Sno	Pg No.	Clause No.	Clause Description	Query	Clarification
1	140.	4.1(ii)	The audit agency should have at least three years of experience in conducting similar work of audit and assessment of Quality of Service as given in the detailed scope of work at para 2 of Section-II.	Experience of conducting quality of service from	
1		11.3(ii)	The technical bids will be technically evaluated based on the following criteria: 11(ii) experience of at least three years in conducting audit and assessment of Quality of Service	sector other than telecom will be considered during evaluation or not?	The clause is self explanatory
2		3.1	The EMD will be returned to the successful bidder after the expiry of the contract period.		
	5		<ul> <li>The EMD may be forfeited by TRAI in any of the following circumstances:(a) If the bidder withdraws its bid during the period of validity of bids.</li> <li>(b) In the case of successful bidder, if the bidder fails:</li> <li>(i) to sign the contract; or</li> <li>(ii) to furnish Performance Bank Guarantee in accordance with clause 9 of this Section or (iii) to perform the work as per the Terms of Reference</li> </ul>	EMD is returned to the successful bidder post submission of PBG, kindly clarify the reason for returning the EMD after expiry of contract.	Clause 3.1: "The EMD will be returned to the successful bidder after the expiry of the contract period" be read as " <u>The EMD</u> will be returned to the successful bidder after signing of the contract and submission of PBG as per clause 9 of this section". The clause 3.2 (b) (iii) stands deleted
3	18	1.3 (a)	live measurements of the performance of Service Providers (SPs) against the benchmarks for three days every month during each quarterly period, for all the Network Service Quality Parameters for 2G, 3G and 4G VoLTEservices; and for Wireless Data Services (2G, 3G and 4G services) for parameters relating to PDP Context Activation Success Rate <sup>11</sup> d Drop Rate;	2. From the past experience, it has been observed that Live measurement: for parameters relating to PDP Context Activation Success Rate and Drop	Live measurements are to be taken as per the systems of the Service Providers. The clause is self explanatory
		1	Di Conext Activation Saccess Rate	Rate is not available with the TSP's but only the monthly dump. What sh. 1 be done in such a case??	λ
				Jt. Advisor (QoS)	A 112119 ACTIVITY AND ENDER A 112119 ACTIVITY AND ENDER HUBBRI HOMERATIVITY HUBBRI HOMERATI AND AND AND AND AND AND TOPECOM ACTIVITY ACTIVITY (Activity)

## Clarification sought by the bidders to Audit & Assessment of OoS Tender 2019

Jt. Advisor (QoS)

Sno	Pg No.	Clause No.	Clause Description	Query	Clarification
4	19	1 4 ( 0)	Verification and comparison of PMRs prepared based on raw data taken from service providers and the Quarterly PMRs submitted by service providers to TRAI.	It has been observed that data provided by the TSP is only the computed output. RAW or the Source data which is used for computation is not made available by the TSPs. In such scenarios only the validation of the computed output shared with TRAI and audit agency can be done. What should be the agency course of action in such cases?	Raw data be taken from service providers based on the systems used by service providers. Agency shall collect the data and generate the reports as per clause
5	19	$1 \leq (\pm)$	Audit of the Wireless Data Services (2G, 3G and 4G services) for all the parameters, except Service Activation/Provisioning, PDP Context Activation Success Rate and Drop Rate, through test measurement procedures specified in the Explanatory Memorandum to the Standards of Quality of Service for Wireless Data Services Regulations, 2012 (26 of 12) dated 4th December 2012	In some cases it is found that at the time of audit measurement tool are not available for the audit of Wireless data service, What shall be the course of action if such is the scenario if	Service providers are required to have a set up for measurements as per the regulations
6	19	<ul> <li>and monthly PMRs to the system specified by TRAI immediately on completion of each activity</li> <li>audit of the availability of level '1' services, including emergency services; and</li> <li>Operator assisted drive test of mobile networks as</li> </ul>	Assumption is TRAI will provide the server where the data shall be uploaded? please confirm! 1. L1 - Assumption is softcopy of the RAW result shall be uploaded and not final formatted report	Yes, server shall be provided by TRAI. Only softcopy is to be uploaded	
			(i) Operator assisted drive test of mobile networks as	2. OADT - Assumption is only the logs of the OADT needs to be uploaded	Logs of the OADT needs to be uploaded

दितिन्द्र प्रकाश/JITENDER PRAKASH मिलेन्द्र प्रकाश/JITENDER PRAKASH संयुक्त सलाहिकार/Joint Advisor संयुक्त स्वाहिकार/Joint Advisor संयुक्त संयुक्त स्वाहिकार/Joint Advisor संयुक्त स्वाहिकार/Joint Advisor संयुक्त स्वाह स्वाह संयुक्त / New Delhi-110002 2 of 11

1

٩

Sno	Pg No.	Clause No.	Clause Description	Query	Clarification
7	20	1.7	The scope of the audit includes the parameters of Quality of Service for Wireless Data Services specified in para (1) of regulation of the Standards of Quality of Service for Wireless Data Services Regulations, 2012 (26 of 2012) dated 4th December, 2012, including service activation/ provisioning, successful data transmission download attempts, successful data transmission upload attempts, minimum download speed, average throughput for packet data, latency, PDP context activation success rate and drop rate.	From past experience it has been seen that there is no way to check the authenticity of mentioned KPIs - service activation/ provisioning, successful data transmission download attempts, successful data transmission upload attempts, minimum download speed, average throughput for packet data, latency, PDP context activation success rate and drop rate due to the unavailability of the data. What should be the agency course of action in such cases?	May refer the regulations and their expalnatory memorandums for measuring the KPIs pertaining to Quality of service for Wireless Data Services
8	23	2.5	Mode of conducting Audit and Assessment of Quality of Service: The generation and verification of performance of service providers against QoS benchmarks will involve measuring of specified reporting parameters, checking of complete records, analysis of procedure and method adopted by various service providers in measuring the parameters and method of averaging for the purpose of reporting. The audit agency shall include critical findings licensee- wise in each quarterly report.	In order to do the complete procedural audit and provide valueable insights, the source data which is being used to compute the KPIs needs to be made available to the agency. There should be a clear mandate to TSPs for sharing this data. Please suggest how the audit shall be done in case the source data is not made available to the agency.	The clause is self explanatory
		a.	The 3 days live data provides a sample of 9 days in a	1. For performing the 3 day live audit, the auditor needs to visit the TSP premises. What should be the TAT for TSPs to respond to the audit request sent by the audit agency?	The schedule of audit shall be circulated to the respective TSPs in adavnce, after the signining of the agreement.
9	23	2.7	2.7 quarter (3 days each month of a quarter) with hourly 2.7 performance, which enables the auditor to identify and validate intra-day issues for an operator on the QoS network parameters.	2. In some cases it has been observed that the contact details of the relevant SPOC for wireless, wireline and BB in different circle is not available. No communication is passed to the circles regarding the audit. Please suggest what should be the TAT for the TSPs and course of action for the audit agency in such scenario?	The agency shall request for the SPOCs from the service providers. TRAI shall facilitate the Audit agency in this matter.

P SCA P

Sno	Pg No.	Clause No.	Clause Description	Query	Clarification
				3. Please confirm if Hourly performance here refer to the TCBH data generated during 3 Day Live measurement ?	Yes
10	24	2.8	Network Service Quality Parameters of Cellular Mobile Telephone Service (2G, 3G and 4G VoLTE services) and parameters relating to Service Activation/Provisioning, PDP Context Activation Success Rate and Drop Rate for Wireless Data Services (2G, 3G and 4G services) are to be evaluated for a period of 3 days in each month.	What if the data for KPIs like Service Activation/Provisioning, PDP Context Activation Success Rate and Drop Rate for Wireless Data Services (2G, 3G and 4G services) is not available with day wise break for a 3 day live audit?	Same as clarified to Clarification no. 7
11	24	2.9	Generation of Performance Monitoring Reports: The parameters whose data is to be generated at the service provider's site, verified and audited, are all Network Service Quality Parameters for 2G service, 3G Service and 4G VoLTEservice; and Wireless Data Services (2G, 3G and 4G services) for parameters relating to Service Activation/Provisioning, PDP Context Activation Success Rate and Drop Rate.	It has been observed that the shared Network Service Quality Parameters for 2G, 3G, 4G VoLTE and Data services are only the final computed values. Definition and the source data used to arrive at the KPIs is not shared with the agency and hence cannot be audited. Please suggest what shall be done in such scenarios.	Raw data be taken from service providers based on the systems used by service providers. Agency shall collect the data and generate the reports as per clause.
12	24		TRAI has already suggested to the service providers to maintain the QoS source / raw data. The agency with the help of Service Provider shall extract the raw data from the system in service Providers Data	1. Kindly elaborate what is meant by RAW data here	The base data as available with the systems of service providers based on which KPIs are calculated.
12	27		Center/OMC every month. Methodology adopted shall be checked against instructions and standards to	2. Kindly elaborate on what is meant by methodology shall be checked instructions to see if the measurements adhere to specifications.	The clause is self explanatory.
13	25	2.12 (v)	%Connections with good voice quality	Is the objective to compare the % of Good Quality reported by system and Drive Test? Agency not be able to process all log files of different types of drive test tool, please suggest how the verification can be done.	Yes, % of good quality reported by system and Drive tests are to be compared. It shall be the responsibility of agency to process all the log files.

Peeker Clipte Granal/JITENDER PRAKASH संयुक्त संताहबनार/Joint Advisor संयुक्त संताहबनार/Joint Advisor संयुक्त संताहबनार/Joint Advisor संयुक्त संताहबनार/Joint Advisor संतिवर संताहबनार/Joint Advisor

z

Sno	Pg No.	Clause No.	Clause Description	Query	Clarification
14	25	2.12 (vi)	Service coverage	Is the objective to compare the Service Coverage reported by system and Drive Test? Agency not be able to process all log files of different types of drive test tool, please suggest how the verification can be done.	The clause is self explanatory
15	25	2.12	Voice KPIs, DL-PDR and UL-PDR	Assuming DL-PDR & UL PDR will available in counter data please confirm?	May refer Explanatory Memorandum of Sixth Amendment to the The Standards of Quality of Service of Basic Telephone Service (WireIine) & Cellular Telephone Service Regulation dated 31.07.2018.
16	25	2.12	Call Setup Time (CSFB)	Assuming Call Setup Time has to verify from Drive test data, Agency not be able to process all log files of different types of drive test tool, please suggest how the verification can be done.	May refer direction regarding maintenance of KPI "Call Setup Delay" to monitor Quality of Service in case of Circuit Switched Fall Back (CSFB) for voice calls dated 31.07.2018.
17	25	2.13	Wireless Data	In some cases it is found that data provided by the TSP is only the computed output, RAW data which is used for computation is not made available by the TSPs. In such scenarios only the validation of the computed output shared with TRAI and audit agency can be done. What should be the agency course of action in such cases?	Raw data be taken from service providers based on the systems used by service providers. Agency shall collect the data and generate the reports as per clause
18	32	2.43	The list of Level Services to be verified is available at Annexure-3.	Is the list in Annex 3 is the universal list for all RO/ HQ?	The same may be updated based on inputs from DoT and further discussion with the TRAI's Regional Offices during the testing phase.

२ ( अत्रेम्ब्रे प्रकाश/JITENDER PRAKASH संयुत्ता स्वाहकार/Joint Advisor हिंदी ( Areal / New Helphin 10002

Sno	Pg No.	Clause No.	Clause Description	Query	Clarification
			The results of analysis of data generated during such drive tests shall be uploaded, immediately on completion of the drive test, to the central server at TRAI for processing and preparing report at the end of the drive test. The audit agency shall prepare a combined diagram for the LDCA/SSA indicating the drive test outputs for all the operators plotted in a map with proper label for road, places etc. in CAD or similar software.	1. Assumption is only the logs are to be uploaded to the server provided by TRAI at the end of the each day OADT. Please confirm!	Yes
19	33	2.48	2. It has been found that few operators are not able to provide the logfiles at the end of the day since the files are uploaded to their central server from mobile itself, what shall be done in such scenarios?	TRAI shall issue the appropriate intructions to TSPs in such case.	
				3. Please confirm who will prepare the reports of OADT?	It shall be the responsibility of the selected Audit agency to prepare the reports of OADT.
	÷.			4. Please confirm exactly what output is to be plotted in map? Assumption is standard GIS tools can be used to show the output. Standard shp/ tab files are available with TSPs which can be used on GIS tools to show output, please confirm!	Coverage and Quality plots are required to be plotted on map.
20	34	2.49	The audit agency shall discuss with Service provider about the coverage before starting the drive test (with coverage map) and study the coverage detail in terms of the signal strength.	Which all service provider will provide the coverage maps, please clarify?	The clause is self explanatory.
21	34	2.49 (i)	Voice quality with actual audio recording of voice samples	From past experience it has been found that TSPs are not able to record the actual voice samples, please suggest what shall be the way forward in such a scenario	The same shall be limited to the equipment capability of the Service provider

Sno	Pg No.	Clause No.	Clause Description	Query	Clarification
			i. Median Throughput (Downlink/uplink) ii. Success rate	Please confirm on below 1. Which server shall be used for performing download/ upload test? Will TRAI provide a centralized server or each TSP shall use their own server?	The same shall be conveyed after signing of the Agreement.
22	34	2.49 (i)	iii. Web page download time iv. Video streaming delay v. Latency	2. Assumption is TSPs are responsible for the creation of the scripts to execute the test scenario. Please confirm!	The same shall be conveyed after signing of the Agreement.
				3. What if any of the TSP is not able to perform any one/ all the tests? What shall be the agency next step?	The same shall be conveyed after signing of the Agreement.
23	34	2.49 (ii)	(ii) The audit agency shall analyse the network related complaints of concerned LDCA. The drive test shall be conducted using licensed tools/devices with more focus on areas where large numbers of network related complaints are received	Please confirm on below 1. Who is responsible for making the network related complaint data to the agency for planning the drive route?	The Service Providers shall provide the same.
				2. Assumption is agency is required to check the calibration certificate of the tools brought by TSPs for the OADT, please confirm	Yes please.
	2		The drive test shall cover the routes including expressways, major and secondary roads / streets, Commercial, residential areas/Commercials estates to check the in-building (10-12 walk tests / stationary	1. Assumption is that drive test for all the scenarios mentioned will be conducted by the TSPs in the presence of the auditor of the agency, please confirm!	Yes please.
24	24 34 2.49 (iv)	<ul> <li>iv) locations/ high footfall locations with engineering smart phones capable of capturing layer 3 messages, should be measured) network performance. The walk test shall also cover key Metro stations and Metro and train services (Rajdhani, Shatabdi express trains) and other public places as decided by TRAI.</li> </ul>	assumption is agency is not responsible for anything. The planned dates shall be communicated	The Agency shall communicate the schedule of testing well in adavnce to TSPs and its representatives shall accompany the service providers during tests.	
25	34	2.49 (vi)	The Vehicle to be used in the drive tests shall be equipped with the test tool that automatically generates calls on the rabile telephone networks.	Assumption is TSPs are responsible for this. In case of any clarity required by the TSPs, they can connect with respective RO's, please confirm!	Yes please. The responsibility lies with TSP.
26	34	2.49 (ix)	Measurement using engineering handsets would not be acceptable.	Assumption is TSPs are responsible for this. In case of any clarity required by the TSPs, they can connect with respective RO's, please confirm!	Yes please. The responsibility lies with TSP.
			*	Jt. Advisor (QoS)	मितन्द्र प्रकाश/ЛТЕНФ संयुक्त सलाहकार/ЛО संयुक्त सलाहकार/ЛО संयुक्त सलाहकार/ЛО संयुक्त सलाहकार/ЛО संयुक्त सलाहकार/Л बाध्या जित्ते प्रकाश/ЛТЕНФ संयुक्त सलाहकार/ЛТЕНФ संयुक्त सलाहकार/ЛТЕ

Sno	Pg No.	Clause No.	Clause Description	Query	Clarification
27	34	2.49 (x)	Data Test drive concurrent with voice test and in building / hot spots measurement for assessing the mobile data services for all technology across the concerned LDCA.	Assumption is TSPs are responsible for this. In case of any clarity required by the TSPs, they can connect with respective RO's, please confirm!	Yes please. The responsibility lies with TSP
28	34	2.49 (xi)	Data test should include the following :- a) Data download/upload b) On line video streaming c) Web browsing with 3 links of elm commerce website d) Latency (Ping) e) On line payments on hotspot	Assumption is TSPs are responsible for this. In case of any clarity required by the TSPs, they can connect with respective RO's, please confirm!	Yes please. The responsibility lies with TSP.
29	24	2.5	<ul> <li>After the completion of the assessment activity, the audit agency is required to submit the report of the drive test in such a manner that all the metrics captured for different services (voice and data) and different service providers are displayed using a Graphical User Interface, data visualization dashboards and analytical based tools. The analytical based tool/ software shall be internationally compatible and be used to show comparison of TSP performance/ comparison of TSP's at city level, with other TSP's, at grid level and service area level and with global TSP's. The format of report shall be</li> </ul>	Different TSPs uses different drive test tools for network measurement. It is not possible for any agency to have multiple post processing tools for preparing the report. For OADT reports, suggestion is to follow footsteps of previous tender only. Please confirm!	It shall be the responsibility of the agency to process the log files and prepare the reports of OADT.
	34	2.5		In case TSPs are also not able to provide the metrics in the required format, data cannot be visualized on the GIS. In such case assumption is agency is not responsible for the non availability of data, please confirm	It shall be the responsibility of the agency to process the log files and prepare the reports of OADT
30	36	5.2	The reports should also be generated on-line through TRAI's MIS system or such other system as available at TRAI which had taken various inputs from different audit activities as per the scope of work for	Who shall be responsible for generating the reports from MIS system?	It shall be the responsibility of the selected Audit agency to generate the reports online through TRAI's MIS system or such other system.
	36	all the service a cas. The soft copies of each report shall also be submitted by the audit agency along with	Andit agency has to only submit the soft and copies of these reports along with quarterly reports?		
				Jt. Advisor (QoS)	A THE REPORT OF THE PROPERTY O

Sno	Pg No.	Clause No.	Clause Description	Query	Clarification
31	37	5.5	A separate report is also required to be submitted for each company/group of companies covering each circle/service area at the end of the year. The report shall also contain an Executive Summary and critical finding along with detailed analysis to share with the service provider and take further follow-up action.	Please elaborate on this	The clause is self explanatory.
32	37	7	Submission of Monthly Report on 7th of following month	Submission of Monthly report totally depends on data made available by TSP. Incase there is delay in data submission from TSP Monthly report can not submit in mentioned time line. What Agency shall do in such scenarios?	The monthly PMR data has to be submitted on or before by 15 <sup>th</sup> of the following month.
33	56	Annex 2B	DETAILS OF ZONE-WISE SERVICE AREA AND SERVICE PROVIDERS PROVIDING BASIC SERVICE, 2G, 3G, 4G AND 4G VoLTE SERVICES	Vodafone and Idea are to be considered as VIL or independent?	They are to be considered independent.
34	6	4 (iii)	The audit agency should have sufficient manpower with requisite qualtifications and experience to depute two technical staff, having qualification of BE/BTech or equivalent, in each Local Service Area (LSA), besides one technical and managerial staff for coordination with RO/HQ, having domain knowledge of audit and assessment of quality of service, for carrying out the audit and assessment of Quality of Service as per the Terms of Reference, including technical manpower and infrastructure capability to undertake operator assisted drive test of cellular mobile networks.	Please clarify on qualification of depute two technial staff, instead of BE/Btech, if they are normal graduate/diploma with good experience in similar work. Are they eligible?	The clause is self explanatory
35	27	2 (d)		Please clarify on the term verification. Comparison of the quarterly PMR on basis the raw data with PMR submitted with service providers is clear. However, request you to please help us understand the activities that you like an agency to conduct/follow or expectations from the agency as a part of the verificiation activities mentioned.	The clause is self explanatory.
				Jt. Advisor (QoS)	Contract And Alternation

Sno	Pg No.	Clause No.	Clause Description	Query	Clarification
36	33	2.48	The Schedule of the drive test indicating the LDCAs/SSAs to be covered in each month will be intimated by TRAI. It is possible that to cover the LDCAs/SSAs as per Annexure 6 during an year, drive test may be conducted in more than one SSAs in a service area in a month. The drive test logs have to be collected by the audit agency immediately after completion of each day's drive test. The results of analysis of data generated during such drive tests shall be uploaded, immediately on completion of the drive test, to the central server at TRAI for processing and preparing report at the end of the drive test. The audit agency shall prepare a combined diagram for the LDCA/SSA indicating the drive test outputs for all the operators plotted in a map with proper label for road, places etc. in CAD or similar software.	Please clarify should we upload the raw data collected after drive test on central server or need to upload prepared report, if need to upload prepared report then request you to give some time to get it ready in proper format	Only raw data/ drive test log files are to be uploaded immediately after the completion of each days' drive test. The complete report shall be submitted as per deliverables mentioned in Tender.
37	34	2.49 (iv)	The drive test shall cover the routes including expressways, major and secondary roads / streets, Commercial, residential areas/Commercials estates to check the in-building (10-12 walk tests /stationary locations/ high footfall locations with engineering smart phones capable of capturing layer 3 messages, should be measured) network performance. The walk test shall also cover key Metro stations and Metro and train services (Rajdhani, Shatabdi express trains) and other public places as decided by TRAI.		Yes please
38	34	/49/81	Data Test drive concurrent with voice test and in building / hot spots measurement for assessing the y mobile data ervices for all technology across the concerned LDCA.	Please clarify will there be a separate team or single team for data and voice drive test. The data drive test will be for one day separate or will be conducted for 3 days (normal) and 6 days (difficult) with voice drive test (OADT) and how many hotspots to be covered fro data drive test	Data drive test will be for one day. The hot spots that can be covered in a day will be required to be undertaken by the audit agency.
				Jt. Advisor (QoS)	agency.

Sno	Pg No.	Clause No.	Clause Description	Query	Clarification
39	35	3.5	The agency shall provide training on the usage of tools and applications used for Audit, L1 calling and OADT to the TRAI officials.	Please clarify term training to TRAI officials	TRAI officers from respective zones involved in the process shall be imparted training on the usage of tools and applications used for Audit, L1 calling and OADT.
40	36	5.1	on the monthly PMR generated. Two copies of such report covering all service areas/ circles which are audited during the quarterly period shall be submitted	As per out understanding and experience, operators ususally start sharing monthly PMR raw data with audit agencies by 5th of every month and audit activity for all 2G, 3G and 4G operators will going to take time. So uploading monthly PMR data on TRAI web portal by 7th of the following month will going to be a daunting task and practically would be difficult to execute on ground. Hence, would request to kindly look into it and extend it further.	The clause is self explanatory
41	66 & 75	Annexur e 4 &6	Annexure 4: Details of service area-wise Long Distance Charging Areas or Secondary Switching Areas and Annexure 6: Details of Secondary	Please clarify the number of OADT to conducted in each service area, the OADT name given in Annexure 6 will be only be the OADT SSA number or to be conducted in all SSA given in Annexure 4 (page no 66) in a year	The number of OADTs is as per Annexure 6.

red a/12/19

दिली/New Delhi-110002

1

i i

्व . .