



Comments on Consultation Paper

On

**Universal Single Number Based Integrated Emergency Communication and
Response System**

1. Reliance Communications Ltd (RCOM) welcomes the opportunity extended by the Authority to comment on issues raised in the consultation paper on ‘Universal Single Number Based Integrated Emergency Communication and Response System’.
2. The importance of Universal Single Number based IECRS has long been recognized but till now no concrete plans have been devised to move towards this direction. The tragic events of terror attacks and natural disasters further emphasize the importance of IECRS towards the safety of life and property and security of the country. RCOM supports TRAI’s efforts for creation of Universal Number for IECRS.
3. The Universal Single Number would work only when Public-Safety answering point (PSAP), are put in place. These PSAPs are sort of call center responsible for answering calls to an emergency telephone number for police, firefighting, and ambulance services and other emergency services. In Europe Emergency calls on number 112 calls are received by the police in the local PSAP. If the intervention of other emergency services like Fire and Ambulance are needed the call is forwarded to them. Thus for single number to be successful, coordination between various emergency agencies through PSAPs would be important.

.RCOM’s comments on issues raised in this consultation paper are listed below:

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

RCOM Response:

- (i) In our opinion, we suggest following critical types of emergency services should be made available through single emergency number.

Emergency Services	Contact Number
Police	100
Fire	101
Ambulance	102
Emergency disaster Management	108
Airway accident helpline	1071
Railway accident helpline	1072
Road accident helpline	1073

- (ii) Coordination amongst these agencies or any other agency authorized by respective state/local government may be required for setting up of PSAP.

2. What universal number (e.g. 100, 108, etc.) should be assigned for the integrated emergency communication and response system in India?

RCOM Response:

- (i) As per our understanding, we suggest that 100 may be used as universal number, as this number has wider acceptance in India.

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?

RCOM Response:

- (i) We suggest that there should be only one number for integrated emergency communication numbers. All other number like 101, 102, 108 etc can continue for few more years however calls to these numbers should also be routed to the PSAPs on number 100.

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 provider or should there be a centralized database?

RCOM Response:

- (i) Indian telecom market is a case of multi operators offering services in the market. In such market scenario, maintaining database by individual operator would lead to unnecessary duplication and management problem of database. Therefore, we suggest that there should be a centralized database to be maintained by DoT/TRAI.

5. In case of centralized database which agency (one of the designated Telecom provider, a central govt department or a designated third party) should be responsible for maintaining the database?

RCOM Response:

- (i) We suggest that PSAP registry should be maintained by the Government agency only and sync up with operators periodically. TRAI or DoT are best suited for maintenance of the registry of PSAPs.

6. **What are the technical issues involved in transfer of location of a mobile user in real time?**
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7. **What accuracy should be mandated for the location information to be provided by the mobile service provider?**

RCOM Response:

- (i) It is comparatively easier to transmit the location information on the cell site/sector receiving a Emergency call. In a mobile wireless network, when Mobile Switching Center (MSC) receives an emergency call, a processor associated it knows the cell site/sector where the call is coming from. The MSC can forwards the information that associates with the cell site to a particular PSAP. Therefore in the initial stages of implementation of IECRS, it is suggested that only Cell Site information should be transferred. This will facilitate transfer of calls to the concerned and relevant PSAP. **This would require building up an appropriate solution for sharing of location information with PSAP.**
- (ii) There are following two basic types of solutions in case more accurate information is required –
 - a) network-based solutions and
 - b) Handset-based solutions.
- (iii) In the case of network based solutions, receivers at known locations (i.e., at base stations) measure the direction or, more typically, the time of arrival of the signal emitted by the mobile unit. With three base stations at known locations making the measurements, it is roughly possible to estimate the location of the mobile unit. There However, this network based solution is expensive, difficult to implement and much less accurate compared to the other handset based solution.
- (iv) In a handset-based solution, the handset measures the time of arrival of signals transmitted from Global Positioning System (“GPS”) satellites and uses a similar triangulation techniques to calculate its position. The handset-based approach to location based emergency services is comparatively better as it is more accurate compared to any other

available solution for locating emergency callers. The technology's accuracy depends upon satellite line-of sight visibility to the handset but the accuracy is better than the network based solution. In US most operators have installed only handset based solutions for locations.

- (v) In handset based solution there is limitation of handset based solution is with regard to subscribers using phones which GPS-capable. Therefore the TRAI should recommend to set minimum standards for handsets that these should have GPS capability. In view of the above reasons we believe that handset based solution may be used for location based emergency services.

Conclusion & Suggestion

- (vi) **Initially TSPs may be mandated to provide the PSAP with the location of the cell site or base station transmitting the call.**
- (vii) **Going forward when handsets are GPS enabled, TRAI may consider handset based location system which has location.**

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

RCOM Response:

- (i) No, emergency number access should not be allowed from inactive SIMs or handsets without SIMs. We understand that if it is allowed to access emergency number from inactive SIMs or handsets without SIMs, in such cases, the hoax calls cannot be traced.\

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

RCOM Response:

- (i) In our view, emergency access should be allowed through SMS, as in certain emergency situations, a voice call cannot be made. In addition, it is also be helpful for people with speaking disability to avail emergency service through SMSs. We do not suggest Email or data based calls for accessing emergency services, as we believe that calls and SMS are sufficient to offer seamless access to emergency numbers and can be better managed for record keeping purpose.

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

RCOM Response:

- (i) In case of SMSs, it may be technically possible to get location information. However, as per our understanding, at present, it is not possible to get location information in case of data based calls on real time basis. Specifically, emergency mode allows the handset to lock onto the strongest signal to ensure the best possible voice connection, overrides location privacy settings, and initiates an origination request for call routing and location information. The current handsets do not recognize emergency text as an emergency communication and as a result, none of the actions above are initiated. Therefore at this stage location based texting Emergency service may not be possible.

- 11. How to build redundancy in operations of Centralised response centres 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?**

RCOM Response:

- (i) We suggest that to build redundancy in operations of Centralised response centres or PSAPs as they may be vulnerable to attack, Telecom operators can provide connectivity through different switches.

- 12. Should all the calls made to universal emergency number be prioritized over normal calls? Please justify your answer.**

RCOM Response:

- (i) We suggest that there is no need for prioritized calls made to universal emergency number over normal calls. Congestion if any at would only be at PSAP level as the congestion happens due to the limitation of people manning the PSAP.

- 13. What legal/ penal provisions should be made to deal with the problem of Hoax or fake calls to emergency numbers?**

RCOM Response:

- (i) The Hoax calls should be considered as an offence and accordingly, the Authority should decide apt legal/ penal provisions to curb such hoax calls. Very high penalties and imprisonment should be specified in such cases. We suggest proper legislation should be notified to declare hoax or fake call as a criminal offence.

14. How should the funding requirement be met for costs involved in implementing IECRS? Should the cost be entirely borne by central/ state governments or are there any other possible ways to meet the funding requirements?

RCOM Response:

- (i) The setting up the telecommunication network along with the databases for address and location information and sending the same in real time, the Telecom Service Providers will be required to incur additional Capital Expenditure (Capex) for feature implementation/ Network Capability enhancement and recurring operation expenses (Opex). In view of this, TSPs should be allowed to charge appropriate fixed amount from all subscribers (Both wireless and wireline subscribers) to recoup such costs.

15. Should Key Performance Indicators (KPIs) related to response time be mandated to PSAPs? If yes, what should be the KPIs? Please justify your suggestion.

RCOM Response:

- (i) The Authority should mandate Key Performance Indicators (KPIs) related to response time for PSAPs. This requires to be decided based on practical conditions in the country, over a trial period. The KPI needs to be tightened progressively for better emergency response services.

16. Should use of language translation services be mandated for PSAPs?

RCOM Response:

- (i) Yes, we suggest that use of language translation services should be mandated for PSAPs. This will help in offering better services by covering local dialects of the regions.

- 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?**

RCOM Response:

- (i) In our opinion, connectivity to PSAPs should be allowed directly or through any of the Telecom operators on payment basis. In such cases charge should be reasonable.

- 18. Should a separate emergency number for differently able persons be mandated in India? How the use of this number be administered?**

RCOM Response:

- (i) No comments. The Authority may take necessary action as deemed fit.

- 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.**

RCOM Response:

- (i) No additional comments please.
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