QoS requirements.



4. One of the stakeholder has stated that:

***To meet these objectives, besides increasing the transmission channels' capacity, increase the density of base stations, and use higher frequencies and greater bandwidth. Support for QoS in 5G networks also needs to be improved, which began in Release 15 with the introduction of new QoS flow identifiers (5QI).***

***A new resource type category (Delay Critical GBR) oriented to URLLC has been introduced, although release 15 is oriented to eMBB, it is expected that in releases 16 and 17 more parameters will be introduced for URLLC and mMTC.***

**COAI Response:**

As stated in our response to the CP, we reiterate that :

- a. The parameters for these technological advancements are still evolving and not settled. 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, including the non-radio specific aspects like QoS Monitoring, Dynamic division of Packet Delay Budget, Packet Delay Budget (PDB) and enhancements of session continuity.
- b. Emerging Applications (e.g., use cases of e-MBB applications) are still at an early stage of development. If they are defined in 3GPP to be scheduled in a separate QoS class, the OEMs would follow that as part of their equipment manufacturing process and TSPs would use those in their network deployment. Therefore, there should be no prescription on these aspects (application, use cases) for measurement and reporting of QoS and QoE, especially as far as the 4G and 5G networks are concerned.
- c. **The global best practices are to let the emerging applications and services evolve fully and let the processes and service offerings mature and be sufficiently prevalent in the markets before imposing any regulatory restrictions** on 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.

5. One of the stakeholder has stated that:

***While the journey of the application of AI/ML technologies in telecommunications networks has already begun, it has involved disparate and isolated approaches and has been applied within the current industry definition only as an afterthought. The step towards mass adoption and industrialization is yet to come and can be accelerated with the right level of industry alignment, supporting a multivendor ecosystem while still encouraging innovation enabled by the adoption of rapidly evolving technologies.***

***The industry has recognized that in order to transition to an industrialization phase and enable mass adoption of AI/ML, industry alignment is required. This results in all the major industry bodies trying to work out how they can leverage the technologies and claim their stake in the AI/ML landscape, leading to multiple and***



***somewhat diverging directions being taken. To accelerate the coming industrialization phase and mass adoption, the industry must choose which guidance to follow.***

**COAI Response:**

- a. As stated in our response to the CP, we reiterate that AI and ML are emerging technologies with evolving use cases that are being imbibed in operations, as and when found suitable.
  - b. 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 through regulations. Accordingly, we request for no intervention.
6. One of the stakeholder has stated that:

***Looking at QoS only from an internal, network-side view can also miss end-to-end performance issues that impact a consumer's experience and create a disconnect between what service providers see and what is delivered during real-world use cases.***

***In addition, the "experience" of QoS on end consumer devices is subject to interpretation by the user. While benchmarks for expected performance can be set (e.g., video buffering expectations), the manner in which people experience these is very different. A methodology which can take these variations into consideration is important. Very often, end users will mistake poor QoE for poor QoS. As noted above, effectively measuring both will help bridge the gap, provide greater clarity for consumers and providers alike, and show a fuller picture of how QoS and QoE intersect.***

**COAI Response:**

- a. As stated in our response to the CP, we reiterate that we do not agree with the proposition that there is a gap in QoS reported and QoE experienced by the customers and that this gap is widening. Our member operators have wide and multi-level connect with the customers and have not received any such feedback at any level.

**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 humbly request the Authority to kindly publish these details as an Addendum to the consultation paper and give our members an opportunity to respond to the same.**

- b. The Quality of experience (thus perceived QoS) of a subscriber is not necessarily about the Telco network alone as highlighted previously. There are many more external factors outside of TSP control that impact it.
- c. An assumption that network traffic (and thus quality) is governed only by the TSPs is flawed. Often, the situation is dependent upon the type of content and configuration settings of the User Equipment / handset, too. For example, in the case of a home broadband scenario, it could be any of the following: the home Wi-Fi performance, quality of house wiring, multiple devices using same connection in parallel, type of



content being consumed, limitations of the device being used or the performance of the servers delivering content over the connection.

- d. There are many other external factors, too, outside of TSPs, such as illegal repeaters, boosters and jammers causing interference in the TSP network, Right of Way (RoW) issues, municipal issues leading to the sealing of sites, a very skewed and stricter policy on EMF norms (Indian norms being 1/10th of the globally accepted ICNIRP norms) that shrink the coverage area, operational sites getting frequently sealed/shut down in many states or in localities due to fear of EMF (even though government and stakeholders run awareness campaigns).
- e. In fact, the Authority, in its Technical Paper on call drops in Cellular networks dated 10.11.2015, acknowledged these extraneous challenges by noting that 36.9% of the cases are the result of irregular user behaviour such as mobile equipment failure, phones switched off after ringing, subscriber charging capacity exceeded during a call, etc. Additionally, the Hon'ble SC in case of Call Drops Judgment indicated that external factors should be duly accounted for while framing QoS Regulations.
- f. Providing services in areas of difficult terrain pose additional challenges due to Geographical constraints, e.g., places like the North-East and Ladakh have rough landscapes, far from urban centres, and experience severe weather conditions; there are areas of limited accessibility 3 Consultation Paper on Review of Quality-of-Service Standards for Access Services (Wireless and Wireline) and Broadband Services (Wireless and Wireline), TRAI, August 2023 Response to TRAI Consultation on Review of Quality of Service (QoS) Standards for Access Services (Wireless and Wireline) and Broadband Services (Wireless and Wireline) 3 which lack proper roads and essential utilities like electricity; and the low population density areas where telecom companies have a smaller sub base, leading to lower revenue /ARPU.
- g. Therefore, the Authority should thoroughly assess the current constraints and proactively initiate recommendations and measures to address these impediments before adopting any new QoS parameters and no new methodology needs to be prescribed either on QoS or QoE.

7. One of the stakeholder has stated that:

***For QoE reporting, measuring throughput, latency, loaded latency, jitter, and packet loss are the key building blocks for building benchmarks. However, the next step is measuring the direct experience from video, gaming, conferencing, instant messaging, and web browsing from consumer devices.***

**COAI Response:**

- a. Please refer to our comment under Point No. 6, which directly or indirectly impacts the QoE of a customer.
- b. As stated in our response to the CP, we reiterate that under the current prevailing QoS Regulations, the transparent framework for measurement and reporting of QoS and QoE is already established and there is no need for any more iterations in this aspect. Further, more direct experience measurement can come only from crowd sourced applications and not by prescribing more parameters.





- c. We submit that measuring latency will serve the required purpose and measuring other parameters like Jitter is not required. Jitter is a measure for variance in latency and this micro-level parameter is used for fault analysis only, whereas latency is a self-sufficient parameter which gives insight of QoE of the user. Generally such micro-level data is used for dip-stick testing and not on a regular basis.
- d. Further, as the 5G use cases are still evolving and would be more evident in years to come once the coverage is more ubiquitous and stabilized, therefore, there is no need to make amendments at present. Globally, the best practice is to facilitate the organic growth of such services without encumbering these with QoS requirements.
- e. As stated in point “b” above, we submit that measuring Latency is sufficient and does not warrant any **use case based measurement for any such examples like, video, gaming, conferencing, instant messaging, and web browsing from consumer devices.**

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