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Dated: 01.12.2021

To,
Shri Kaushal Kishore,
Advisor (F&EA)
Telecom Regulatory Authority of India,
Mahanagar Door Sanchar Bhawan,
JawaharLal Nehru Marg,
New Delhi – 110 002.

Subject: Response to Consultation Paper on Tariff issues related to SMS and Cell Broadcast alerts disseminated through Common Alerting Protocol (CAP) platform during disasters/non-disasters

Dear Sir,

This is in reference to TRAI's Consultation Paper on Tariff issues related to SMS and Cell Broadcast alerts disseminated through Common Alerting Protocol (CAP) platform during disasters/non-disasters dated 03.11.2021. 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 'Rahul Vatts'.

Rahul Vatts
Chief Regulatory Officer

Encl: a.a

Response to TRAI's Consultation Paper on Tariff issues related to SMS and Cell Broadcast alerts disseminated through Common Alerting Protocol (CAP) platform during disasters/non-disasters

Executive Summary:

Timely, contextual and effective dissemination of information to citizens, in times of disaster is essential to save lives & infrastructure. Telecom operators have proven beyond doubt that they are fully geared to meet such requirements with resilience.

It is important to highlight that in today's time, the alert to a citizen comes from multiple sources e.g. Mobile, TV, Radio, News, social media among others. Therefore, the medium in our view is not a challenge and we support usage of all mediums to assist in disaster related alerts & assistance.

Within Mobile networks, the two approaches are SMS and Cell Broadcast. In India, the operators are using the SMS based dissemination, and this approach has been consistently discussed, configured and improvised upon by Telcos in discussion with the Government (C-DoT, DoT and other agencies).

Demonstrably, the SMS based dissemination has worked well, more so in recent disasters across various LSAs in the country.

During disaster management, effective communications is equally critical. In our view, the effectiveness of an emergency communication can primarily be determined by gauging the success of message delivered and received and not just on how quickly a message can be sent.

Another important factor, in addition to above two, is how people perceive or respond to the information they receive which itself is an important process. To quote a paragraph from a research paper¹:

*"...Within the UK, previous research has suggested that a system based on sending emergency messages via mobile phone text message would be generally well accepted by the public and likely to improve uptake of protective behaviour when combined with other approaches (Jones, Symons, Bredbere, Womersley-Smith, & Amlôt, in prep). Studies indicate that people go through the sequential processes of perceiving (hearing or receiving the information), understanding ("attachment of meaning" to the information), believing (belief in the information and the accuracy of it) and personalizing (perception of risk to themselves) emergency information, which culminates in their response (Mileti & Peek, **2000**)..."*

¹ Mobile text alerts are an effective way of communicating emergency information to adolescents: Results from focus groups with 12- to 18-year-olds (Source: <https://onlinelibrary.wiley.com/doi/full/10.1111/1468-5973.12185>)

In our view, the SMS based messaging alert communications is better able to alert citizens during disasters due to following reasons:

- its better technical ability to store and forward / resend if message fails
- handsets receive and store SMS, which can be read immediately or even later when it is switched on or seen by the user – message is not lost
- On a locked handset, it can remain as notification alert. Even in case handset malfunctions, a user can get the SMS backed-up on another phone
- delivery reports can be taken out for messages delivered successfully – giving the confidence to agencies

The cell broadcast on the other hand, has its limitations as under:

- While it can be sent on towers directly, there is no way one can establish whether it reached a recipient i.e. hence one cannot estimate its success ratio
- The alert message can be lost relatively easily e.g. if the handset was not switched on, or the recipient unknowingly clicks on different button/app which will make broadcast message disappear
- The SIMs can get corrupted easily.
- If customer's handset malfunctions just about time the broadcast was sent, a changeover to new handset will not be able to get it delivered

It is further highlighted that today, the approach taken by Telcos in disseminating the SMS based alert through CAP platform integration with Mobile networks; is as targeted and specific as a Cell broadcast can be. To explain, the DoT's SOP in this regard highlights (also captured at para 2.4 of the consultation paper) how SMSs are disseminated in a targeted / focused area.

It needs to be appreciated that it is not that SMS is sent to HLR based numbers based on their addresses; rather, SMSs are sent in a broadcast type approach i.e. by identifying the BTSs and their latched subscribers within a targeted area. It clearly means that all the citizens latched onto a BTS site in a targeted area get the SMS alert. This obviates the concern if the customer is not present in the area.

As regards concerns on privacy of numbers due to SMS vs. Cell broadcast, we believe that in the times of disasters people's primary need is to feel connected, reachable, safe and secure.

Therefore, considering the three prime factors that should always be balanced i.e. Timeliness, Reliability and Effectiveness of disaster alert – the SMS based approach works far better than the Cell broadcast.

Tariffs for SMS/Cell broadcast dissemination:

As a basic principle, a cost incurred to deliver a service should be compensated for. However, considering the nature of service viz. assistance during disaster and also as per the DoT's SOP, the SMSs received via CAP platform and disseminated to subscribers in an affected area are given free of cost for the specified category of SMSs.

It is pertinent to highlight that, while telecom is an essential utility / service and connectivity being most critical need during a disaster time, SMS alert messages are offered for free; even though we are not aware whether any other essential utility is provided free during such times. E.g. whether Gas utilities, Fuel utilities or water or electricity utilities do not offer services free or with discounts for such situations.

In-fact, the Telecom networks are equally impacted at disaster locations, but still are usually the first to be up and running to ensure connectivity and ensuring their support in timely & seamless disaster management.

Irrespective, the point being made is that Telcos do incur cost in delivery of messages during disaster and should be compensated for the same. Since citizens of the impacted/affected area are already in hardship during that period, it is logical that due consideration be given on whether the cost of SMS delivery is compensated by the state / ministry engaged in relief management.

We also strongly recommend that no further exemption category be added or list be expanded to include any other agency for purpose of SMS/Cell broadcast pre, during and post dissemination.

With above background and context, we submit our response to the questions raised by the Authority in the paper in subsequent pages.

Question 1: What are the technical options available with the Telecom Service Providers for mass message dissemination through Common Alerting Protocol (CAP) platform during disasters and non-disasters and what are the challenges being faced with respect to these technology options?

AND

Question 2: Which method of mass message dissemination for alert, Short Service Message or Cell Broadcast Service, is preferred? Please provide supporting reasons.

Airtel Response:

At the outset, please refer to our comments in the Executive summary.

Currently, the TSPs have deployed and use the SMS based dissemination through CAP. This solution has been constantly stress-tested and improvised during actual disasters, and found to be robust & effective.

We prefer the SMS based dissemination for alert, compared to cell broadcast method. While we already covered the reasons for this above, **we re-highlight the shortcomings of the Cell Broadcast method as under:**

1. The Cell Broadcast method has, in the past, caused corruption in the SIMs and instances of SIMs becoming faulty have been faced after the Cell Broadcast. Therefore, Cell Broadcast can potentially cause disruption of services to the customers.
2. Technically, there are some specific disadvantages of Cell Broadcast:
 - i. Message sent, point to area instead of point to point, therefore, platform cannot keep track of individual successful delivery count
 - ii. Unlike SMS, in case user switches off the phone, there is no way message gets delivered later
 - iii. Handset Compatibility: CB may also face issues of handset compatibility which could require manual configuration or software client on handset. Also the presentation of the message may vary depending upon the handset.
 - iv. Subscriber may disable this channel on the handset and may not even get the message even if the handset is switched on.
 - v. We have in the past witnessed SIM faults because of Cell Broadcast.
 - vi. High recurring Capex and Opex involved due to multiple connectivity with network entities.
3. Further, there are key dependencies to enable the overall Cell Broadcast Service:
 - I. **Dependency on Govt. side**
 - a. Alert management system on Govt. side should have well defined the C-interface requirements, which is usually country specific.
 - II. **Dependency on Cell Broadcast system**
 - a. The interface between GIS system and Cell Broadcast system have to be defined to be able to consume the cell information against the geographical area coordinates.
 - b. Availability of Geographical Maps - usually Govt. authorized maps should be from the relevant Govt. agencies
 - III. **Dependency on 2G/3G/4G Network**
 - a. The BSCs, RNCs, MMEs/Cells need to have the features enabled for Cell Broadcast. All Network elements must support this feature.
 - b. The vendor/version of the network elements may also differ the integration requirements

- IV. Dependency on OSS**
 - a. Integration of Cell Broadcast system with FM and PM systems
 - b. Interface specifications with FM and PM system would have to develop and implement.
- V. Dependency on security aspects/IP networking**
 - a. IPsec is required between Govt. Alert Management and Cell Broadcast system
 - b. Digital certificates to authenticate alerts coming from the Govt.
- VI. Dependency on handsets/devices**
 - a. All key handsets (model/make) should be configured to support cell broadcast service. Sample Handset requirements are -
 - i. Channels
 - ii. Type of alerts
 - iii. Alert Tone/Vibration

Thus, Cell broadcast has many disadvantages and thus it is our recommendation that SMS broadcast is superior, smarter and effective option.

Question 3: What is the success rate in delivery of messages in each of the methods adopted by the operators for dissemination of messages to the masses? Please provide details.

Airtel Response:

The success rate of SMS dissemination through CAP is similar to normal SMS delivery (P2P or A2P) which is better compared to delivery through CBS and is not dependent on user equipment compatibility.

Question 4: What are the challenges related to customer end devices that may arise due to Cell Broadcast Service? If so, what are they and what is the extent (total number as well as percentage) of such cases encountered so far? In case an operator has first-hand experience, then the same may be shared with facts.

Airtel Response:

As indicated earlier in the executive summary, it not just about timeliness of an alert message or reliability, but also how a citizen is able to perceive, process and act upon the information sent through alert message. If we are unable to factor in that critical aspect, we are missing an important factor of effective disaster management.

On the technical side, challenges w.r.t devices/handset capabilities are summarized:

S. No.	Characteristic	SMS	CBS
1	Message size	140-160 characters. Max of 5 messages can be concatenated	93 characters. Max of 15 concatenated pages
2	Message Type	Static message will be sent only to all registered numbers	Custom message can be sent to different areas to reflect different alert status or hazards
3	Message Display Notification	Display can be controlled by users	For subscribed handset messages can be automatically pushed to the screen and a distinct alert sound
4	Handset Capabilities	Compatible on all handsets	Compatible on most handsets but may require manual configuration or software client on handset. Presentation may differ across handsets
5	Reception	Message received once the mobile is switched on	No message is received if broadcast is sent whilst mobile is switched off. However, if updates to cell broadcast are sent, they will receive when the mobile is switched on.
6	Delivery Confirmation	Sender can request delivery confirmation	No confirmation of delivery.

Considering above advantages of SMS over Cell Broadcast, in our view the preferred way of communication with the customer should be SMS.

Question 5: Is there a need for an elaborate tariff fixation exercise for CAP messages? In the alternative, would it be better from the perspective of ease of regulation to keep all categories of alerts/ messages given in paragraph 2.6 above including those at categories (i),(ii) and (iv) thereof, free of charge? Is keeping all CAP alerts/ messages free of charge an economically prudent and viable option?

Airtel Response:

As a principle, the cost of provisioning of SMS alerts/messages should be compensated for.

We believe that it is not economically prudent and viable option to expand the free of cost SMSs / alert messages and include hitherto non-exempted categories.

We must be conscious of the fact that unfortunate disasters may strike anywhere without giving any warnings at times. Due to climate change and ecological disruptions, we are increasingly witnessing more and more sudden disasters, disruptions in various parts of the country every now and then.

This means that as Telcos, just like the government and citizens, have to be ready on 24x7 basis, and remain invested in resources even during idle times.

Considering the above factors in mind, and equal load and impact on telecom service providers; it is not prudent to keep SMS alert services free of charge. In-fact, we suggest the Authorities managing disaster need to consider whether even the normal exempted category be compensated for, by utilizing the disaster relief funds or departmental budgets.

Question 6: If answer to the question number 5 is No, then whether the service SMS charges of up to Rs 0.05 (up to five paise) as mentioned at Regulation 35 of TCCCPR 2018 be adopted for SMS/Cell Broadcast alerts/ messages sent through CAP platform?

AND

Question 7: What tariffs should be charged by TSPs for SMS and Cell Broadcast alerts/ messages under category (i), (ii) & (iv) as given at paragraph 2.6 above, in case SMS charges of up to Rs 0.05 (up to five paise) as mentioned at Regulation 35 of TCCCPR 2018 is not to be adopted?

Airtel Response:

As per DoT's Standard Operating Procedure (SOP)-2020, presently we are not charging any tariff/rate (it is free of cost) for SMS broadcast disseminated through the CAP platform during disasters. This facility is not available for any commercial use in non-disaster type situations.

Ideally, TSPs should be able to recover their costs incurred for the provision of the service.

To ensure economic viability and focus on purpose and proportionality of issue, the Authority may consider the following approach for messages sent through CAP platform.

1. Rs. 0.02 per message reimbursement during the definite period of disaster. However, if the Government feels it should be free of cost which is the current practice, it may choose to continue.
2. Rs. 0.07 per message for all other categories. This approach is aligned with the example highlighted by the TRAI in para 2.6 (e.g. other occasions where public has to be informed



of special events like holding relief/vaccine/medical camps/specific L&O situations), these can be argued to be in nature of campaign/awareness of special drives.

Question 8: What are the operational challenges for disseminating mass messages through Short Service Message and Cell Broadcast Service? What is the impact of these operational challenges on the costs involved in such dissemination? Please justify.

Airtel Response:

While we have highlighted technical deficiencies of a Cell broadcast system in executive summary and also in our responses above. It needs to be appreciated that there will always be operational challenges in any system or technology which would influence cost. E.g. in SMS since there is an additional step of identifying users/subscribers once targeted area's BTSs are identified on which SMS alert message has to be broadcast; that would add to the cost of SMS based delivery mechanism. This should not be construed as that Cell broadcast is more cost effective merely because it skips a subscriber identification step and directly goes on the identified BTSs and latched customers; rather the effectiveness of the alert message (reliability, successful delivery, processing of message information by the citizen subscriber) as highlighted in the executive summary should be the critical parameter.

Question 9: What methodology should be adopted to do the costing of the Cell Broadcast alerts/ messages? What are the cost items which should be factored in? Please provide supporting reasons.

Airtel Response:

We recommend the SMS based alert/messaging and hence we have no other response to this query.

Question 10: If there are any other issues/suggestions relevant to the subject, stakeholders are invited to submit the same with proper justification.

Airtel Response:

No Comments.
