To,
Shri Sanjeev Banzal,
Advisor (Networks, Spectrum and Licensing),
Telecom Regulatory Authority of India,
New Delhi.

Subject: Response on behalf of Persons with Disabilities to the TRAI Consultation Paper on Universal Single Number Based Integrated Communication and Response System

Sir,

We, the undersigned, write to you before and on behalf of persons with disabilities, constituting nearly 150 million persons in India[1]. We have gone through your note and we appreciate the manner in which the consultation has taken place with various stakeholders, and various issues have been identified in setting up an integrated communication and response system. We would like to note our disappointment, however, with the fact that though issues pertaining to persons with disabilities were discussed, viz. means in which the hearing impaired could access the said Communication and Response System, none of the consultations took place after inviting persons from the disability sector, and we hope that in the future a more inclusive approach to persons with disabilities will be taken.

The United Nations Convention on the Rights of Persons with Disabilities also mandates accessibility measures for persons with disabilities, and the relevant Article is contained in **Annexure A**. A unified emergency number would be of utmost use to persons with disabilities, provided that the same is made accessible to them.

Our counter/responses to your queries are as follows:

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

For persons with disabilities, it would be extremely difficult to keep making phone calls to various authorities and hence a centralized center directing these calls would be ideal. The following services should be made available:

1. Police
2. Ambulance
3. Fire
4. Disaster Management Authority
5. Protection Officers under the Domestic Violence Act
6. Child Welfare Services – Childline

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[1] The World Health Organization estimates that 15% of every population is disabled. http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2011/06/23/000356161_20110623012348/Rendered/PDF/627830WP0World00PUBLIC00BOX361491B0.pdf

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

It would be more desirable to have a universal emergency access number so that it is easy to remember even when one travels abroad. Hence, we suggest 112 as the primary number. The second number should be 500. For the blind, visually impaired and even for those dialing in the dark, the digit 5 is easy to locate as it has a small knob on the keypad, and from there finding "0" is easy. The two numbers should have different digits in case anyone digit is not working on someone's phone device. In case these numbers are presently in use by other operators, the same may be procured from them for this purpose.

In the United States, if one dials 9 followed by 1 and does not dial anything after that, the call is forwarded to 911, or the emergency facility calls back on that number. Similar mechanism should be in place in India.

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?

See above.

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?

In India currently there is no centralized database being maintained that holds details of customers, their phone numbers (fixed and mobile) and addresses. Details are held by respective service providers for both wireless and wire line phones. PSAPs will have to query wireless service providers for information about the caller and on basis of the information received rescue services can be provided in their direction. This process will result in delay in access to information as well as delay in delivering rescue services to people seeking the same. A Central Government Department/TRAI should maintain the centralized database.

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

Telecom Service providers are required to invest in GPS and Cell Triangulation technologies in order to trace the mobile phone user's location as well as maintain the same. This involves increase in cost and technical skills in order to effectively use the technologies.

For improving the quality of location service every tower should send a beacon of unacknowledged packet containing its geographical location and time from a synchronized source. This should be universally available to handsets irrespective to any service providers they are subscribed to. This will help considerably to provide an inexpensive location based

service which will be immensely useful to provide both outdoor and indoor navigation especially to the visually disabled.

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

Yes. At times, cellphones may be taken away from persons, or SIM Cards removed, or phones may be damaged in a way that the SIM card is not recognized. In such cases, persons can use the same handset/a spare handset in their house, to make the calls. It is a possibility that people going through financial crisis might be having handsets with no SIM/an inactive SIM and they should not be barred from accessing emergency services.

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?

Yes, emergency access should be allowed through SMS, email, voice mail and video Messaging. This would be beneficial:

1. To the deaf, deaf blind and hearing impaired, SMS and Video Messaging will be of great assistance.
2. Voice mail would be of importance to the blind or visually impaired in case they are not able to get through to the PSAP.
3. For persons who are trying to communicate with emergency services without being heard e.g. those who are trying to hide from assailants etc.

The challenges in its implementation are many:

1. Delay of information reaching the respective agency which might lead to delay in support reaching to people seeking the same.
2. Information can be sent in different languages which can be a serious issue in a country like India where several languages are spoken
3. Huge electronic files (multimedia messaging) need to be sent to the emergency service providers & they are required to keep a record of the same. This involves huge investment in infrastructure as well as increase in cost.
4. Citizens living in rural areas might not have access to high speed internet or even internet & thus might not be in a position to avail the service as required.

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.

SMS is a packet based communication hence it is possible to locate the IP of the tower it is received and consequently the location info to that extent. As far as technology goes, private-public collaborations could be sought to make location information available. In the meanwhile, a few possible technological suggestions are:

a. Those who cannot use the voice facility of the call can send specific details by SMS or data, and then be allowed to call the emergency response number (or the emergency facility can call them back) and keep the call running for location purposes.

b. Like practiced in certain countries, mobile numbers of persons who choose to use this facility should be preregistered, and their mobiles should be tracked by way of GPS and cell triangulation technologies.

c. Methods for the IMEI number of handsets to be registered alongside cell numbers and used to trace phone locations should be employed. Of course here the onus is on the user to update his phone number with his IMEI number to the service provider.

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?

Database backups at regular intervals and adequate infrastructure should be in place both at the state and central level to ensure that the services are back functioning in case of hacking, software failure etc.

Depending on the density of population, adequate number of PSAPs should be allocated in the regions to handle situations, such as call overload etc.

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

Yes. At times, especially in cases of terrorist attacks or natural disasters, phone calls may be made between many persons to inquire about their wellbeing, while emergency calls cannot be put through due to congested networks. The telecom authorities should at least have the facility to give priority to emergency calls in such situations.

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

Blanket penal liability cannot be in place, because at times such calls may be placed by mistake or by children playing with phones, etc. Placing hoax and fake calls should be made a cognizable offence, and treated as such. However, Police should conduct a preliminary inquiry before lodging an FIR in such cases to avoid unnecessary prosecution.

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?

The cost of centralized emergency number should be divided between the government, service providers and a nominal percentage by customers. All the customers include prepaid

and postpaid customers should be charged with the previously agreed cost and be included as access to emergency services cost within their respective tariff plans. Persons who are not paying for this service should not be excluded from availing of the emergency services.

Under no circumstances should persons with disabilities be made to pay extra for the additional facilitation that they require.

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.

Yes KPIs should be mandated for PSAPs with regards to response time.

PSAPs should answer 95% calls in not more than 15 seconds. Since if PSAPs will take longer, then rescue will reach to citizens in need with a delay which can lead to serious consequences.

Calls made to PSAPs during any given hour should not encounter busy network of more than 1 second. Telecom service providers need to ensure that emergency calls made to PSAPs do not encounter a busy network and thereby avoid delay in accessing the emergency services.

With regard to transferring the calls to specialized individuals to handle cases involving persons with disabilities, there should be no delay beyond 10 seconds.

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

Yes. India is a Country full of linguistic diversity and people should be able to reach help regardless of the language they choose to speak. Language translation should include sign language translation, in case of video calling.

Along with translation, there may be problems in communicating with persons with certain disabilities which the operator may not be able to handle. In such cases, a facility for counselors or special educators to handle these phone calls must be in place.

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?

1. Interconnectivity between service providers: Working connectively to ensure effective access to emergency service is a must for the effective implementation of IECRS in India. Regular updation of database by service providers and exchange of information without affecting customer privacy must be ensured for the model to be a success.
2. Numbering plans: Mutual agreement regarding number plans by different telecom service providers will ensure effective functioning of IECRS in India.
3. Quick and accurate exchange of information about mobile phone users at real time will ensure that rescue and support will reach to citizens in need without any delay.

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

With the difficulty in administration and setting up of these channels, we feel that a separate number for persons with disabilities does not need to be set up, and reasonable accommodation can be made from the mainstream numbers. There is no real way to monitor whether a person calling the number is actually disabled or not, and creating a certification process for eligibility to access the number may be highly bureaucratic. An accommodative system can solve these issues.

Emergency response system should allow communication through text messaging as well as data based calls, such as VOIP, video calling etc. Using video calls, people with hearing impairments can communicate in sign language and PSAPs can make use of sign language interpreter relay services to interpret the message. This will ensure that people with speech and hearing impairments as well as deaf-blind users can convey their message to the PSAP personnel. Moreover most importantly the emergency response system must include a mechanism through which disabled callers can inform PSAP personnel about the call being made by a disabled person. In emergency situations, persons might tend to panic and PSAP personnel need to know about their situation in order to be in a position to support them effectively.

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.

Telecommunications Devices for the Deaf[2] are used extensively in Western Countries by the Deaf and those with severe hearing impairments. A 911 call can be made from these devices and local PSAPs are able to process these calls. This is the equivalent of the fixed line telephone. Necessary regulations must be in place in order to allow for these devices to be used and for information to be transmitted through them.

Obligations must be placed on PSAPs personnel to be trained to communicate with people with different types of impairments in order to ensure that rescue services are provided to them accurately and on time.

All calls made to the PSAP should be recorded for evidence purposes.

Conclusion

We hope that you will include persons from amongst persons with disabilities for your next consultations on creating a proper set of guidelines and requirements with the PSAPs to reasonable accommodate persons with disabilities and their needs. We are happy and willing

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[2] http://en.wikipedia.org/wiki/Telecommunications_device_for_the_deaf

to provide you with more detailed inputs and appear personally before the TRAI to help you as much as possible.

Thanking you,

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Annexure A: Article 9 of the UNCRPD: Accessibility

1. To enable persons with disabilities to live independently and participate fully in all aspects of life, States Parties shall take appropriate measures to ensure to persons with disabilities access, on an equal basis with others, to the physical environment, to transportation, to information and communications, including information and communications technologies and systems, and to other facilities and services open or provided to the public, both in urban and in rural areas. These measures, which shall include the identification and elimination of obstacles and barriers to accessibility, shall apply to, inter alia:

(a) Buildings, roads, transportation and other indoor and outdoorfacilities, including schools, housing, medical facilities and workplaces;

(b) Information, communications and other services, including electronic services and emergency services.

2. States Parties shall also take appropriate measures:

(a) To develop, promulgate and monitor the implementation of minimum standards and guidelines for the accessibility of facilities and services open or provided to the public;

(b) To ensure that private entities that offer facilities and services which are open or provided to the public take into account all aspects of accessibility for persons with disabilities;

(c) To provide training for stakeholders on accessibility issues facing persons with disabilities;

(d) To provide in buildings and other facilities open to the public signage in Braille and in easy to read and understand forms;

(e) To provide forms of live assistance and intermediaries, including guides, readers and professional sign language interpreters, to facilitate accessibility to buildings and other facilities open to the public;

(f) To promote other appropriate forms of assistance and support to persons with disabilities to ensure their access to information;

(g) To promote access for persons with disabilities to new information and communications technologies and systems, including the Internet;

(h) To promote the design, development, production and distribution of accessible information and communications technologies and systems at an early stage, so that these technologies and systems become accessible at minimum cost.