Telecom Regulatory Authority of India

Response to reference received from the Department of Telecommunication on TRAI's recommendations dated 7th April 2015

on

"Recommendations on

Single Number based

Integrated Emergency Communication & Response System"

(IECRS)

New Delhi, 30th September, 2015

Mahanagar Door Sanchar Bhawan, Jawahar Lal Nehru Marg, New Delhi - 110002

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CHAPTER- I

INTRODUCTION

1. To facilitate establishment of an efficient and robust Integrated Emergency Communication & Response System (IECRS) in India, the Authority vide its recommendations dated 7th April, 2015 suo-motu recommended the implementation of Public Safety Answering Point (PSAP) based Integrated Emergency Communication and Response System (IECRS) in the country which will be accessed through a single emergency number.

2. The DoT, vide its letter dated 25th August 2015, responded to the said recommendations seeking reconsideration/opinion/views of TRAI on some of the issues detailed in Annexure `A' of the said letter. In the aforesaid letter the DoT has not commented on certain recommendations, namely those contained in the paras 4.2, 4.4, 4.5 and 4.12. It is presumed by the Authority that these recommendations have been accepted by the Government. The DoT letter expresses some divergent views on:

    (a) setting up and managing of databases

    (c) connectivity between PSAPs and GMLCs (Global Mobile Location Centres) for obtaining location information; and

    (d) transition to GPS enabled handsets within a specified time frame.

3. Further, the Authority observes that Centre State Division of Ministry of Home Affairs has recently released the guidelines for Nationwide Emergency Response System (NERS). It has also invited Request for Proposals (RFP) for selection of IT Service Provider (ITSP) for the project. As these issues needed detailed examination, TRAI vide its letter dated 9th September, 2015 informed DoT that response to the above DoT letter would be sent in due course.

4. After going through the NERS guidelines and architecture given in the RFP, the Authority feels that while the TRAI's Recommendations would

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have operational convenience, but considering that NERS guidelines and RFP for selection of ITSP have already been issued by MHA, the Authority would like that NERS framework is implemented early.

5. Regarding transition to GPS enabled handsets, it is noted that in most of the 'smart phone' devices, GPS is an inbuilt feature. However, this facility is not available in low cost handsets / feature phones. According to mobile handset manufacturers, the feature phones are being replaced with users shifting to smart phones. However, by mandating a sunset date, the Government can ensure all mobile handsets to be GPS enabled thereafter. Such a mandate is prevalent in developed countries e.g. USA. Therefore, a sunset date may be decided by the Government so that manufacturers can incorporate GPS feature in all mobile handsets for having accurate location information of the caller. This will improve the overall efficiency of the system. Introducing a GPS chip in the mobile handset should not be very costly, particularly once it is mandated and all manufacturers start making it and 'economy of scale' is achieved.

6. The Authority's recommendations dated 7th April 2015, the DoT's views on the recommendations and the Authority's response thereto are given in **Chapter-II.**

CHAPTER- II

Response to the DoT views

1. Para 4.1

The Authority recommends the establishment of PSAP based Integrated Emergency Communication and Response System (IECRS) in the country which can be accessed through a single emergency number from a landline or mobile phone/device

DoT View:

TRAI recommendation accepted. However existing emergency numbers to be continue to exist for a period of one year.

Response of TRAI:

Authority agrees with the DoT comments considering the fact that the Nationwide Emergency Response System (NERS) guidelines of August 2015 by Ministry of Home Affairs(MHA) mentions that it would take up nationwide campaign in partnership with states/UTs about '112' emergency number. However, DoT may assess the traffic to the existing emergency numbers for about one year before deciding to close the same.

2. Para 4.3

The Authority recommends that the existing emergency numbers 100, 101, 102 and 108 to be retained as secondary numbers. The calls made to the secondary numbers should be re-routed to the new single emergency number for termination of calls on the IECRS with an announcement to the caller to call 112 as emergency number in future. Once calls to secondary numbers reduce significantly, these numbers can be withdrawn gradually. The DoT may amend the National Numbering Plan-2003 accordingly.

DoT view

TRAI recommendation accepted. The existing emergency numbers 100, 101, 102 and 108 to be retained as secondary numbers and calls made to secondary numbers should be re-routed to 112. However

announcement to caller at this stage is not accepted as it will delay in response to emergency. Calls to secondary numbers may be reduced through public awareness campaign and subsequently closing of 108,102, 101 and 100 in phased manner. The National Numbering Plan 2003 will be amended accordingly.

Response of TRAI:

Authority agrees with the DoT suggestion.

3. Para 4.6

The Authority recommends that calls to the single emergency number should be prioritized in the cellular mobile networks. The Government may expedite the acceptance and implementation of the Authority's recommendations dated 26th Nov 2013 on 'Telecom Network Failures during Emergencies /Disasters – Priority routing of calls of persons engaged in response and recovery'

DoT view

Based upon the recommendations, instructions have been issued to operators for priority routing of calls of persons engaged in response and recovery. This is for information of TRAI.

Response of TRAI:

The information given by DoT has been noted.

4. Para 4.7

The Authority recommends that:
a) SMS based access to IECRS should be provided.

(b) TSPs may be asked to provide location information in case of SMS based access to IECRS also.

DoT view

(a)TRAI recommendation accepted. However technical implementation will be examined separately.

(b) TRAI recommendation accepted. However technical implementation will be examined separately.

Response of TRAI:

Authority agrees with the DoT suggestion.

5. Para 4.8

The Authority recommends that PSAP operators should be able to handle calls in Hindi, English and the local language.

DoT view

TRAI recommendation accepted. Its implementation will depend upon State authorities implementing project/call centers.

Response of TRAI:

NERS guidelines mentions that the application centrally hosted at Data Center would support multiple vernaculars (Assamese, Bengali, Gujarati, Kannada, Malayalam, Marathi, Oriya, Punjabi, Tamil, Telugu and Urdu). State/UT may get their application customized to any vernacular mentioned there in. This indicates that the recommendation of the Authority is being implemented.

6. Para 4.9

The Authority recommends that:

a) Four regional databases, one each in metro city, containing subscriber details of TSPs should be set up in the country.

b) These regional databases will be interconnected. Each of the TSPs and PSAPs should be mandated to connect to the nearby regional database centre.

c) TSPs shall update the database with latest subscriber related information on a weekly basis. The database fields should be in a standard format, the fields of which may be decided by the DoT.

d) Each regional database will mirror itself with the other once in 24 hours and act as a hot standby to each other.

e) Each TSP would mandatorily provide CLI along with each call that is made to the single emergency number and forwarded to PSAP. PSAP would query the database on each call basis to pull the caller identification information in a standard field format.

(f) Access to the regional databases will be provided free of charge, so that all the TSPs and PSAPs connect their respective systems to these databases.

DoT view

a) Respective TSPs will set up databases for their own customers. The connectivity network of databases with PSAP and procedures for fetching information from databases to be addressed separately.

b) Each PSAP will have to be connected to the databases of all TSPs.

c) TRAI recommendation accepted. The format of data base has already been finalized by DoT vide File no. 800-09/20010-VAS dated 09thAugust 2012.

d) TRAI recommendation accepted. Each TSP will keep mirror image of its database in hot standby mode.

e) TRAI recommendation accepted. However, in MNP scenario, the PSAP operator will first have to access MNP database to know the TSPs details.

f) TRAI recommendation accepted. The access to TSPs databases by PSAP will be provided free of charge.

Response of TRAI

The Authority has noted that MHA has already released the NERS guidelines and RFP for selection of ITSP for implementation of the project. While the TRAI recommendation would have operational convenience, but considering the fact that NERS guidelines and RFP for selection of ITSP have already been issued by MHA, the Authority would like NERS framework to be implemented early.

Regarding format of database it is noted that the DoT letter dated 9th August, 2012 specifies the fields to be included in the subscribed database furnished by Telecom Service Providers. This letter contains more than 30 fields. So many fields are not required to be obtained. The Authority is of the opinion that for the purpose of NERS project the following fields may be required:

> (a) Name of the Subscriber
> (b) Father's/Husband Name
> (c) Local Address of the Subscriber
> (d) Alternate Phone Number, if any

7. Para 4.10

The Authority recommends that:

a) The DoT may direct BSNL to setup/hire and maintain infrastructure (data centre) wherein the subscriber database provided by all TSPs will be installed, updated and managed by BSNL. BSNL may also ensure confidentiality and secrecy of the data.

b) All the TSPs may be directed to share their subscriber database with the BSNL

DoT view

a) The subscriber database is commercially sensitive information and not shared by TSPs with each other. BSNL being an operator cannot be mandated to have data centre wherein data of all TSPs will be maintained. Further DoT will direct all TSPs to set/hire and maintain infrastructure (data centre) of their own subscribers database. The

updation and management of TSPs data centers will be done by themselves. However, Connectivity of TSPs with PSAPs for routing of call, query/ response for associated data e.g. subscriber information location retrieval etc. and connectivity of PSAPs with first responders/ 3rd Parties involved in emergency call/ event handling will require connectivity network/ cloud which may be owned by specific entity and accordingly mechanism to fund for cost borne on this account is to be finalized. A group including stakeholders will finalize specific details. It is suggested that management of database details by the Public Safety Answering Point (PSAP) can be done in a phase manner analogous to Direct Benefit Transfers (DBT) handled by the National Payments Corporation of India (NPCI) with respect to bank accounts. This would ensure confidentiality of customer details for the Telecom Service Providers (TSPs) while ensuring that the PSAP has access to all relevant details required for attending to the emergency call. The same may be studied for implementation.

(b) Not applicable in view of (a) above.

Response of TRAI

Same as response to para 4.9.

8. Para 4.11

The Authority recommends that:

(a) The DoT may instruct all TSPs to connect their location element (i.e. GMLC) to the common GMLC installed and maintained by BSNL at the locations of regional database(s).

(b) All PSAPs will be connected to this common GMLC to obtain location information of an emergency caller.

(c) TSPs will update their respective GMLC and that of Common GMLC with location information.

(d) Standards for connectivity, if any, between GMLCs of TSPs and common GMLCs will be provided by the Telecom Engineering Centre of the DoT.

(e) Based on socio-economic conditions of subscribers, the DoT may consider mandating a transition to GPS enabled handsets within a certain time frame so as to obtain more accurate location information of the caller

DoT view

(a) The DoT will instruct all TSPs to connect their GMLCs with each PSAP to obtain location information of an emergency caller. However, Privacy and security issues related to location retrieval may require stipulation of specific functional capabilities and procedure flow, which will be finalized by DoT.

(b) Not applicable in view of (a) above.

(c) The TSPs will update their on GMLCs which will be connected to each PSAP.

(d) The Connectivity between GMLCs of TSPs and PSAPs will follow the 3GPP/International standards.

(e) TRAI recommendation is not accepted as there is large percentage of low cost handsets with subscribers which do not support GPS. It is suggested that the impact of enabling all mobile phone handsets with Global Positioning Systems (GPS) may be studied before finalizing the view on the issue.

Response of TRAI

(a to d) It is observed from the NERS guidelines and RFP for selection of ITSP issued by MHA that the proposed solution is the state-of-the-art cloud based infrastructure, which will have provision to connect by the TSPs as well as PSAPs. Necessary Application Programme Interface (API) need to be specified by MHA / ITSP so that the TSPs can provide location information from its GMLCs through PULL based mechanism. Further, the ITSP may take dipping service from the MNPSPs if required which may be facilitated appropriately by the DoT.

(e) Most of the smart phone devices already have the GPS feature. However, this facility is not available in many low cost handsets / feature phones. According to mobile handset manufacturers, the feature phones are slowly being replaced with users shifting to smart

phones. During a meeting on the issue, MHA has also felt that mandating GPS based handsets would help finding of location more accurately. Therefore, a sunset date may be decided by the Government so that manufacturers can incorporate GPS feature in all mobile handsets for having accurate location information of the caller. This will improve the overall efficiency of the system and also save lives. Introducing a GPS chip in the mobile handset should not be very costly, particularly once it is mandated and all manufacturers start making it, and 'economy of scale' is achieved. Therefore, the Authority reiterates its recommendations.

In this context the Authority observed that Telecom Engineering Center (TEC) and Bureau of Indian Standards have already released specifications for mobile handsets. The GPS requirement can be introduced in these specifications in the interest of public good.

9. Para 4.13

The Authority recommends that once PSAP based IECRS system is put in place, operational KPIs can be finalised.

DoT view

The KPIs will be finalized first which will be refined at subsequent stages.

Response of TRAI

It is observed that some operational KPIs have already been mentioned in the NERS guidelines which can be refined based on the experience.

10. Para 4.14

A trial version of PSAP based IECRS should be put in place and it should be tested for all types of messages viz. voice, data, video, and other mediums to communicate with PSAPs. Trial version may also be tested for interoperability between data centres and PSAPs.

DoT view

TRAI recommendation accepted. However, Trial envisages all types of messages including voice, data, video and other mediums to communicate with PSAPs. It will require requisite technical capabilities in PSAPs, transport network connecting TSPs with PSAPs, Gateway functionalities (if required) and procedure flow/ functional capabilities is relevant network elements. Specific requirements will be finalized by an expert group.

Response of TRAI:

The Authority agrees with the DoT suggestion.