



**Telecom Regulatory Authority of India**



Recommendations

on

Network Testing Before Commercial Launch of Services  
for Wireline Access Services

New Delhi, India

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## **Contents**

<b>Chapter</b>	<b>Topic</b>	<b>Page No.</b>
<b>Chapter 1</b>	Introduction	1
<b>Chapter 2</b>	Issues and Analysis	4
<b>Chapter 3</b>	Summary of Recommendations	19

## **Annexures**

<b>Annexure A</b>	DoT Letter Dated 09 <sup>th</sup> September 2016 Seeking Recommendations for Enrolment of Customers Before Commercial Launch of Services	21
<b>Annexure B</b>	DoT Letter Dated 09 <sup>th</sup> October 2018 Specifying the Norms for the Purpose of Network Testing Before Launch of Commercial Services for Mobile Services	22
<b>Annexure C</b>	DoT Letter Dated 16 <sup>th</sup> July 2019 Seeking Recommendations for Wireline Access Services	23
<b>List of Acronyms</b>		24

# CHAPTER 1

## INTRODUCTION

### Background

- 1.1 The Indian telecom sector has witnessed a high pace of technological evolutions and exponential growth since the 1990s. The Indian telecom sector is second largest in the world in terms of the number of telephone subscribers with 1172.44 million subscribers (1151.44 million wireless + 21 million wireline) as on 31<sup>st</sup> December 2019; at the same time, it has one of the lowest tariffs for telecommunication services in the world. It has played a significant role in the socio-economic development of India and has been one of the fastest growing telecom markets.
  
- 1.2 In India, as per the present telecom Licensing framework, licence/authorization from Department of Telecommunications (DoT) is required to offer/provide telecom services. The Unified Licence (UL) is granted for various services (namely Access, Internet, NLD, ILD, GMPCS, PMRTS, VSAT CUG, INSAT MSS-R Service, etc.), as authorized in the licence agreement on a non-exclusive basis in the service area. Service providers holding valid licence from DoT are called Telecom Service Providers. Telecom Services can be provided by the Licensee on National Level, Telecom Circle/Metro-Area Level and Secondary Switching Area Level. India has been divided into 22 service areas for the award of access service authorizations/licence. The Access Service licensee can broadly offer voice, non-voice, Internet services including IPTV, broadband, Internet Telephony and triple play (i.e. voice, video and data) on wireline and/or wireless media in the designated licensed service area. Prior to UL, access services could be provided with Basic Service Licence, CMTS (Cellular Mobile Telephone Services) or UASL (Unified Access Service Licence). Licensees who have not migrated to UL are providing access services under these licences. Telecom service providers (TSPs) are providing wireline access services under Basic Service Licence, Unified Access Service Licence (UASL) and Unified Licence (UL) with access service authorisation.

- 1.3 The Licensee who wants to provide access services is bound by roll-out obligations and other licence conditions. It is important to test all applicable systems before the commencement of commercial services, as the licensee has to ensure that its service meets the Quality of Service (QoS) standards and comply with Regulation/Directions/Instructions prescribed by the Licensor or Telecom Regulatory Authority of India (TRAI).

**DoT reference**

- 1.4 The Department of Telecommunications (DoT), through its letter dated 9<sup>th</sup> September 2016 (**Annexure A**), communicated that the present Licences for various services issued by DoT do not mandate any time period for network testing before the commercial launch of services by the Licensees. However, on the basis of erstwhile practices followed by DoT/BSNL, network testing is being carried out by Licensees and test SIM cards are being issued to check the quality of network, before the commercial launch of services. Hence, DoT requested the Authority to provide its recommendations on testing of network before commercial launch of services including enrolment of customers for testing purposes before commercial launch, duration of testing period, etc., under the terms of clause 11(1)(a) of TRAI Act, 1997 as amended.
- 1.5 TRAI issued a consultation paper “Network Testing before Commercial Launch of Services” on 1<sup>st</sup> May 2017 seeking comments from stakeholders. Based on the comments received during the consultation process and its own analysis, TRAI issued its recommendations on “Network Testing Before Commercial Launch of Services” on 4<sup>th</sup> December 2017. Although the consultation process was carried out with respect to mobile/wireless networks, most of the issues raised were generic in nature and are also applicable for wireline network testing and deployment.
- 1.6 DoT through its letter dated 9<sup>th</sup> October 2018 (**Annexure B**) specified the norms for the purpose of network testing before the launch of commercial services. However, these norms were made applicable for

mobile services only and the said letter was addressed to UL with Access Services, CMTS and UAS Licensees for mobile services.

- 1.7 Subsequently, DoT through its letter dated 16<sup>th</sup> July 2019 (**Annexure C**), communicated to TRAI that the Government has accepted TRAI's recommendations on "Network Testing Before Commercial Launch of Services" and it has been decided that TRAI may be requested to provide similar recommendations for Wireline Access Services. DoT has also requested that recommendations on Network Testing before commercial launch of Wireline Access Services may be provided as per the clause 11(1)(a) of TRAI Act, 1997 as amended by TRAI Amendment Act, 2000.

### **Consultation process**

- 1.8 Most of the issues raised during the consultation process for the norms for network testing before launch of commercial mobile services, carried out by the Authority, are equally applicable for wireline access services. However, as per the reference received from DoT in this regard, fresh consultation process was initiated to frame recommendations to decide the norms of network testing before commercial launch for wireline services. In this case, since most of the issues are similar in nature, draft recommendations were issued on 31<sup>st</sup> December 2019 to solicit the views of the stakeholders. The last date for receiving the comments was 30<sup>th</sup> January 2020 and for counter-comments was 13<sup>th</sup> February 2020. Comments were received from three stakeholders and counter-comment was received from only one stakeholder. After considering the written submissions of the stakeholders and examining the issues, the Authority has finalized these recommendations.
- 1.9 Chapter 1 introduces the subject at hand. Chapter 2 lists the issues and analysis by the Authority based on which the recommendations have been framed. Chapter 3 lists the summary of recommendations.

## **CHAPTER 2**

### **ISSUES AND ANALYSIS**

#### **Need for laying down guidelines for testing of network, processes and systems for Wireline Access Services**

- 2.1 DoT through its letter dated 9<sup>th</sup> October 2018 (**Annexure B**), specified the norms for the purpose of network testing before launch of commercial services on the basis of TRAI's recommendations dated 4<sup>th</sup> December 2017. However, these norms were made applicable for mobile services only.
- 2.2 Telecom Service Providers (TSPs) are providing wireline access services under Basic Service Licence, Unified Access Service Licence (UASL) and Unified Licence (UL) with access service authorisation. The Licences do not provide clear guidelines on testing of network and processes such as timeline of testing, acquisition of subscribers during test-phase, limit on number of test users, etc. The TSPs are bound by roll-out obligations and other Licence conditions. The Licensee is also mandated to comply with Regulations/Directions/Instructions issued by Licensor or TRAI. The Licensor or TRAI may carry out performance tests on Licensee's network and evaluate QoS parameters prior to grant of permission for commercial launch of the service. Failure on part of the Licensee to adhere to the Licence conditions is liable to be treated as breach of terms and conditions of the Licence.
- 2.3 The related clauses of the Unified Licence (UL) on Provision of Service, QoS and Technical and Operating conditions, are reproduced below. There are similar clauses in Unified Access Service Licence (UASL) and Basic Service Licence.

#### **(a) Provision of Service**

*“The Licensee shall be responsible for, and is authorized to own, install, test and commission all the Applicable systems for providing the Service authorized under this License agreement. The Licensee shall intimate to the Licensor well in advance before the proposed date of commencement of any service in any Service Area containing the details of network and*

*required facilities for monitoring of the service installed by the Licensee. Any service, permitted under the scope of this License Agreement, shall be commenced by the Licensee after giving an intimation to do so to the Licensor. However, the compliance to the scope of the License and requisite monitoring facilities will be demonstrated to the licensor within 90 days from the date of receipt of such intimation from the Licensee.”*

**[Clause 7 under Chapter-II of UL]**

**(b) Quality of Service**

*“The LICENSEE shall ensure the Quality of Service (QoS) as may be prescribed by the Licensor or TRAI. The LICENSEE shall operate and maintain the licensed Network conforming to Quality of Service standards subject to such other directions as Licensor/TRAI may give from time to time. The LICENSEE shall adhere to such QoS standard and provide timely information as required therein. Failure on part of LICENSEE to adhere to the Quality of Service stipulations by TRAI/Licensor is liable to be treated as breach of terms and conditions of License.*

*The LICENSEE shall provide periodic information on compliance of QoS standards to TRAI/Licensor as per schedule notified.”*

**[Clause 29.1 under Chapter-IV of UL]**

*“The Licensor or TRAI may carry out performance tests on Licensee’s network and also evaluate Quality of Service parameters prior to grant of permission for commercial launch of the service, after successful completion of interconnection tests and/or at any time during the currency of the LICENSE to ascertain that the network meets the specified standards on Quality of Service (QoS). The LICENSEE shall provide ingress and other support including instruments, equipment, etc., for such tests.”*

**[Clause 29.4 under Chapter-IV of UL]**

**(c) Operating Conditions**

**Subscriber Registration and Provision of Service:**

*“The LICENSEE shall register demand/request for telephone connection and or any other Telecom Service without any discrimination from any applicant, at any place in the service area for the service(s) authorized and provide the Service, unless otherwise directed by the Licensor. The LICENSEE shall not in any manner discriminate between subscribers and provide service on the same commercial principle and shall be required to maintain a transparent, open to inspection, waiting list. The LICENSEE shall clearly define the scope of Service to the Subscriber(s) at the time of entering into contract with such Subscriber(s). Licensor shall have right to impose suitable penalty, not limited to a financial penalty, apart from any other actions for breach of this condition. The LICENSEE*

*shall commence the Service on commercial basis only after starting subscriber registration in the manner prescribed. Before commencement of Service in an area, the LICENSEE shall notify and publicize the address where any subscriber can register demand/request for Telecom Service. Any change of this address shall be duly notified by the Licensee.*

*Provided that nothing contained herein will affect or prejudice the rights of the LICENSEE to carry out check on credit worthiness of applicants for its services.”*

**[Clause 30.1 under Chapter-V of UL]**

**(d) Inspection and Testing of Installations:**

*“The Licensor/TRAI may carry out performance tests as required for checking Quality of Service, if it so desires. The LICENSEE shall supply all necessary literature, drawings, etc. regarding the equipment installed and shall also supply all the tools, test instruments and other accessories to the testing party of the Licensor/ TRAI for conducting the tests. The list of performance tests will be furnished by the Licensee, which may be amended by the Licensor.”*

**[Clause 34.1 under Chapter-V of UL]**

- 2.4 A Licensee, after obtaining the Licence is responsible for and authorized to own, install, test and commission all the applicable system for providing services. The Licensee can commence any service(s), permitted under the scope of the licence agreement only after giving an intimation to do so to the Licensor before the proposed date of commencement of the service(s). The compliance to the scope of the Licence and requisite monitoring facilities should be demonstrated to the Licensor within 90 days from the date of receipt of such intimation from the Licensee.
- 2.5 Before commercial launch of any telecom service, extensive testing of the network is necessary. Also, there is an obvious need to create test users for carrying out different functionality tests of the network for compliance of licence conditions. The testing of systems and ensuring QoS is also important from a commercial point of view; as in telecom services industry, the subscriber experience is one of the important factors that leads to demand generation. All the aspects of subscriber experience cannot be tested using simulation tools/testers. Licensees use test users to check the quality of its network before the commercial launch of services.

- 2.6 The telecom service Licences do not provide clear guidelines on testing of network and processes such as the timeline of testing, acquisition of subscribers during test-phase, limit on the number of test users that can be enrolled, etc.
- 2.7 The comments/suggestions received from various stakeholders with respect to the draft recommendations have been clubbed issue-wise and examined as detailed below.

### **Need for enrolling test users**

- 2.8 As per the Licence provisions, the Telecom Service Providers (TSPs) are required to install applicable systems for providing telecom services to the subscribers and interconnect with networks owned by other TSPs. Like any other service, it is important that before the services are launched, the network and the systems are thoroughly tested. A TSP is required not only to meet the laid down Quality of Service (QoS) standards but also to ensure that the subscriber's experience is good. Therefore, thorough testing of the network is desired, particularly if a new technology is being launched by a TSP.
- 2.9 However, if a TSP decides to conduct extensive testing of network before commercial launch and enrolls subscribers (other than its employees and business partners) as test subscribers to test its network under sufficient load condition; the relevant issue is whether the TSP should be allowed to enrol test subscribers (other than its employees and business partners) before commercial launch of the service.
- 2.10 One of the stakeholders suggested in its written comments with respect to the draft recommendations, that the Authority should examine the network testing prior to commercial launch of service in wireline networks in entirety and should not seek to equate it with the similar recommendations for mobile networks.
- 2.11 One of the stakeholders stated that the Licence does not permit enrolment of subscribers at the time of testing phase and there is no concept of 'subscriber' in the testing phase. It has urged that the definition of subscriber under the Licence does not cover 'test subscriber'. Further, for the testing purposes especially for load-testing

situations, various simulation tools are available and there is no need to do testing on the live subscribers/users. Testing should be restricted within its own network of the concerned Licensee/TSP. In case of any load/stress testing the same can be done by using a mechanism such as loopback testing on own network instead of terminating test traffic on other TSPs. However, if necessary, when testing with the other networks i.e. other TSPs, the same should be carried out using the wireline test connections given to business partners and employees only. It has submitted that there should not be any enrolment of subscriber during the test phase.

- 2.12 Another stakeholder submitted that from technology and deployment perspective, wireline networks are at great variance from the mobile networks; thus, the testing requirements also differ. It has further submitted that there are four major impediments to faster roll-out and testing of wireline Networks i.e. POI at SDCA level, provision of POI connectivity by BSNL, opening and testing of fixed line numbering from BSNL telephone exchanges in each of SDCA, and the requirement of Right of Way (ROW) for laying Wireline networks. These factors affect the roll out and the consequent launch of commercial operations by a fixed network service provider. It has further submitted that the scale of network testing requirement implies that the testing cannot be limited to employees and business associates. The service provider will be required to enrol test users for desired scales. The stakeholder has urged that as long as the test users are enrolled as per the requirements for enrolling commercial subscribers, all data and records are maintained in compliance with the provisions in the Licence and all inter-operator settlements are done in compliance with Regulations, this should not be anyone's concern.
- 2.13 One of the stakeholders, while agreeing to allowing enrolment of test subscribers during the testing phase, suggested that the POI connectivity locations and number of POI should be clearly specified in the guidelines before testing.
- 2.14 After the launch of services, TSPs have to meet the Quality of Service standards as prescribed by the Licensor and/or TRAI. The onus is on

the TSP to install applicable systems and test the new network to its fullest satisfaction before commercially launching its services. Hence, the Authority is of the view that it is always better that the services are launched after due testing and trials so that customers are not inconvenienced.

2.15 The Authority has given due consideration to the similarities and differences between wireline and wireless networks while issuing the draft recommendations, and the main differences which have been taken care in the draft recommendations are as follows:

- (i) As SIM is used in mobile services only, “test SIM” was replaced with “wireline telephone test connection” for wireline access services.
- (ii) Mobile Number Portability (MNP) is not applicable in wireline access service.
- (iii) Equipment at subscriber’s end, such as landline telephone set, ONT (Optical Network Terminal), ISDN TA (Terminal Adapter), Broadband modem, PABX, etc., known as CPE (Customer Premises Equipment) are required in wireline access services while in mobile services there is no such requirement.

2.16 The definition of subscriber in the Unified Licence is as follows:

*“SUBSCRIBER means any person or legal entity, which subscribes to/avails of the service from the Licensee. In this License, the words ‘customer’ and ‘Subscriber’ have been used interchangeably”*

In this context one of the stakeholders has raised an issue that there is no concept of ‘subscriber’ in the testing phase. The Authority is of the view that the term ‘test subscribers’ used in the draft recommendations may be replaced with ‘test users’ which is more appropriate in this context. In this respect it is important to clarify that ‘test users’ means users who have been enrolled for testing purpose after ensuring adequate verification and scrupulously following the instructions issued by the Licensor with respect to customer/subscriber acquisition from time to time. The Authority is also of the view that the term ‘test

subscriber' used in the norms of network testing for wireless access services may also be replaced with 'test users'.

- 2.17 Keeping in view the importance of network testing, it would not be prudent to restrict the testing to only a few connections to employees and business partners. It should be left to the discretion of the Licensee to decide about enrolling test users to carry out the network testing. Therefore, the Authority is of the opinion that a TSP should be permitted to enrol test users during testing phase.
- 2.18 In view of the above, **the Authority recommends that the term 'test subscribers' used in the norms specified for network testing before commercial launch of wireless services, may be replaced with 'test users'.**
- 2.19 **The Authority recommends that a TSP should be allowed to enrol test users in testing phase to carry out the network testing before commercial launch of its wireline access services.**

#### **Demarcation of test phase from commercial launch**

- 2.20 Testing is necessary before commercial launch of any telecom service. Technological evolution is a continuous process which affects the telecom service delivery systems and processes. The requirement of test users could vary based on the size of the network and technology being deployed. If the technology is latest with no significant roll-outs anywhere, the TSP would like to test it thoroughly. It is obvious that commercial launch of any network without adequate testing in scale and time serves nobody's purpose. Therefore, it is desirable to have a futuristic and enabling test-framework, without too many strings attached.
- 2.21 Should a TSP be allowed to provide all the services free of cost to test users even before commercial launch of services is one of the issues that arose in recent past. One view is that providing full-blown services during test phase may have implications on the Interconnection, tariffs, QoS and other regulatory aspects and as such can be viewed against the spirit of level playing field.

- 2.22 One of the TSPs, who recently enrolled substantial number of FTTX test users across the country for testing purpose for a duration of more than a year, cited issues related to delay in interconnection, right-of-way delays, and efforts required to deploy indigenous equipment's, as a reason for delay in commercial launch of the services.
- 2.23 One of the stakeholders has submitted that the TSP should not be allowed to enrol subscribers during the test phase. TSP must start offering services on commercial basis in case they want to enrol subscribers. So, there is no case for continuation of testing, after the TSP starts enrolling subscribers.
- 2.24 On the other hand, another stakeholder submitted that there should not be any timeline for the testing phase. The stakeholder reasoned that limiting the duration of testing will imply that notwithstanding the optimum level of testing and newness of the technology deployed; all service providers desirous of offering services will be provided with the same small window of network testing. This will be an anti-level playing field measure. While the service provider deploying tried and tested technology may not need testing at all and on the other hand the service provider desirous of offering new technology with indigenous equipment will not get sufficient time to test and deploy the technology. The same stakeholder also suggested that the number of test subscribers that can be enrolled by a TSP in an LSA (Licensed Service Area) should be limited to 10% of the total installed network capacity for that LSA.
- 2.25 One of the stakeholders agreed with the limit of 5% of installed capacity on the number of test subscribers and the timeline for testing as laid out in the draft recommendations. Another stakeholder suggested that the overall capacity limit for test purposes capped at 5% should include employees, business partners, etc.
- 2.26 The basic purpose of enrolling test subscribers is to test entire network with full functionality for adequate time and take corrective measures to bring the network under test to a stage where network is ready for commercial deployment. The Authority is of the view that

TSPs should have the liberty to decide the scope and extent of testing. In this era, where technological developments are happening at a very fast pace, defining a very restrictive test-framework may not be appropriate as it may come in the way of required amount of testing. However, suitable measures should be put in place so that the enrolment of test subscribers during test phase is not misused by a TSP for any unfair and unjust purpose or motive.

2.27 If TSP conducts testing using test connections only for employees and business partners there is no point of contention. If test connections are meant to be given only to the employees and/or business partners, there is a natural limit on the number of test users that can be issued. However, if it decides to conduct network testing using test customers, it may acquire subscribers in the garb of testing, and at the same time it may not be subjected to the regulatory compliances. As the services are generally offered free of charge during test phase, it may disturb the level playing field. However, if the number of test subscribers that can be acquired by a TSP is limited and a time limit on the test phase involving test subscribers can be defined, it would be sufficient to allay these apprehensions regarding the misuse of testing provisions to gain subscribers and disturb the level playing field to a large extent. Having said that, the limit should be such that it is neither very restrictive that it may come in the way of required amount of testing nor it should be too lenient that could disturb the level playing field.

2.28 The Authority is of the opinion that similar to the norms for wireless services; prescribing a limit of 5% on network switching capacity for an LSA on the number of test users that can be acquired by a TSP in that LSA would be appropriate for wireline access services also. One of the stakeholders has raised an apprehension regarding the inclusion of business partners, employees, etc. in the 5% limit. It is obvious that the 5% limit includes business partners and employees too. As regards time limit on the testing period involving test users, the Authority is of the view that it should be limited to 90 days. However, if the TSP fails to conclude network testing due to valid reasons, it

may make a representation to the Licensor, seeking additional time for network testing giving reasons which may be decided by the Licensor on a case-to-case basis. The requisite norms to be followed for extension of timeline for network testing may be formulated by the licensor. However, the total time period for network testing provided to the TSP shall not exceed 180 days.

2.29 In view of the above, **the Authority recommends that:**

- a. There should be no restriction on the time limit, if the network testing is conducted using wireline telephone test connections given to employees and business partners for test purpose only.**
- b. The number of test users that can be enrolled by a TSP in an LSA should be limited to 5% of its installed network capacity for that LSA. The service provider will submit the detailed capacity calculations of the network to DoT and TRAI at least 15 days before commencing enrolment of test users.**
- c. There should be a limit of 90 days on the test phase involving test users. However, if the TSP fails to conclude network testing due to valid reasons, it may make a representation to the Licensor, seeking additional time for network testing giving detailed justification, which may be decided by the Licensor on a case-to-case basis. The requisite norms to be followed for extension of timeline for network testing may be formulated by the Licensor. The total time period for network testing provided to the TSP shall not exceed 180 days.**

#### **Fulfilment of subscriber acquisition related conditions and regulatory reporting requirements during the test phase**

2.30 There are certain licence conditions and requirements, which are linked with commencement of services and subsequent acquisition of

customers. After commercial launch of its services, a TSP is bound to follow the provisions made in the License. However, if test users are enrolled, should the TSP be bound with the regulatory requirement such as reporting, etc., is the issue of discussion. In case it is felt that the enrolment of test users is necessary for network testing, it needs to be examined whether such a TSP should be bound with such license/regulatory requirements related to acquisition of subscribers.

2.31 There are certain subscriber acquisition related conditions and regulatory reporting requirements laid down in the Licence. Some of these are listed below:

*37.4 The Licensee shall, prior to commencement of Service, confirm in writing to the Licensor that the Licensee has taken all necessary steps to ensure that it and its employees shall observe confidentiality of customer information. (Part of Confidentiality of information)*

*39.17 (i) The Licensee shall ensure adequate verification of each and every customer before enrolling him as a subscriber; instructions issued by the Licensor in this regard from time to time shall be scrupulously followed. The Licensee shall make it clear to the subscriber that the subscriber will be responsible for proper and bona fide use of the service. (Part of Security Conditions)*

*39.18 The complete list of subscribers shall be made available by the Licensee on their website (having password-controlled access), so that designated Security Agencies are able to obtain the subscriber list at any time, as per their convenience with the help of the password. The list should be updated on regular basis. Hard copy as and when required by security agencies shall also be furnished. (Part of Security Conditions)*

2.32 Two stakeholders including one who opposed the limit on timeline for the testing phase, agreed to the subscriber acquisition related conditions during the test phase as well as to the regulatory reporting

requirements laid out in the draft recommendations. On the other hand, another stakeholder who opposed the enrolment of test subscribers (other than employees and business partners) suggested that TSP must start offering services on a commercial basis in case they want to enrol subscribers.

2.33 In the previous section, the Authority has recommended that there should be a limit of 90 days on the test phase involving test users. The compliance of this provision can be ensured only if the Licensor/TRAI gets the prior intimation about the enrolment of test subscribers in a network under test. Therefore, the Authority is of the opinion that if a TSP wants to enrol test users in its network before the commercial launch of services for testing purpose, it should give prior intimation to DoT and TRAI at least 15 days before commencing enrolment of test subscribers.

2.34 There are certain access Licence provisions which are related to subscribers, at the time of enrolment or otherwise. Adequate verification of each and every customer before enrolment as a subscriber and making available the complete list of subscribers by the Licensee on their website (having password-controlled access), so that the designated Security Agencies are able to obtain the subscriber list at any time are some of the security related conditions which are related to enrolment of subscriber. Ensuring confidentiality of customer information, which is part of 'Confidentiality of Information', is a provision related to the enrolled subscribers in the network. If Licensee is enrolling any subscriber to its network, it must necessarily abide by such provisions. In these aspects, test users cannot be treated differently. Therefore, the Authority is of the opinion that if a Licensee acquires test users (before the commercial launch of its services), all licensing provisions related to the security and privacy such as ensuring adequate verification of each and every customer before enrolment as a subscriber, protection and privacy of communication, maintaining Call Detail Record (CDR)/IP Detail Record (IPDR), Confidentiality of Information, Lawful interception and monitoring, etc. must be complied with by the Licensee.

- 2.35 As regards reporting requirements to DoT/TRAI, the Licensee is bound to send all relevant reports such as subscriber-related statistics and their usage, and other information as directed by TRAI/DoT. The Authority is of the view that the same should also be applicable during testing of network with involvement of test users.
- 2.36 In view of the above, **the Authority recommends that if a TSP wants to enrol test users in its network before the commercial launch of services for testing purpose:**
- a. **It should give prior intimation to DoT and TRAI at least 15 days before commencing enrolment of test users.**
  - b. **All licensing provisions related to the security and privacy such as ensuring adequate verification of each and every customer before enrolment as a subscriber, protection and privacy of communication, maintaining Call Detail Record (CDR)/IP Detail Record (IPDR), Confidentiality of Information, Lawful interception and monitoring, etc., must be complied with by the licensee.**
  - c. **During test phase, the licensee should be bound to submit test user related statistics and their usage, and other information as per prevailing instructions of DoT/TRAI.**

#### **Information to test users about the test phase**

- 2.37 While it is important that a TSP can extensively test its network before commercial launch of services, it is equally important that the interests of the test users are protected. To ensure that enrolment of test users by a TSP before the commercial launch is done in a fair manner, suitable provisions may be required to be prescribed. For instance, the test users may be transparently informed that they are being enrolled as test users only, that too for a defined period of time i.e. the services would be deactivated after the test phase and therefore, the test wireline numbers may not be used by the subscribers for registration with banks, educational institutes, etc.

- 2.38 In case of wireline services some CPE (Customer Premises Equipment) like telephone handset, Broadband modem, ONT (Optical Network Terminal) modem, etc. may be provided by the licensee for proper testing of its network. As the TSP, who is still conducting test trials, cannot be expected to provide a commitment on the quality of services, any charges (even if nominal) imposed on the test users, may not be appropriate. Charging anything would be akin to launching commercial service in the garb of testing. So, testing ought to be completely free of charge.
- 2.39 One of the stakeholders who opposed any timeline for the testing phase agreed with most of the transparency requirements related to the test users. However, it suggested that the applicable charges (fixed and usage-based charges) should not be mandatorily free of charge. It also suggested that the CPE (Customer Premises Equipment) should not be mandatorily free of any charge. It further suggested that the likely date of commercial launch may not be intimated to the test users. On the other hand, one of the stakeholders agreed to the conditions laid out in the draft recommendations.
- 2.40 One of the stakeholders has urged that TSPs should be required to adhere to specified QoS during the test phase. Another stakeholder has submitted that QoS norms are applicable to subscribers who have subscribed to the services of the Licensee. Hence, it cannot be a case that test subscribers are permitted, but QoS is not guaranteed to them.
- 2.41 It is obvious that the test users are enrolled to check whether the requisite QoS norms are consistently adhered to over a period of time. So, mandating QoS norms for test users test phase is not practically feasible and it defeats the very purpose of testing.
- 2.42 The TSP is enrolling test users in its own interest, i.e. for testing its network. Moreover, the network performance may be sub-optimal. Therefore, the Authority is of the view that the test users should not be charged any kind of fee (fixed charges or usage-based charges). They should also not be charged for Customer Premises Equipment. It is equally important that test users are transparently informed of

being enrolled as test users; and during the test phase, the TSP is not mandated to adhere to specified level of QoS. Therefore, there may be sub-optimal level of network performance. Also, they may be informed about the scope of services available to them during the test phase.

2.43 TSP conducting test trials should appropriately inform the test users about modalities of testing, tentative-testing period and deactivation of the connection or seamless transfer as a customer after the test phase.

2.44 In view of the above, **the Authority recommends that if a TSP wants to enroll test users for the testing of its network, it should transparently give the following information to the test users at the time of their enrolment:**

- a. **During the test phase, the TSP is not mandated to adhere to specified level of QoS. Therefore, there may be sub-optimal level of network performance.**
- b. **The scope of services during the test period.**
- c. **There won't be any charge (fixed charge or usage-based charge) during the test phase. CPE (Customer Premises Equipment) is also provided free of charge.**
- d. **Likely date of commercial launch.**

## **CHAPTER 3**

### **SUMMARY OF RECOMMENDATIONS**

- 1. The Authority recommends that the term ‘test subscribers’ used in the norms specified for network testing before commercial launch of wireless services, may be replaced with ‘test users’.**
- 2. The Authority recommends that a TSP should be allowed to enrol test users in testing phase to carry out the network testing before commercial launch of its wireline access services.**
- 3. The Authority recommends that:**
  - a. There should be no restriction on the time limit, if the network testing is conducted using wireline telephone test connections given to employees and business partners for test purpose only.**
  - b. The number of test users that can be enrolled by a TSP in an LSA should be limited to 5% of its installed network capacity for that LSA. The service provider will submit the detailed capacity calculations of the network to DoT and TRAI at least 15 days before commencing enrolment of test users.**
  - c. There should be a limit of 90 days on the test phase involving test users. However, if the TSP fails to conclude network testing due to valid reasons, it may make a representation to the Licensor, seeking additional time for network testing giving detailed justification, which may be decided by the Licensor on a case-to-case basis. The requisite norms to be followed for extension of timeline for network testing may be formulated by the Licensor. The total time period for network testing provided to the TSP shall not exceed 180 days.**

- 4. The Authority recommends that if a TSP wants to enrol test users in its network before the commercial launch of services for testing purpose:**
- a. It should give prior intimation to DoT and TRAI at least 15 days before commencing enrolment of test users.**
  - b. All licensing provisions related to the security and privacy such as ensuring adequate verification of each and every customer before enrolment as a subscriber, protection and privacy of communication, maintaining Call Detail Record (CDR)/IP Detail Record (IPDR), Confidentiality of Information, Lawful interception and monitoring, etc. must be complied with by the Licensee.**
  - c. During the test phase, the Licensee should be bound to submit test user related statistics and their usage, and other information as per prevailing instructions of DoT/TRAI.**
- 5. The Authority recommends that if a TSP wants to enroll test users for the testing of its network, it should transparently give the following information to the test users at the time of their enrolment:**
- a. During the test phase, TSP is not mandated to adhere to specified level of QoS. Therefore, there may be sub-optimal level of network performance.**
  - b. The scope of services during the test period.**
  - c. There won't be any charge (fixed charge or usage-based charge) during the test phase. CPE (Customer Premises Equipment) is also provided free of charge.**
  - d. Likely date of commercial launch.**

**Annexure A (Chapter no. 1/Para no. 1.4)**

**DoT Letter Dated 09<sup>th</sup> September 2016 Seeking Recommendations for  
Enrolment of Customers Before Commercial Launch of Services**

Government of India  
Ministry of Communications  
Department of Telecommunications  
(Access Services Cell)

12<sup>th</sup> Floor, Sanchar Bhawan, Ashoka Road, New Delhi

File No: 800-20/2016/AS.II

Dated: 09.09.2016

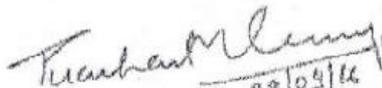
To,

The Secretary  
Telecom Regulatory Authority of India,  
New Delhi

Subject: Recommendations for enrolment of customers for testing purposes  
before commercial launch of services - reg.

The present Licenses for various services issued by the Department of Telecommunications do not mandate any time period for network testing before the commercial launch of services by the licensees. However, on the basis of erstwhile practices followed by DoT/BSNL, network testing is being carried out by Licensees and test SIM Cards are being issued to check the quality of network, before the commercial launch of services.

2. In view of above, the undersigned is directed to request Telecom Regulatory Authority of India to submit its recommendations under section 11 (1) (a) of TRAI act, 1997 for above mentioned issues, like enrolment of customers for testing purposes before commercial launch of services, duration of testing period, etc.

  
(Prashant Verma)  
ADG (AS-II)  
Tele No.: 011-23354042

**Annexure B (Chapters 1 and 2/Paras. 1.6 and 2.1)**

**DoT Letter Dated 09<sup>th</sup> October 2018 Specifying the Norms for the  
Purpose of Network Testing Before Launch of Commercial Services for  
Mobile Services**

No. 20-577/2016-AS-I  
Department of Telecommunications.  
Access Service Division-I  
1203, Sanchar Bhavan, New Delhi

Dated the 9<sup>th</sup> October, 2018.

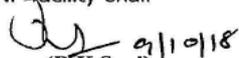
To

**The UL with Access Services , CMTS and UAS Licensees for mobile services.**

**Subject: Norms for Network testing before launch of Commercial Services.**

For the purpose of network testing before launch of commercial services, following conditions are hereby specified:

- a) The number of test subscribers that can be enrolled by a Licensee in an LSA shall be limited to 5% of its installed network capacity for that LSA. The service provider will submit the detailed capacity calculations of the network to DoT and TRAI at least 15 days before commencing enrolment of test subscribers.
- b) If a Licensee wants to enroll test subscribers in its network before the commercial launch of services for testing purpose, it should give prior intimation to DoT and TRAI at least 15 days before commencing enrolment of test subscribers.
- c) All licensing provisions related to the security and privacy such as ensuring adequate verification of each and every customer before enrolling him as a subscriber, protection and privacy of communication, maintaining Call Detail Record (CDR)/ IP Detail Record (IPDR), Confidentiality of Information, Lawful interception & monitoring etc. must be complied with by the licensee.
- d) If a Licensee wants to enroll test subscribers for the testing of its network, it shall transparently give the following information to the test subscribers at the time of enrolment:
  - i. During test phase, TSP is not mandated to adhere to specified level of QoS. Therefore, there may be sub-optimal level of network performance.
  - ii. The scope of services during the test period.
  - iii. MNP facility will not be available till the services are commercially launched.
  - iv. There will not be any charge (fixed charge or usage based charge) during the test phase.
  - v. Likely date of commercial launch.
- e) There shall be no restriction on the time-limit, if the network testing is conducted using Test SIMs (i.e. SIMs given to employees and business partners for test purpose) only.
- f) There shall be a limit of 90 days on the test phase involving test subscribers. However, if the TSP fails to conclude network testing due to valid reasons, it may make representations to DoT, seeking additional time for network testing giving detailed justification, which may be decided by DoT on case to case basis. Requisite norms to be followed for extension of Network testing will be formulated by DoT. The total time period for network testing provided to the TSP shall not exceed 180 days.
- g) During test phase, the licensee shall be bound to submit test subscriber related statistics and their usage, and other information as per prevailing instructions of DoT/ TRAI. The MNP facility shall not be extended to network under testing.

  
(R.K.Soni)  
Director(AS)

**Annexure C (Chapter no. 1/Para no. 1.7)**

**DoT Letter Dated 16<sup>th</sup> July 2019 Seeking Recommendations for Wireline  
Access Services**

F. No. 20-577/2016-AS-I  
Department of Telecommunications,  
Access Service Division-I  
1203, Sanchar Bhavan,  
New Delhi

Dated the 16<sup>th</sup> July 2019.

To

The Secretary,  
Telecom Regulatory Authority of India,  
Mahanagar Doorsanchar Bhawan,  
Jawaharlal Nehru Marg (Old Minto Road)  
New Delhi – 110002.

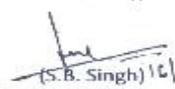
**Subject: Recommendation for Network Testing before Commercial launch  
of services for Wireline Access services.**

Sir,

TRAI had issued recommendations on "Network Testing Before Launch of Commercial Services" on 4<sup>th</sup> Dec 2017. The Government has accepted the aforesaid recommendations and it has been decided that TRAI may be requested to give similar recommendations for Wireline Access services.

2. Therefore, it is requested that recommendations on Network testing before commercial launch of Wireline Access services may be provided as per clause 11(1)(a) of TRAI Act 1997 as amended by TRAI amendment Act 2000.

Yours faithfully,

  
(S.B. Singh) 16/7/19  
Deputy Director General (AS)

## List of Acronyms

<b>S.No.</b>	<b>Acronym</b>	<b>Description</b>
1	BSNL	Bharat Sanchar Nigam Limited
2	CDR	Call Detail Record
3	CMTS	Cellular Mobile Telephone Services
4	CPE	Customer Premises Equipment
5	DoT	Department of Telecommunications
6	GMPCS	Global Mobile Personal Communication by Satellite
7	ILD	International Long Distance
8	INSAT MSS-R	INSAT Mobile Satellite System-Reporting
9	IPDR	Internet Protocol Detail Record
10	IPTV	Internet Protocol Television
11	LSA	Licensed Service Area
12	MNP	Mobile Number Portability
13	NLD	National Long Distance
14	ONT	Optical Network Termination
15	PMRTS	Public Mobile Radio Trunking Services
16	POI	Point of Interconnect
17	QoS	Quality of Service
18	ROW	Right of Way
19	SDCA	Short Distance Charging Area
20	SIM	Subscriber Identity Module
21	TRAI	Telecom Regulatory Authority of India
22	TSP	Telecom Service Provider
23	UASL	Unified Access Service Licence
24	UL	Unified Licence
25	VSAT CUG	Very Small Aperture Terminal Closed User Group