MEDIUM/ LONG TERM SPECTRUM PLANNING & WRC-2015

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MEDIUM/ LONG TERM SPECTRUM PLANNING & WRC-2015

- Spectrum Planning processes establishes the direction for policy formulation in support of future steps to achieve optimal spectrum usage, efficiency and creating infrastructure/ necessary conducive environment for the growth of communication industry.
- With the increasing demand for spectrum, spectrum planning to be consistent with the major global trends and technological developments while taking note of forecasts addressing the needs of current and future usage of spectrum.
- Through spectrum planning process, we will set our goals for the medium/ long term periods and take necessary steps & initiatives to achieve the targeted goals.

MEDIUM/ LONG TERM SPECTRUM PLANNING & WRC-2015

- Spectrum Planning considerations include
  - National/ International spectrum usage demand profile
  - Shifts in usage patterns
  - Emerging technologies
  - New Services
  - Demand – Supply issues
  - User requirement changes
  - National Frequency Allocation Plans
  - WRC Resolutions

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- How to achieve higher levels of Spectrum Efficiency?
- Structural Changes
- Economic Valuation of Spectrum
- Spectrum Rights
- Spectrum Sharing
- Spectrum Transfer
- Spectrum Pricing
  - Market discovered prices
  - Administrative allocation
- Licensing
- Auctions
- Spectrum Reallocation
- Geographical Allocation
- Time dependent allocation
- Studies
- Field Trials

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- With the increasing demand for spectrum, need to free up more spectrum
- Unused spectrum / Underused Bands in Broadcasting/ Space/ Satellite / TV/ VHF/UHF bands for delivery of wireless services.
- Untapped sources of spectrum would increase the capacity of mobile bandwidth and provide high-speed wireless connectivity
- Research & Development and Standardization Initiatives including Field trials to plan for better delivery for new applications in coming years
- Maintenance, monitoring of Spectrum Data Base
- Simplification of Frequency Assignment Procedures
- Refarming (Redeployment) plan
- Can Government achieve ambitious plans on its own?
- NTP 2012

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SPECTRUM MANAGEMENT

- To move at the earliest towards liberalisation of spectrum to enable use of spectrum in any band to provide any service in any technology as well as to permit ***spectrum pooling, sharing and trading*** to enable optimal utilisation of spectrum through appropriate regulatory framework.
- To undertake ***periodic audit*** of spectrum utilisation to ensure its efficient use.
- To refarm spectrum and allot alternative frequency bands or media to service providers from time to time to make spectrum available for introduction of new technologies for telecom applications.
- To ***prepare a roadmap*** for availability of additional spectrum.
- To make available adequate globally harmonised IMT spectrum in 450 MHz, 700 MHz, 1800 MHz, 1910 MHz, 2.1 GHz, 2.3 GHz, 2.5 GHz, 2.7 GHz, 3.3 Ghz, 3.5 GHz bands and other bands to be identified by ITU for commercial mobile services.

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SPECTRUM MANAGEMENT

- To identify additional frequency bands periodically, for ***exempting them from licensing requirements*** for operation of low power devices for public use.
- To consider requirement of spectrum in certain frequency bands in small chunks at specified locations for ***encouraging indigenous development of technologies/ products and their deployment***.
- To ***review the existing geographical unit of allocation of spectrum*** with a view to identifying scope for optimization.
- To ***promote use of white spaces*** with low power devices, without causing harmful interference to the licensed applications in specific frequency bands by deployment of Software Defined Radios (SDRs), Cognitive Radios (CRs), etc.
- To establish ***Radio Spectrum Engineering and Management Study Institute*** for undertaking policy research in radio spectrum engineering, management/radio monitoring and related aspects.

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- To provide secure, reliable, affordable and high quality converged telecommunication services anytime, anywhere for an accelerated inclusive socio-economic development.
- *Provide affordable and reliable broadband-on-demand by the year 2015 and to achieve 175 million broadband connections by the year 2017 and 600 million by the year 2020 at minimum 2 Mbps download speed and making available higher speeds of at least 100 Mbps on demand.*
- *Provide high speed and high quality broadband access to all village panchayats through a combination of technologies by the year 2014 and* progressively to all villages and habitations by 2020.
- Deliver high quality seamless voice, data, multimedia and broadcasting services on *converged networks* for enhanced service delivery to provide superior experience to users.

MEDIUM/ LONG TERM SPECTRUM PLANNING & WRC-2015

The World Radio communication Conferences (“WRCs”)

- International Telecommunication Union Radio Communication Sector (“ITU-R”).
- At WRCs 2015, from 2 – 27 November 2015, administrations will review the Radio Regulations to arrive at international consensus on the allocation of radio frequency spectrum and enhancement of the existing regulations governing the use of this spectrum. The review and revision of Radio Regulations will assist administrations in spectrum management activities for the medium term planning goals.

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World Radio communication Conference 2015 Agenda items include

- Mobile Broadband (IMT)
- Mobile Satellite Service Allocations (22-26 GHz)
- Mobile Satellite Service Feeder Links (5 GHz)
- Aeronautical Mobile
- Fixed Satellite Services (7-8 GHz, 10-17 GHz)
- Public Protection & Disaster relief
- Amateur service
- Unmanned aircraft system satellite component
- Earth exploration satellite service (7-8 GHz & 9.3-9.9 GHz extension)
- Earth stations on board vessels regulations
- Space research service in 400 MHz
- Maritime mobile
- Radars for ITS
- UTC