BIF COUNTER-COMMENTS TO TRAI CP ON USE OF STREET FURNITURE FOR SMALL CELL AND AERIAL FIBER DEPLOYMENT

At the outset, we wish to thank the Authority for giving us an opportunity to submit our Counter-Comments to the aforesaid CP. In the submitted responses below to few important questions, we have clarified some of our positions and responses made in the earlier submission as well as provided additional responses to some of the questions which we felt would need to be taken into account while finalising the Recommendations.

Q.7: Should there be permission exemption for deploying certain categories of small cells at all places or all categories of small cells at certain places (Like apartments etc.)? What legal framework will support such exemptions?

BIF RESPONSE

Yes. Since deployment of Small Cells and also aerial fiber (in places where UG Fiber is not available) is critical to ensure good QoS of Internet Connectivity, processes for giving permissions should be made simple-preferably online through a simple registration, instant (immediately granted) and should be exempted of any charges

As per international best practices, a few countries viz. US, EU, Hong Kong, Australia, etc. have also adopted criteria based on power emitted and deployment heights for giving exemption from permissions for deployment of small cell. In Australia, the Telecommunications (Low Impact Facilities) Determination 1997 deals with the mounting of antennas on existing buildings and structures without the scrutiny of State and Territory laws and Council approval if the facility satisfies the physical and locational characteristics to be called low impact.

Since the power emission of small cells are lower compared to macrocells, it can be argued that the cell sites which are installed at certain height clearances and emit lower than a specified power, a generic declaration and certification of the equipment at a national/regional/local level can be exempted from any permissions.

Product compliance and product installation compliance of the base station can be evaluated using a range of factors such as maximum radiated power, minimum loss between transmitter and passing people and, network performance (transmission and reception). In addition, different criteria may be applied for indoor versus outdoor installations operating at the same EIRP. Based on the technical documentation (transmitted power, typical antenna gains and compliance boundary dimensions) of the small cell designs, installation classes (a set of acceptable transmitter-mounting locations and permissible radiated powers 36 (EIRPs) which have been calculated to comfortably ensure compliance with exposure limits) can be defined. Installation for these classes can be made eligible for permit exemption. IEC 62232 and ITU-T K10032 have defined base station installation classes that are applicable to small cells deployed in countries. Each installation class is based on simple criteria such as the equivalent isotropic radiated power (EIRP) of all equipment at the site or installation height.

Article 57 of the EECC of the EU, provisions for the exemption of all kinds of buildings from permits as long as the small cells satisfy certain conditions as spelt out by COMMISSION

IMPLEMENTING REGULATION (EU) 2020/1070 of 20 July 2020. This document specifies the characteristics of small-area wireless access points pursuant to Article 57 paragraph 2 of Directive (EU) 2018/1972 of the European Parliament and the Council establishing the European Electronic Communications Code. Article 57 of the EECC provisions the right for operators to access any physical infrastructure controlled by national, regional, or local public authorities, which is technically suitable to host "Small area wireless access points (SAWAP)" or which is necessary to connect such access points to a backbone network, including street furniture, such as light poles, street signs, traffic lights, billboards, bus, and tramway stops and metro stations.

The regulation defines the physical and technical characteristics of small cells, setting strict limits on their size and power, exempting them from planning permits while retaining national oversight. Article 57 operates to prevent "competent authorities" (which would include, for example, local authorities) from making the deployment of small area wireless access points subject to any individual permits. Moreover, Member States must ensure that local and national authorities offer access to operators to street furniture (like lampposts and street signs) for the installation of wireless access points on fair, reasonable and non-discriminatory terms, with a single point of contact.

As the small cell use case expands to the residential and commercial areas, one of the major bottlenecks to the deployment of small cells in such areas would be the restrictions imposed by the Resident Welfare Associations (RWA's) or private owners of the commercial spaces. The restrictions also take the form of exorbitant charges imposed for getting access to these places. **Ensuring the removal of such restrictions to the TSP's/IP's and following a no fee regime and employing the practice of deemed approval can be an option.** Given the background of the installation classes already defined by IEC 62232 Ed.2.0, there is a scope for India to adopt the internationally defined classes for its small cells similar to the adoption by the European Union.

Q.12: Is there a need for standardizing the equipment or installation practices for next generation small cell deployment on street furniture? If yes, what are the suggested standards and what should be the institutional mechanisms for defining, and complying to them?

BIF RESPONSE

Yes. There is a need for standardization of equipment/installation practices for small cell mounted on street furniture. For deploying small cells on street furniture, apart from obtaining right of way and ensuring availability of power, one must also look at suitability of the street furniture for mounting the equipment. Standardized designs can help control administrative authorities to easily assess the suitability of street furniture from point of view of load/wind bearing capabilities, ground/other installation clearances and aesthetics. Standardization of small cell equipment would not only aid in this aspect but will also help the TSPs/IPs to keep control and optimize resource utilization. Standard equipment designs can also help in gaining the trust of end-users by following proper functional aspects and ensuring QoS requirements.

Presently, there are no guidelines for specific design requirements and standards that are required to ensure quality of performance, safety, aesthetic issues on the usage of small cells on street furniture. If the equipment used by the operators is to be approved and certified before site planning, the deployment of small cells at a large scale can be costly and time consuming. Therefore, the issue of a highly fragmented equipment ecosystem needs to be properly addressed. If standards for designs of small cell equipment are spelt out, this can help in easy acceptance of controlling administrative authorities and faster rollouts.

Harmonization of standards and issue of the design guidelines to work across the small cell markets can benefit the TSP's and ISP's by reducing the Time to Market (TTM) for rolling out 5G services in India and benefit controlling administrators by way of dealing with a simplified administrative process. The Small Cell Forum, in its various other reports over the years also suggests broad solutions to tackle the above challenges. Still there has been no consonant approach between countries on the design, specifications, or structure on which the small cell equipment might be installed.

It would be better to efficiently use the existing street infrastructure for the deployment of the small cells, Aerial OFC and Underground OFC complying with relevant national / TEC standards. There is a need to standardize the OFC to ensure easy, reliable and safe deployment, future proofing, effective utilization of the street furniture and support other needs like ease in fibre sharing, Opex and Capex friendliness. Convergence of fibre and power connectivity to be explored and standardized for cost effective deployment and maintenance. Emphasis shall be given to the new OFC technologies (e.g.: connectorized OFC, Optical-Electrical Hybrid Cable, Bend Insensitive Optical Fiber, etc.) to accelerate Fiberization and powering the small cells.

Globally strong shift in optical fiber technologies is observed as legacy ITU-T G.652.D fiber is being replaced by bend-insensitive ITU-T G.657 fiber. Additionally, there is a shift in the adaptation/deployment of high fiber count OFC as modern technologies demand more bandwidth and more devices are need to be connected through the fiber. Ribbon technologies are getting preference in higher fiber count cables due to ease in splicing & fiber management. New ribbon technologies (partially bounded ribbon) have evolved to overcome deployment challenges.

Fire safety regulations for premises cabling and equipment in most of the European countries are made stringent. Telecom infrastructure (like duct, cables and other telecom equipment) to be deployed under the national building code/within any premises must comply with fire safety requirements similar to the CPR rating in European countries.

There shall be proper guidelines for OFC deployment, especially in aerial installation by selecting the right accessories based on the condition of the street furniture to ensure good network health and QoS even in extreme weather conditions.

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