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RP/FY 13-14/009/305
April 18, 2013



To,

Shri Sanjeev Banzal
Advisor (NSL)
Telecom Regulatory Authority of India,
Mahanagar Door Sanchar Bhawan,
J.L. Nehru Marg, (Old Minto Road),
New Delhi - 110 002

Sub: Universal Single Number based Integrated Emergency communication and Response system

Ref: TRAI Consultation Paper No. 3/2013, dated 15.03.2013

Dear Sir,

This is with reference to your above mentioned Consultation Paper. In this regard, please find enclosed our response for your kind consideration.

Thanking you.
Yours Sincerely
For Bharti Airtel Limited

A handwritten signature in blue ink, appearing to read 'R. Gandhi', with a horizontal line extending to the right from the end of the signature.

Ravi P. Gandhi
Sr. Vice President
Head - Regulatory Policy
India & South Asia
Encl : As Above

Bharti Airtel Response to Consultation Paper on “ Universal Single Number Based Integrated Emergency Communication and Response System”

India’s telecommunication network has become the second largest in the world based on the total number of telephone users (both fixed and mobile phone) and covers most of the citizens of India. With the advent of technology, telecommunication has become the most important medium of communication and thus plays a crucial role in emergency and relief operations.

However, the consultation paper does not provide clarity on the architecture of Universal Single Number Based Integrated Emergency Communication and Response System. The Authority is therefore requested to discuss the architecture of the proposed system with the stakeholders before finalizing the recommendation.

It is important to note that such a system may have challenges of implementation like providing location and interconnection issues. We request the Authority to consider the same as indicated in our responses to the issues raised in the Consultation paper.

Our issue wise response to the Consultation Paper is as follows:

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

Airtel’s Response:

Telecommunication has supported the socioeconomic development of India and has helped to increase the transparency of governance with the introduction of e-governance in India. Apart from playing significant role in social, economic and cultural development, it has also provided effective tools to help the person in emergency, crises and provided a quick mode of communication in relief operations.

We are therefore of the view that any emergency service that involves danger to life should be made available through single emergency number including Police, Fire brigade, Ambulance, Disaster management, Women in distress etc.

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

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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?

Airtel’s Response:

The universal number to be assigned for integrated emergency communication and response system must be chosen very carefully and after evaluating all the options. In India, ‘100’, the most widely used and accepted number for emergency (reserved presently for Police services), may be used as the single universal number for integrated emergency communication and response system in India.

Further, it may be noted that some consumers may still continue to call on present emergency numbers such as 101, 102, 108 etc. So, it is important that present emergency numbers may be continued as secondary access numbers for some definite time duration and may be routed to single/primary universal number.

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?

Airtel's Response:

A Service area wise centralized database should be there to maintain the information of telecom users.

Since, the Public Safety Answering Points (PSAP) are being established by the Government, the centralized database should also be maintained by the Government, under its bodies like NIC, with adequate safeguards to maintain the confidentiality and privacy of data.

In such a scenario, one time data may be provided to the designated agency Service area wise to maintain a centralized database and the incremental data may be provided on agreed frequency.

Fulfillment of the above obligation to provide data periodically will require a new system to be deployed in the operators' network.

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

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

Airtel's Response:

There are various technical issues in transferring the location of a user in real time.

However, the transfer of location of a mobile user can be done in near real time by using pull based mechanism. When call reaches the Public Safety Answering Point (PSAP), operator/automated application can query the location of the subscriber through the location interface and the location can be queried in 30-60 seconds. PSAP will also be required to have an interface with the MNP database to know which operator to send the location query request to.

Providing interface to PSAP for location pull will require significant Capex and also will require significant Opex expenditure depending on number of emergency calls. Thus, it is critically important that all the expenses for provision of such emergency interfaces should be entirely borne by Central/ State Government.

Location accuracy may vary for different network deployments and may depend on network topology, inter - site distance, handset capability etc. In Phase I, Cell Id may be provided to Public Safety Answering Point (PSAP) as per the methodology stated above.

In Phase II, all handsets may be mandated to have GPS, wherein a precise location may be provided. A similar methodology is also used in US for enhanced 911 which is an emergency response system.

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

Airtel's Response:

Emergency number access should not be allowed from inactive SIMs or handsets without SIMs handsets. The access to emergency number should be only for handsets with valid SIMs. However, access to emergency service may be allowed in case if Prepaid SIM validity is finished and SIM is in grace period.

If emergency number access is allowed from inactive SIMs or handsets without SIMs, the following discrepancies may arrive:

- Details of location of mobile user will not be available.
- It 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 the issue of fake calls or hoax call.
- Many countries have discontinued the facility of calling to emergency response system from a mobile phone without a SIM.

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 calls on real time basis? If yes, please elaborate the process and technical challenges if any.

Airtel's Response:

There may be emergency situations such as Hijacking, Kidnapping etc. where a person may just be able to SMS and may not be able to make a voice call. Thus emergency access should be allowed through SMS. Public Safety Answering Point (PSAP) can use the pull based mechanism in the same way as for voice calls to get the location details.

Further, emergency access may not be allowed through Email/ data based calls, as it will have identification issue and hence the location query will not be possible.

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?

Airtel's Response:

A detailed Risk Assessment exercise shall need to be undertaken at both the Centralized Response Centers as well as the PSAPs encompassing People, Processes and Technology to identify risks as well as their management. In general a sample output of such an exercise would result in the following:-

(a) PSAP level:

- i) Threats; Connectivity failure physical destruction.
- ii) Vulnerabilities: No backup connectivity to response center.
- iii) Impact: PSAP ineffective.
- iv) Mitigation: Alternate PSAP, dual links.

(b) Technology level:

- i) Threats; Database corruption in PSAP
- ii) Vulnerabilities: Unpatched database.
- iii) Impact: Cannot identify callers.
- iv) Mitigation: Implement High Availability.

(c) People:

- i) Threats; PSAP staff unwell
- ii) Vulnerabilities: No backup staff to man PSAP
- iii) Impact: Cannot handle incoming calls.
- iv) Mitigation: Backup staff on rolls of PSAP.

(d) Processes

- i) Threats; Physical destruction of PSAP
- ii) Vulnerabilities: Untrained staff at alternate PSAP.
- iii) Impact: Temporary staff does not know how to handle incoming calls.
- iv) Mitigation: Business Continuity Management System training to PSAP staff.

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

Airtel's Response:

No, the calls made to universal emergency number may not be prioritized over normal calls.

The solutions available for prioritization in Radio Access do not yield required results in case of overloads and is therefore not recommended. However, the interface to PSAP may be dimensioned to provide no congestion for emergency calls.

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

Airtel's Response:

Fake and hoax calls are a big threat for Integrated Emergency Communication and Response System. It will overburden the network and may degrade the QoS of the system. Fake or hoax calls will be a menace to the system which may affect someone in need as valuable time and resources are wasted in dealing with non-serious calls.

There should be strict legal provisions to deal with such issues and if someone found guilty, there should be criminal liability may be subjected to stiff fines or imprisonment.

Further, government must launch a campaign to educate the citizens about this Integrated Emergency Communication and Response System, about its utility in crisis, emergency situations and about the criminal liability and penalty provision, in case of misuse.

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?

Airtel's Response:

Emergency response system should be completely Central /State Government funded and the cost involved in deploying, maintaining the integrated emergency communication and response system must be entirely borne by the Government.

For providing interface to PSAP for location pull will require significant Capex and Opex cost for enhancing the network capability based on amount of transactions expected of emergency calls by Telecom Service Providers.

Further, Bandwidth will be required to provide the information to a third party to maintain the information of telecom users. In case the database is maintained centrally pan India, then NLD charges will also be involved and if Service area wise central database is maintained than 2-3 big operators may interconnect with PSAP and Transit IUC cost for such calls will be involved.

The Authority must recognize that at present, TSPs in India are under tremendous inflationary pressure and with further decreasing ARPU it is critically important that all such expenses should be entirely borne by Central/ State Government.

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.

Airtel's Response:

Key Performance Indicators (KPIs) for PSAPs will help to know the quality of handling the emergency calls when every second is critical for the person in emergency/crisis.. Therefore we recommend the following KPIs:

Proposed KPIs

1. Answer to Seizure ratio of the calls handled by the PSAP system
2. Uptime of the PSAP PoI's with the service provider directly connected to the PSAP system
3. Response time of emergency calls answered by the Emergency call dispatcher

Proposed KPIs Targets

1. Answer to Seizure ratio of the calls handled by the PSAP system should be minimum 95% as it depends upon the dimensioning of the manpower at the PSAP system, no of emergency calls and load on the PSAP system
2. Uptime target of the PSAP PoI's with the service provider directly connected to the PSAP system should be 99.999%
3. Response time target should be that 80% of all the emergency calls shall be answered by the PSAP within 20 seconds and 95% of calls shall answered by the PSAP system in not more than 30 Seconds.

4.16 Should use of language translation services be mandated for PSAPs?

Airtel's Response:

According to Census of India of 2001, 30 languages are spoken by more than a million native speakers, 122 by more than 10,000.

There may be situations where a person making an emergency call only knows a regional language, thus making a single language as an official language in PSAPs may not be correct and the use of language translation may be mandated for PSAPs.

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?

Airtel's Response:

IUC and interconnectivity will be dependent on PSAP deployment architecture, which may be nationalized or state level.

PSAP should be mandated to provide opportunity of connectivity separately to each operator as the same will avoid an extra leg of connectivity and will also have minimal issues pertaining to inter-operator billing, charging and settlement.

In case, TRAI does not find direct connectivity suitable, than the IUC (including fixed and recurring charges) for emergency calls be prescribed on a minimal costs considering it to be linked with larger consumer interests.

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

Airtel's Response:

A separate emergency may not be required for differently able persons, as persons like deaf and dumb who cannot make voice calls may use SMS to access the emergency service.

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.

Airtel's Response:

The consultation paper does not provide clarity on the architecture of Universal Single Number Based Integrated Emergency Communication and Response System. Many of issues pertaining to implementation, interconnection and deployment can only be commented upon once the details of the architecture are put forth.

The Authority is therefore requested to discuss the architecture of the proposed system with the stakeholders before finalizing the recommendation.