

**Consultation Paper No. 5/2017**



**Telecom Regulatory Authority of India**



**Consultation Paper**  
**on**  
**Network Testing before Commercial Launch of Services**

**1<sup>st</sup> May, 2017**

**Mahanagar Doorsanchar Bhawan**  
**Jawahar Lal Nehru Marg,**  
**New Delhi- 110002**

**Written Comments on the Consultation Paper are invited from the stakeholders by 29<sup>th</sup> May 2017 and counter-comments by 12<sup>th</sup> June 2017. Comments and counter-comments will be posted on TRAI's website [www.trai.gov.in](http://www.trai.gov.in). The comments and counter-comments may be sent, preferably in electronic form, to Shri Sanjeev Banzal, Advisor (Networks, Spectrum and Licensing), TRAI on the email ID [advmn@trai.gov.in](mailto:advmn@trai.gov.in).**

**For any clarification/ information, Shri Sanjeev Banzal, Advisor (Networks, Spectrum and Licensing), TRAI, may be contacted at Telephone No. +91-11-23210481, Fax- 23232677.**

## **CONTENTS**

<b>S.NO.</b>	<b>TITLE</b>	<b>PAGE NO.</b>
<b>1</b>	<b>NETWORK TESTING BEFORE COMMERCIAL LAUNCH OF SERVICES</b>	<b>1</b>
<b>2</b>	<b>ISSUES FOR CONSULTATION</b>	<b>11</b>
<b>3</b>	<b>ANNEXURES</b>	<b>12</b>

## **NETWORK TESTING BEFORE COMMERCIAL LAUNCH OF SERVICES**

### **A. Need for Testing of network, processes and systems**

1.1 Telecom service providers (TSPs) are providing mobile services under Cellular Mobile Telephone Service (CMTS), Unified Access Service License (UASL) and Unified License (UL) with access authorisation. TSPs who want to provide access services using mobile technologies are bound by roll-out obligations and other license conditions. The TSPs are required to install applicable systems for providing mobile services to the subscribers. It is important that all applicable systems are tested before commencement of commercial services because a licensee has to ensure that its service meets the Quality of Service (QoS) standards prescribed by the Licensor or Telecom Regulatory Authority of India (TRAI). Failure on part of licensee to adhere to the Quality of Service standards is liable to be treated as breach of terms and conditions of License. The licensee is also mandated to comply with Regulations/ Directions/ instructions such as Mobile Number Portability (MNP) regulations. The Licensor or TRAI may carry out performance tests on Licensee's network and also evaluate QoS parameters prior to grant of permission for commercial launch of the service.

1.2 The testing of systems and ensuring QoS is also important from commercial point of view as in services segment, the subscriber experience is one of the important factors which leads to demand generation. The related clauses of the Unified License (UL) on provision of service, QoS and technical & operating conditions, are reproduced below:

#### **(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]**

**(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]**

**(c) Clause 29.4**

*“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]**

**(d) Technical & Operating Conditions**

*“The Licensee’s network shall be compliant to the Regulations /Directions/instructions issued by TRAI/Licensor in respect of Mobile Number Portability (MNP) before commencement of mobile services.”*

**[Clause 4 under Chapter-VIII]**

## **B. Background to the Reference from DoT**

- 1.4 As per the general practice, before the commercial launch of services, TSPs use test Subscriber Identity Module (SIM) Cards to check the quality of its network. Though DoT's circular dated 29<sup>th</sup> August 2005 on 'subscriber base methodology' stipulates that test SIM/Service cards are those SIMs that are given free of cost to Business Partners including roaming operators to check the Quality of Service from time to time, the license does not provide clear guidelines on testing of network and processes such as time-line of testing, acquisition of subscribers during test-phase, limit on number of SIM cards that can be issued etc.
- 1.5 Till date, need was not felt to specify various aspects of testing such as definition of test cards, limit of test cards, testing duration etc. However, in 2016, a TSP carried out testing of its Long-Term Evolution (LTE) network on a very large scale and enrolled lakhs of subscribers as test users before commercial launch of its services. The TSP contended that LTE/ VoLTE is a new technology and its throughputs are highly dependent on Signal to Noise Ratio (SNR) and it is conducting test trials to estimate optimal network parameters for best throughput in loaded condition. Some Incumbent operators filed representations through their Industry Association expressing that this practice is unfair due to the following reasons:
- a) Enrolling of subscribers and provision of service before commercial launch of services free of cost is generating non-level playing field conditions.
  - b) The volume of voice traffic generated by such test users, due to free offers, is choking Points of Interconnect, and impairing the quality of service of other operators. As per the generally prevailing practice, commissioning of initial Points of Interconnect (PoI) with 1-2 E1s (2 Mbps connectivity) is sufficient for testing.

1.6 In this background, the Department of Telecommunications (DoT), through its letter dated 9<sup>th</sup> September 2016 (**Annexure-I**), communicated that at present, network testing is being carried out by licensees on the basis of erstwhile practices followed by DoT/BSNL and test SIM Cards are issued by such licensees to check the quality of network, before the commercial launch of services. However, the present licenses for various services issued by DoT do not prescribe any time period for network testing before commercial launch of services by the licensees. Therefore, 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. Accordingly, this consultation paper has been prepared to discuss issues involved, possible solutions and framework to bring clarity on the matter.

**C. Need for laying down guidelines for testing of network, processes and systems**

1.7 As mentioned earlier, though the access service licenses do not provide clear guidelines about use of test SIM cards, its duration etc., there are references about test cards/SIMs in two of DoT's orders/letters:

a) In DoT's letter dated 29<sup>th</sup> August 2005 on 'subscriber base methodology' (**Annexure-II**), Test/Service cards have been identified as:

*"These are the cards which are given free of cost to Business Partners including roaming operators to check the Quality of Service from time to time."*

b) DoT's instructions dated 9<sup>th</sup> August 2012 on 'Verification of new mobile subscribers (pre-paid and post-paid)' states that in case Test SIMs required by the Licensee for any purpose,

the list of such connections/numbers shall be intimated to DoT/Security agencies along with the duration of such requirement.

- 1.8 In view of the foregoing discussions, there seems to be a need to lay down guidelines for testing of network, systems and the processes so that these can be made applicable to any new licensee.

**D. Should a TSP be allowed to enrol subscribers as test users?**

- 1.9 There is obvious need to create test SIM cards for carrying out different functionality tests and to check the Quality of Service. If test cards are meant to be given only to the employees and/or business partners, there is a natural limit on the number of test SIM cards which can be issued. If test SIM cards are issued in limited numbers and for limited period of time, then there may not be any point of contention between service providers. However, if a TSP deploying a new technology for mobile services, requiring extensive testing of network before commercial launch, enrol subscribers (other than its employees and business partners) as test users to test its network with sufficient loading, should it be allowed to do so? In that case, should there be any restrictions on the number of test users and the period of such use?

- 1.10 In view of the above, the stakeholders are requested to comment on:

**Q1. Should a TSP be allowed to enrol subscribers as test users and in such case, should there be any restrictions on the number of test SIM cards and the period of such use? Please justify your response.**

**E. Demarcation of test phase from commercial launch**

- 1.11 Can a TSP be allowed to provide all the services free of cost to test users/subscribers even before commercial launch of services, is one of the issues that arose during the recent past. One view is that

providing full-blown services during test phase may have implications on the IUC, pricing, QoS and other regulatory aspects and as such can be viewed against the spirit of level playing field.

1.12 In case it is felt that testing requires enrolment of subscribers, a broad framework may be required to be put in place to protect the interest of the subscribers and ensure level playing field. Further, it may be required to ensure that allowing enrolment of subscribers for testing of systems is actually used only for testing of systems and not used by a TSP to circumvent the regulatory requirements. For this purpose, following may be some of the options:

- a) Testing may be restricted within own network of the concerned Licensee/TSP. For testing of processes/systems which may require connectivity with the other networks i.e. other TSPs, the same could be carried out using the test SIMs given to business partners or employees on a small scale.
- b) Put a limit on the time period for which any test subscriber can be provided the services during test phase.
- c) Provide a temporary number series to the TSP for testing of network before commercial launch of services, which would be withdrawn upon commercial launch by the TSP and a fresh number series would be issued for enrolling commercial subscribers. This would ensure that enrolment of subscribers prior to commercial launch is not exploited or misused by a TSP to circumvent the regulatory provisions and compliances.
- d) To limit the number of test subscribers by way of allotment of smaller chunks of numbers, say 10000, as against about 10 lakh per series, during test phase. The test subscribers may be enrolled purely on temporary basis.
- e) Perform intensive testing on the radio access network (RAN) in a relatively smaller geography, for which small number of test users/subscribers would be required. The TSP could perform load

testing in one city or a couple of cities and tune the network in other parts of the service area. In any case, the network tuning is a continuous exercise performed by the network providers so as to optimally meet the dynamic demand.

1.13 To ensure that enrolment of test users/subscribers by a TSP before the commercial launch is done in a fair manner, suitable provisions may be required to be prescribed. For instance, the subscribers may be transparently informed that they are being enrolled as test subscribers only that too for a defined period of time i.e. the SIM would be deactivated after the test phase and therefore, the test mobile numbers may not be used by the subscribers for registration with banks, educational institutes, etc. Further, if a subscriber is being enrolled purely for test purpose, it may not be appropriate to charge any kind of fee/charges i.e. subscription fee or usage based charges.

1.14 In view of the above, the stakeholders are requested to comment on:

**Q2. To clearly differentiate test phase from commercial launch, which of the options discussed in Para 1.12 would be appropriate? Please provide justification. Please explain any other method that, you feel, would be more appropriate.**

**Q3. Do you agree that the provisions discussed in Para 1.13 viz. information to the subscribers about test SIM being temporary etc., should be put in place for the TSP testing its network involving test users/subscribers? Please suggest other provisions which should be mandated during test phase?**

**F. Time limit for start of commercial service**

1.15 The existing license terms and conditions do not prescribe any time period for test phase i.e. beyond which, a TSP should start providing commercial services. After acquiring spectrum, a TSP is free to decide when to launch the commercial services. The compliance of roll-out

obligation is linked to coverage testing alone. In the past, it has been noticed that some TSPs, who otherwise comply technically with the roll-out obligations, either chose not to start commercial services or the number of BTSs installed was negligible. The objective of mandating the roll-out obligations is to ensure that spectrum assigned is effectively utilised; and therefore, if a TSP does not commercially launch its services, it defeats the very purpose of meeting the roll-out obligations. Therefore, there is a need to define a timeline for testing phase i.e. period beyond which a TSP should start offering commercial services.

1.16 In view of the above, the stakeholders are requested to comment on:

**Q4. Is there a need to have a defined timeline for testing phase i.e. period beyond which a TSP should start offering commercial services? If yes, what should be the timeline? Please justify your response.**

**G. Fulfilment of license requirements during test-phase**

1.17 There are certain license requirements, which are linked with commencement of services. Some of them are listed below:

*17.1 The Licensee will charge the tariffs for the Service as per the Tariff orders/regulations/directions/decisions issued by TRAI from time to time. The Licensee shall also fulfil requirements regarding publication of tariffs, notifications and provision of information as directed by TRAI through its orders/regulations/directions issued from time to time as per the provisions of TRAI Act, 1997 as amended from time to time.*

*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.*

*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.*

*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 bonafide use of the service.*

1.18 After commercial launch of its services, a TSP is bound to follow above provisions. However, if subscribers are enrolled as test users, should the TSP be bound with the regulatory requirement such as reporting etc. is the issue of discussion. This issue did not arise in the past as the network testing was being carried out with the use of test SIM cards. In case it is felt that the enrolment of subscribers is necessary for network testing, it needs to be examined whether such TSP should be bound with such license/regulatory requirements related to acquisition of subscribers. Another issue is about extending the facility of MNP to test users. It needs to be deliberated whether the facility of MNP be extended to the test users/subscribers of such licensee and the related issues.

1.19 In view of the above, the stakeholders are requested to comment on:

**Q5. In case enrolling of subscribers as test users before commercial launch is allowed, whether subscriber related conditions and regulatory reporting requirements laid down in the License, be imposed for the test subscribers enrolled before commercial launch? Please provide justification to your response.**

**Q6. Should test users/subscribers of such licensees be given the facility of MNP? Please justify your answer.**

**Q7. If there are any other issues/suggestions relevant to the subject, stakeholders may submit the same with proper explanation and justification?**

## **LIST OF ISSUES FOR CONSULTATION**

- Q1. Should a TSP be allowed to enrol subscribers as test users and in such case, should there be any restrictions on the number of test SIM cards and the period of such use? Please justify your response.**
- Q2. To clearly differentiate test phase from commercial launch, which of the options discussed in Para 1.12 would be appropriate? Please provide justification. Please explain any other method that, you feel, would be more appropriate.**
- Q3. Do you agree that the provisions discussed in Para 1.13 viz. information to the subscribers about test SIM being temporary etc., should be put in place for the TSP testing its network involving test users/subscribers? Please suggest other provisions which should be mandated during test phase?**
- Q4. Is there a need to have a defined timeline for testing phase i.e. period beyond which a TSP should start offering commercial services? If yes, what should be the timeline? Please justify your response.**
- Q5. In case enrolling of subscribers as test users before commercial launch is allowed, whether subscriber related conditions and regulatory reporting requirements laid down in the license, be imposed for the test subscribers enrolled before commercial launch? Please provide justification to your response.**
- Q6. Should test users/subscribers of such licensees be given the facility of MNP? Please justify your answer.**
- Q7. If there are any other issues/suggestions relevant to the subject, stakeholders may submit the same, with proper explanation and justification?**

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)  
09/09/16

ADC (AS-II)  
Tele No.: 011-23354042

**Annexure - II**

Government of India  
Ministry of Communications & IT  
Department of Telecommunications  
(VAS CELL.)

Sanchar Bhawan, 20, Ashoka Road, New Delhi - 110 001.

No.842-582/2005-VAS/12

Dated 29/8 August, 2005

To,  
All CMTS Licensees; and  
UAS Licensees migrated from CMTS

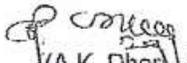
**Subject:- Subscriber base methodology.**

At present CMTS/UAS Licensees are furnishing information of their subscriber base in the format prescribed by DOT vide letter No. 842-109/2003-VAS dated May 8<sup>th</sup> 2003. In the present format some modification has been carried out due to lack of specific period as to how subscriber retention period be taken to report the subscriber base. In order to have a uniform subscriber base reporting, a new methodology has been adopted and accordingly new format has been prescribed (enclosed) for furnishing the information by companies.

The same new prescribed format to be used while applying for allocation of MSC codes also.

All the CMTS Licensees/ UAS Licensees migrated from CMTS are required to adhere to the enclosed Performa for reporting of their subscriber base w. e. f. 1<sup>st</sup> September 2005.

Enclosure: As above

  
(A.K. Dhar)  
ADG (VAS-I)

Copy to:

1. COAI
2. DDG (BS), DOT, New Delhi
- ✓ 3. Secretary TRAI, A-2/14, Safdarjung Enclave, New Delhi-110029

Details of CMTS Subscribers

207-

1. Name of Licencee
2. Service Area
3. No. of MSC Codes presently allotted :
4. MSC Codes Presently allotted

Details of No. of Subscribers in the Service area as on ..... (date) are as follows:

001	Total IMSP's in HLR ( A )		
002	Less: ( B= a+b+c+d+e)		
a.	Test/Service Cards		
b.	Employees		
c.	Stock in hand/in Distributional Channels (Active Card )		
d.	Subscriber Retention period expired		
e.	Service suspended pending disconnection		
003	Subscribers Base ( A-B)		

(Signature of the Authorized Signatory)

Name.....

Designation.....

Date.....

Explanatory Notes for Subscriber numbers requiring deduction viz. details of B:

- a) Test/Service Cards:- These are the cards which are given Free of Cost to Business Partners including roaming operators to check the Quality of Service from time to time. As each Operator is supposed to provide test cards, so that on a continuing basis the Quality of Service is tested. These are given on non-chargeable basis.
- b) Employees: Employees are issued Cards Free of cost on which no revenue is generated. This will obviously not be included in the definition of "subscriber".
- c) Stock in Hand/distributor channel: As a feature of Pre Paid Product, Prepaid cards are sent to the Distributor / Retail Channel duly activated. Pre Paid Cards are sold through a long distribution channel of distributors, dealers, sub dealers and retailers. The unsold Cards will figure in the HLR well before the end user has ever received the service. Hence it does not generate any revenue till first call is made.
- d) Subscriber Retention Period Expired: Every Pre Paid Card has the following periods set by the service providers-
  - i. *Validity period* – is the period during which the service provider has committed to provide connectivity to the subscriber against the prepaid pack/recharge voucher purchased by him.
  - ii. *Unused Airtime carry forward period* – is the period, beyond the validity period, during which the prepaid subscriber is allowed to carry forward of the unused airtime, if any, at the end of validity period to the new recharge voucher.
  - iii. *Number retention period* – is the period during which the service provider retains the mobile number for the subscriber in whose case both the validity period and the unused airtime carry forward period have expired

The Subscriber Retention period would be i + ii + (iii or 30 days whichever is less). Subscriber beyond the aforesaid "Subscriber Retention Period" do not generate any revenue and hence not to be counted for working out the no. of subscribers. It is clarified that service provider is free to block a number for a particular subscriber even beyond expiry of subscriber retention period as mentioned above but it should not be counted in the reported no. of subscribers.

- e) Service suspended pending disconnection: In case of non-payment of bills of postpaid customers, & due to some other reason in case of prepaid customers, the service to the customer is suspended. Such customers do not generate any revenue although it remain in HLR till the time it is removed. Such customers after 30 days or till the time they remain in HLR, whichever is less, of their suspension will not counted as the subscriber for the purpose of subscriber base.

10

**Government of India  
Ministry of Communications & IT  
Department of Telecommunications  
(VAS CELL)**

**Sanchar Bhawan, 20, Ashoka Road, New Delhi – 110 001.**

No.842-582/2005-VAS/36

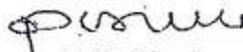
Dated 7<sup>nd</sup> September, 2005

All CMTS Licensees; and  
UAS Licensees migrated from CMTS

**Corrigendum**

**Subject:- Subscriber base methodology.**

The undersigned is directed to refer to the new prescribed format for subscriber base issued vide this office letter of even no. Dated 29<sup>th</sup> August 2005 and to inform that in the enclosed explanatory notes attached with the format in paras (d) & (e) the words "30 days" may be read as "90 days".

  
(A.K. Dhar)  
ADG (VAS-I)

Copy to:

1. COA
  2. DDG (BS), DOT, New Delhi
  3. Secretary TRAI, A-2/14, Safdarjung Enclave, New Delhi-110029
-