4th December 2017

Shri S. T. Abbas
Advisor (Networks, Spectrum and Licensing)
Telecom Regulatory Authority of India
Mahanagar Doorsanchar Bhawan
Jawahar Lal Nehru Marg
(Old Minto Road)
New Delhi – 110002

Subject: **'Next Generation Public Protection and Disaster Relief (PPDR) communication networks'**

Dear Sir,

This is in reference to your Consultation Paper number 15/2017 dated 9th October 2017 on **'Next Generation Public Protection and Disaster Relief (PPDR) communication networks'.**

As desired, we hereby enclose our response to the questions raised in your above mentioned Consultation Paper. We hope our response will be given due consideration.

We shall be obliged to address any further queries from your good office in this regard.

Thanking you and assuring you of our best attention always.

Yours sincerely,

Satya Yadav
Addl. Vice President – Corporate Regulatory Affairs
Tata Teleservices Limited
And
Authorized Signatory
For Tata Teleservices (Maharashtra) Limited

Encl: As above

TTL response to Consultation Paper on
"Next Generation Public Protection & Disaster Relief Communication Networks"

Question 1. Do you consider the existing fragmented model of PPDR communication network in the country adequate to meet the present day challenges? If not, what are the deficiencies in the existing model of PPDR?

TTL Response

TTL is of the view that any developed or developing country should have an efficient PPDR network which is advanced, reliable, robust and responsive. Existing fragmented model of PPDR communication network in India is not adequate. Primary PPDR communication network in India are designed and run by many independent state agencies. These PPDR communication networks are either old Analog Systems or it uses narrowband radios and as such is limited to only 2 way voice communications. These narrowband radios do not support high-bandwidth transmission requirements such as interactive video communication, remote video surveillance of security and disaster sites etc. These systems also do not have the feature of interoperability and do not provide the required level of secured communication required by the country's security forces, leading towards chances of information leakage to unwanted entities.

Question 2. In the various models described in para 2.11-2.15, in your opinion which of the model (dedicated, commercial, hybrid) will be more suitable for Indian conditions? or Is there any other alternate model which would be more suitable for Indian telecom environment? Please provide rationale for the suggested model.

Question 3. Should PSUs be earmarked for providing nationwide broadband PPDR communication network? Please justify your answer.

TTL Response

Considering that the Government has statutory obligation for the provision of national mission critical communication and especially for PPDR, there may be a need for dedicated spectrum for such services. However, using dedicated spectrum for PPDR communication may turn as additional financial burden, as the same spectrum may be used by the Government for providing commercial telecom services, and would be considered as an opportunity lost. Also, deployment of dedicated network for PPDR services will also required huge capital investment. Although countries like United States, South Korea, Australia, Qatar, Thailand and France have dedicated spectrum for PPDR services, however, United States is exploring opportunities to monetize the capacity of dedicated spectrum, while it is not required by PPDR agencies. In view of the above, adoption of the model followed by United Kingdom, in India, may be the most viable model, whereby commercial networks are

used to provide PPDR services by Public Safety Agencies. Adoption of commercial network for providing PPDR services will ensure that the Government does not lose the opportunity of spectrum monetization, and will also open an additional revenue generating model for TSPs in the country. TTL is of the view that an equal opportunity should be provided to all existing Private and PSU TSPs in the country through tender process. We are also of the view that it would be appropriate to use optical fibre network of Bharat Net where ever required. TSPs can get into an agreement to use this fibre network through mutual agreements.

Question 4. Will it be technically feasible and beneficial to permit PPDR trunking service roaming on public telecom networks? If yes, what challenges do you foresee in implementation of such an arrangement? Please justify your answer.

TTL Response

TTL is of the view that advantage of technology is available to integrate cellular networks having desired functionality. Trunking service on common carrier smartphone, Interoperation between LTE and TETRA network and interconnection to 2G/3G/PSTN /IP PBX through gateway is currently feasible. Various vendors are available, who provide LTE technology along with critical enterprise communication services such as broadband trunking, video surveillance, data acquisition, broadband data access, emergency communications, and other broadband services on a single network. Hence, it is technically feasible to permit PPDR truncking services roaming on public network.

It is also feasible that captive PPDR user can use public network in addition to using its own network, thus making much better utilization of resources. Captive PPDR networks can be integrated with public networks, which allows the users to move out of the private area to the public area, ensuring that the basic trunking service is continuously available through public sites. This feature can extend the PTT service nationwide over the public mobile network. The VPN channel between the PTT server and handset in the public network is established, and the encrypted data is transmitted through the public network. Therefore, issue of security of the PTT service over the public network is eliminated.

Question 5. Can frequency bands be identified exclusively for public protection and disaster relief? What are the candidate bands for PPDR operations in India?

TTL Response

TTL is of the view that candidate bands for PPDR could be 450MHz, 700MHz & 850MHz primarily due to their better propagation characteristics. The network should be deployed in Geographical redundancy mode architecture to meet the availability requirement. However while finalizing the frequency band for PPDR, prevailing/future Mobile device eco system with respect to Frequency band support need to be considered.

Question 6. If wideband/broadband PPDR is to be implemented in India, what quantum of spectrum will be needed for such solution for PPDR?

TTL Response

Wideband/ broadband PPDR is to be implemented in India for voice or messages or low data applications which are primarily enough to handle disaster related communication. Typically 10 MHz Bandwidth can suffice the requirement. However constraints with respect to Device ecosystem captured in response to Q5 shall be considered.

Question 7. What is the cost and benefits tradeoff envisaged for public protection and disaster relief viz-a-viz commercial value of spectrum?

Question 8. Do you suggest any other workable option that can be adopted?

TTL Response

TTL is of the view that the purpose of having PPDR system is to provide emergency services in case of disaster. It is more from social service perspective hence spectrum cost should be linked with revenue earned in PPDR network.

TTL do not suggest any other workable option that can be adopted in implementation of PPDR.

Question 9. Please give your comments on any related matter not covered in this consultation paper.

TTL Response

NA.