



HEADS' OF PPDR CONFERENCE
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Session on

**Broadband Public Protection
and Disaster Relief (PPDR)
Networks-3GPP**

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Broad Band PPDR Networks (3GPP)

Today, voice is the primary mode of communication within Public Protection & Disaster Relief (PPDR) agencies, which is provided by dedicated PPDR communication networks such as TETRA, APCO 25 or DMR etc. Until now, PPDR agencies (e.g. Police, Fire brigades, Medical emergencies, etc.) rely on these narrow band LMR (Land Mobile Radio) systems, in the field for day to day operations.

The LMR communication networks provide reliable and resilient mobile voice services, as well as basic data services. However, these traditional communication networks show substantial limitations, when matched against modern requirements of PPDR agencies.

Limitations of existing PPDR networks:

- Interoperability among various PPDR agencies.
- Inefficient use of Spectrum

Next generation technologies for PPDR

To overcome the limitations of current PPDR communication networks, next generation PPDR communication networks should be deployed based on PS-LTE technology which has enhanced broadband capabilities, under a unified framework and comprehensive policy. The PPDR communications would like to get benefit from the next generation mobile technologies using 4G(LTE /LTE-Advanced) and 5G network for an integrated PPDR network to meet the PPDR agencies requirements and standardized services based on 3GPP, which is being globally adopted technology and is getting deployed rapidly worldwide.

TRAI Recommendations

The TRAI recommendation on setting up a PAN-India integrated Broadband PPDR (BB-PPDR) communication network based on 3GPP PS-LTE technology. The National BB-PPDR Network is envisaged to be a Hybrid model comprising dedicated network deployment in metro cities, border districts, disaster prone areas and sensitive areas and commercial network of mobile operator in rest of the country.

SPV formation

Forming a Special Purpose Vehicle (SPV) under MHA to plan, coordinate and steer the nationwide BB-PPDR communication network implementation and its subsequent operation. Also an advisory committee which should include representatives from all disciplines of PPDR system, State Government, Central Government and Ministry of Communications, should be constituted to provide domain specific advice to the SPV for conception, implementation, operation and maintenance of the BB-PPDR communication network.

Network Model: A model of BB-PPDR network in India in which dedicated network for BB-PPDR communication funded by government be created in metro cities, border districts, disaster prone areas (identified by NDMA) and sensitive areas like J&K and North East by a PSU like BSNL/MTNL. The existing commercial network (stringent SLAs) can be leveraged in other regions through any TSP.

Spectrum: For nationwide BB-PPDR network 2x10 MHz quantum of dedicated spectrum should be allocated nationwide to the SPV on no-cost basis for LTE based broadband PPDR networks. 2x10 MHz of the dedicated spectrum, 814-824/859-869 MHz, should be assigned for nationwide BB-PPDR services as per APT Frequency Arrangement number G 3-1-4. Necessary amendments are needed in the NFAP accordingly.

Pilot Testing: Pilot testing prior to the implementation of BB-PPDR dedicated network (dedicated spectrum and network) to be implemented through BSNL/MTNL, funded by the Central Government, at five zones identified as disaster prone/sensitive areas to evaluate the efficacy of the proposed network.

Legacy Networks: DoT should work out timelines to Phase out existing analog networks in PPDR in a phased manner. New spectrum assignments may be done only for deploying digital equipment.

