CONSORT

REPLY TO CONSULTATION PAPER NO. 15/2017 Next Generation Public Protection and Disaster Relief (PPDR) communication Networks dated 9th October 2017

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?

We propose that the regulator must work towards standardizing a policy suitable for provide reliable, feature rich and secure communication solution for the PPDR requirements. The fulfillment model should be the next step once a robust policy is formulated as mentioned.

Some of the considerations proposed that are considered to be important for the formulating a policy towards robust and long term policy for PPDR are as below:

a. *India is a large country so reliable coverage is one of the important aspects. The consultation paper mentions LTE as one of the advanced technologies proposed for PPDR but it is also a technology with smaller coverage footprint than other narrowband and wideband technologies.*

b. *Voice communication is the immediate and basic need for PPDR communication. Broadband data is desirable but not mandatory. All countries which are considering investing in broadband PPDR already have invested and have been running for many years a robust narrowband PPDR network. Some of the countries have also migrated the narrowband PPDR network to wideband PPDR networks such as Norway.*

c. *Technology deployed must be fully developed and have a whole developed eco system of network, user devices and application providers. TETRA for example is a technology deployed over 140 countries already with nationwide networks in countries such as Germany, Norway and others. Many countries are still renewing their TETRA radio network because it is one of the most reliable, developed, secure and affordable technologies available. LTE on the other hand is a technology which is still seeing standardization of PPDR features such as Group Calling, Priority Handling, and Direct Mode among others in Release 14, 15 and others.*

d. *Most of the telecom networks are migrating to be IP based and therefore it is considerably easier and cost effective to deploy IP based trunking networks.*

It is proposed that the policy should consider the following aspects –

- *Frequency of operation*
- *Technology (Narrowband / Wideband)*
- *Coverage requirements (Urban / Rural)*
- *Capacity*
- *Features and functionalities*
- *Interoperability of different users*
- *Availability of multiple devices*

2. In the various models described in para 2.11, 2.1 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.

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

   It is our proposal that no decision should be taken for PSU to implement a PPDR communication network nationwide. Firstly, the policy toward PPDR should be formulated and only then on the basis of technology to be deployed, timescales, requirement of users , within the framework of the policy, should a decision be taken for a PSU or other agency to implement such a network.

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.

   Narrowband, Wideband or Broadband PPDR trunking services are being proposed and trailed in various countries to be provided over a public telecom network. However, the most important attribute being of a very large coverage requirement, it is found that performance of such trunking service may not be successful. However, trunking services over public telecom network may be used for non-mission critical requirements such as logistics, facility management among others.

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

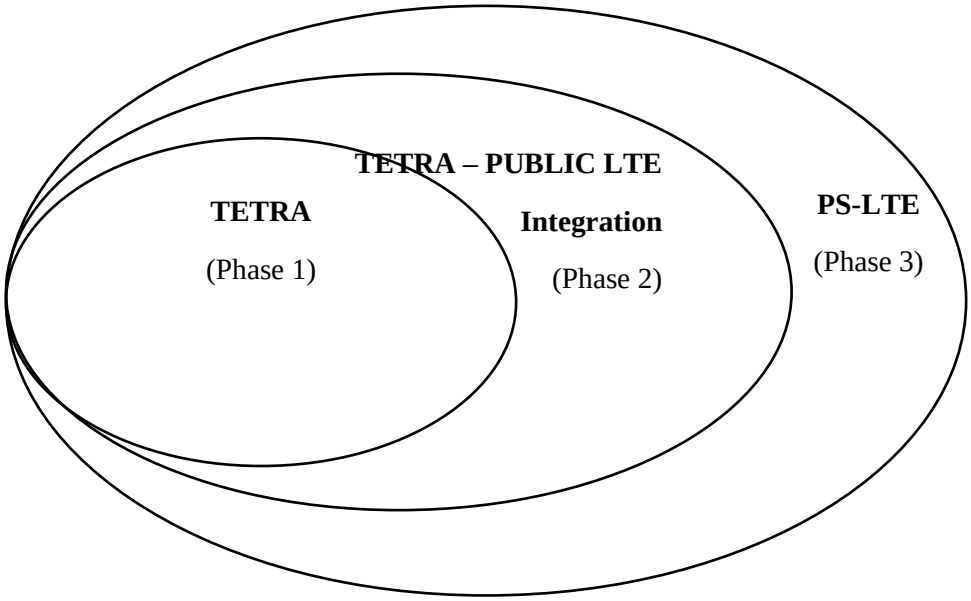
   700-800 Mhz bands are considered to be the most probable bands for deployment of such a network.

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

The consultation paper is correct in determining the requirements of wideband and broadband PPDR requirements. Wideband PPDR such as TETRA require 50 Khz onwards for TEDS services while LTE requires minimum of 1.4 Mhz but realistically 10 Mhz.

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

It is proposed that the PPDR network roll out should be done in three phases.



Phase 1 *– Nationwide Narrowband /wide band trunking network for PPDR*

Phase 2 *– Integration to Commercial / Public Broadband network*

The proposed solution provides integration between TETRA and LTE Networks in a very simple and efficient manner without compromising the flexibility and features of both networks. One of the key benefits of this solution is that the integrated solution is agnostic to vendor of LTE Network or LTE Subscriber devices. Customer has full choice to choose their own supplier of LTE Network and subscriber devices

Phase 3 *– Deployment of private dedicated Broadband PPDR trunking network.*

Further to integration of Narrowband / Wideband trunking network, it would set a good template for deployment of a captive Public safety network for the PPDR trunking requirements.