



Cellular Operators Association of India

RSM/COAI/2013/085
April 18, 2013

The Telecom Regulatory Authority of India
Mahanagar Door Sanchar Bhawan
Jawahar Lal Nehru Marg (Old Minto Road)
New Delhi-110002

Dear Sirs,

**SUB: TRAI Consultation Paper on Universal Single Number based Integrated
Emergency Communication and Response System**

This is with reference to the TRAI Consultation Paper No. 3/2013 dated March 15, 2013 on Universal Single Number based Integrated Emergency Communication and Response System.

In this regard please find enclosed our response for your kind perusal.

We hope that our views and submissions will merit the kind consideration and support of the Authority.

Kind regards,

Sincerely yours,

Rajan S. Mathews
Director General

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**COAI Comments on TRAI Consultation Paper
on**

**UNIVERSAL SINGLE NUMBER BASED
INTEGRATED EMERGENCY COMMUNICATION AND RESPONSE SYSTEM**

INTRODUCTION

- a. COAI believes that there should be a communication network in place which facilitates the people in distress to access the concerned agencies from anywhere, at any time and get a proper and immediate response.
- b. We also agree that there is a requirement for an easy to remember, single emergency number through which one can reach to the desired help agency.
- c. However, it is also important to note that such an Integrated Emergency Communication and Response System would have challenges of implementation like providing location, interconnection/IUC issues, etc. We request the Authority to kindly take note of these issues discussed further in our response while formulating the final recommendations.
- d. We also submit that the consultation paper at present does not provide clarity on the PSAP architecture and delivery of the calls to control rooms further from the PSAP. We suggest that before the finalization of these recommendations, the architecture and the functioning of the PSAP needs to be discussed with the stakeholders.



ISSUE WISE SUBMISSIONS

4.1 What are the types of emergency services that should be made available through single emergency number?

- a. The types of emergency services that should be made available through single emergency number should be all level '1' emergency services like Police, Fire, Ambulance, Women helpline, etc.

4.2 What universal number (e.g. 100,108 etc.) should be assigned for the Integrated Emergency Communication and Response System in India?

- a. The requirement is to have an easy to remember, single emergency number through which one can reach to the desired help agency. We agree with TRAI that 100 is the most popular & easy to remember number, being used by public from decades, hence the most preferred number for this. We should continue with the current numbering plan for a specific time period and then discontinue after necessary and adequate publication of the universal number by the Government.

4.3 Should there be primary / secondary access numbers defined for the Integrated Emergency Communication and Response System in India? If yes, what should these numbers be?

- a. Only primary access numbers should be defined for the Emergency Communication and Response System in India. Assignment of the multiple access numbers as primary/secondary would be counterproductive.
- b. In the past also, the obligation to identify correct number corresponding to the emergency help needed, has been on the consumer, which many times lead to wrong number dialing and repeated attempts to reach desired service operator. The best learning to be adopted for the IECRS, would be to make consumer fully clear that he has to dial only one number irrespective of any type of emergency, without any strings or conditions attached, otherwise it may confuse the person who is facing the emergency.

4.4 For implementing single number based Integrated Emergency Communication and Response System in India, should the database with information of telephone users be maintained by the individual service providers or should there be a centralized database?

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4.5 In case of centralized database which agency (one of the designated telecom service provider, a Central Government department or a designated third party) should be responsible for maintaining the database?



- a. There should be a centralized database at a circle level.
- b. The stakeholders should be kept to minimum, for ensuring that objectives of such integration are met. Since, The PSAPs would be established by the Government across the country, the centralized database should also be maintained by Government, similar to the MNP database management system, under a body like NIC, etc. with adequate security measures and data privacy. The timelines, location, and facilities at the PSAP should be intimated to the TSPs for undertaking connectivity to the PSAP. The TSPs can provide the number, name and address of the subscribers for updation on a fortnightly basis. However, as we have already stated, the architecture and the functioning of the PSAP needs to be discussed with the stakeholders to get more clarity on the functionality.
- c. In case, the Government decides that setting up of a centralized database should be open to any agency desirous of establishing a centralized database, then the same may be done through a public tendering process.

4.6 What are the technical issues involved in transfer of location of a mobile user in real time?

- a. There are technical issues in transfer of location of a mobile user in real time. There is no mandate in the country on all handsets to be GPS enabled. For real time transfer of location, the location information would be required by the MSCs which interface with the IECRS. Presently, none of the interfaces deployed are capable of transferring this information to the MSC. Location details of roaming subscribers technically not feasible.
- b. However, the location as latitude/longitude can be provided off-line by operators, which would be near real time. We recommend that this should be a pull from the PSAP (applicable for both Voice & SMS).

4.7 What accuracy should be mandated for the location information to be provided by the mobile service provider?

- a. The kind of accuracies mentioned by the DoT in its license amendment No. 10-15/2011-AS.III/(21) dated 31st May, 2011 is technically not possible. The challenges in meeting them have already been presented by the industry to DoT and TEC.
- b. The industry has proposed to provide the kind of accuracies that can be achieved by the ECGI methodology. The details are given below:
 - i. **ECGI Methodology:** Enhanced Global Cell ID uses GMLC and SMLC components to integrate with GSM/3G network elements to derive the location information of the subscriber. The LI application integrates with GMLC to query the location information (longitude/ latitude) of the target subscriber. GMLC routes these location query to GSM network; while SMLC integrates with Radio



network (BSC) to query Cell ID, Timing Advance (TA) and Network Measurement Report (NMR) of serving and neighboring cells. Basis the provided inputs SMLC runs the location algorithm to predict the best probable location of the target subscriber. The actual longitude/latitude of the target subscriber is sent to LI application via GMLC.

- ii. **Accuracy in different scenarios:** The accuracies would be dependent on various issues mainly inter-site distances, network topology, etc. however, the average accuracies in different scenarios would be as follows:

Environment	Accuracies
Urban	250 mts to 500 mts
Semi urban and rural	500 mts to 2 kms
Remote / highways	3 kms to 5 kms

- c. These accuracies are acceptable to various Law Enforcement agencies. We believe that these accuracies would also be helpful for emergency situations.

4.8 Should emergency number access be allowed from inactive SIMs or handsets without SIMs? Please justify your answer.

- a. Emergency number access should be allowed from handsets with valid SIMs only for the following reasons:

- i. Location information of phones without SIM cannot be provided.
- ii. These types of calls will give rise to large number of fake calls or hoax calls. In India, the facility of calling emergency number from a handset without SIM is presently not allowed because of hoax call issues faced in the past by law enforcement agencies.
- iii. Many countries have discontinued the facility of calling to emergency response system from a SIM-less mobile phone.

- b. However, for the ease of public, in case of Prepaid, calls can be allowed if number is in grace period.

4.9 Should emergency access be allowed through SMS or email or data based calls? If yes, what will be the challenges in its implementation?

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4.10 Is it technically possible to get Location information in case of SMS or data based call on real time basis? If yes, please elaborate the process and technical challenges if any.



- a. Emergency access can be allowed through SMS. PSAP can use the pull based mechanism to get the location details.
 - b. However, emergency access from e-mails should not be allowed for the following reasons:
 - i. E-mail originated from a mobile: Implementation issues like identification of the originator, location of the originator, etc. will not be technically possible. For a voice call from a mobile device it is linked to a MS-ISDN. However, for a data call it is linked to IP address.
 - ii. Email from a fixed user terminal: The implementation issue mentioned above in (a) applies for the same.
- 4.11 How to build redundancy in operations of Centralized response centers or PSAPs as they may be vulnerable to attack – both Physical and Application software related (Virus, Malware, denial of service, hacking) or to Network failures or Congestion i.e. Call Overload?
- a. Adequate security measures and data privacy should be taken care of by the Government. Moreover, most of these can be discussed when there is clarity on the architecture and functioning of the PSAP.
- 4.12 Should all the calls made to universal emergency number be prioritized over normal calls? Please justify your answer.
- a. Prioritization of calls to emergency access number is subject to technical feasibility and required outcome. However, interface to PSAP should be dimensioned to provide no congestion for emergency calls. For Radio Access priority, available solutions do not yield required results in case of overloads and are not recommended.
- 4.13 What legal/penal provisions should be made to deal with the problem of Hoax or fake calls to emergency numbers?
- a. We believe that there should be some deterrent for callers making Hoax or fake calls to emergency numbers. Apart from creating panic and confusion, it would also lead to unnecessary load on the agency handling PSAP resulting in delay in response time to the real caller. This will severely disadvantage the genuine callers. Adequate measures should be put in by the Government.
- 4.14 How should the funding requirement be met for costs involved in implementation of IECRS? Should the cost be entirely borne by Central/State Governments or are there other possible ways to meet the funding requirements?



- a. Yes, the cost should be entirely borne by the Central/State Government.
 - b. In case of EMRI also, the operational expenses have been absorbed by the respective State Governments.
- 4.15 Should Key Performance Indicators (KPIs) related to response time be mandated for PSAPs? If yes, what should be the KPIs? Please justify your suggestions.
- a. Yes, KPIs should be prescribed for the PSAPs for quick turnaround time.
- 4.16 Should use of language translation services be mandated for PSAPs?
- a. Yes, language translation services should be available with the PSAPs in consumer interest.
- 4.17 In your opinion, what issues related to interconnectivity and IUC may come up in implementation of IECRS in India? What are the suggested approaches to deal with them?
- a. PSAP should be mandated to provide opportunity of connectivity separately to each operator since emergency services are license conditions for all operators,
 - b. Direct connectivity would ensure minimal issues related to inter-operator billing, charging and settlements and would also avoid an extra leg of connectivity which could lead to inter-operator call congestion issues.
 - c. In case, if TRAI does not find direct connectivity suitable, then IUC (including fixed/recurring charges) for the emergency calls should be prescribed on minimal costs, considering it to be linked with larger consumer interests.
 - d. We strongly suggest that the Authority recommends that in case operators connect directly with the PSAP, the PSAP should provide all facilities (set-up, premises, AC, ducting etc. etc.) at no cost to the operators.
- 4.18 Should a separate emergency number for differently able persons be mandated in India? How the use of this number be administered?
- a. To start with, we can only consider having a single emergency number for all.



4.19 In your opinion, apart from the issues discussed in this consultation paper, are there any other technical, commercial or regulatory issues that may be involved in implementation of IECRS in India? Please elaborate.

- a. The paper at present does not give the details about the architecture and the functioning of the PSAP. Hence, there are many issues which can only be discussed once the stakeholders are aware of these. We thus request the Authority to provide the details of the architecture and the functioning of the PSAP before finalizing the recommendations.
