BUREAU OF INDIAN STANDARDS

AGENDA

Panel for Information and Communication Enabled Installations, CED 46:P21 : **Fourth Meeting**

Monday, 29 April 2024 : **1430 h**

GIFT Board, GIFT House, GIFT SEZ Area, Gujarat International Finance Tec-City, Gandhinagar, Gujarat, India.

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Convener: Shri A. K. Mittal

NBC Officer: Shri Abhishek Sharma

Head (NBC Cell): Shri Arunkumar S

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Item 0 OPENING REMARKS

Item 1 CONFIRMATION OF MINUTES OF THE LAST MEETING

1.1 The Minutes of the third meeting of the Panel held on 12 December 2023 in New Delhi were circulated vide BIS DG letter No. CED 46: P21/A-2.3 dated 26 February 2024**.** No comments have been on the Minutes.

The Panel may **CONSIDER** and **CONFIRM** the Minutes.

Item 2 COMPOSITION

2.1 The present composition of the Panel for Information and Communication Enabled Installations, CED 46:P21, as reconstituted in the last meeting is given at **Annex 1 (P-5)**.

The Panel may **NOTE**.

Item 3 PROJECT OF REVISION OF NBC

3.1 In the last meeting, the Panel noted about the various Parts/Sections of NBC 2016 a list of given in **Annex 2 (P-7)** which are being comprehensively revised by the respective Panels, with a view to bring out a most modern and state-of-the-art revision of the Code. The Panel had also decided to revise the chapter taking into

cognizance the latest development in the field, while also ensuring coherence among various chapters of the code.

The Panel may **NOTE.**

3.2 The contents of existing Part 8 'Building Services' / Section 6 'Information and Communication Enabled Installations' as in NBC 2016 are given in **Annex 3 (P-9)**.

3.3 Constitution of Subgroups for Comprehensive Coverage

a) Subgroup focused on indoor and outdoor plants to address intricacies related to environmental integration and sustainability in DCI deployment.
b) Establishment of a subgroup specifically dedicated to radio aspects, encompassing technical standards, frequency management, and compatibility considerations for seamless digital connectivity implementation.

The Panel may **CONSIDER.**

3.4 The Broadband Forum of India has requested to make presentation regarding specifications for Digital Connectivity Infrastructure (DCI) in Buildings, covering three key sections:

a) Neutral FTTx Infra in buildings
b) IBS and intelligent building management solutions (iBMS)
c) OFC cable standards focusing on longevity, quality, and fire-retardant properties.

The Panel may **CONSIDER**.

3.5 Further consideration and finalization of views on the following suggestions which emerged in the last (third) meeting be consider by the Panel:

a) **Seamless Connectivity with Wi-Fi Infrastructure**: Discuss the necessity of Wi-Fi infrastructure inside buildings to ensure seamless connectivity, referencing international practices and the importance of aligning local standards with global benchmarks.
b) **Inclusion of Cyber Security Aspects**: Highlight the importance of including cyber security aspects in Part 11, with suitable reference to standards formulated by LITD of BIS and international best practices.
c) **Integration of Building Management System (BMS) using Digital Technologies**: Discuss the benefits and implementation of integrating BMS aspects using digital technologies and Internet of Things (IoT), referencing the successful practices in Gujarat International Finance Tec-City (GIFT City) buildings and the incorporation of relevant provisions in Development Control Regulations.
d) **Redundant Path for ICT Cabling in Specific Building Occupancies:** Explore the need to consider specific types of building occupancies and provide redundant paths for ICT cabling purposes to ensure reliability and continuity of communication systems.

e) **Update Provisions on Cabling Works:** Address the suggestion from TRAI regarding updating provisions on cabling works leading into buildings/structures to align with technological advancements and industry standards.
f) **Accessibility and Inclusivity**: Address the need for accessible and inclusive design considerations in ICT installations, ensuring that communication technologies are accessible to all individuals, including those with disabilities.
g) **Cybersecurity Measures**: Review cybersecurity measures and protocols for ICT installations to safeguard against cyber threats, data breaches, and unauthorized access, in line with industry standards and best practices.
h) **Energy Efficiency and Sustainability**: Explore strategies and technologies to promote energy efficiency and sustainability in ICT installations, such as energy-efficient devices, renewable energy integration, and smart energy management systems.
i) **Resilience and Disaster Preparedness**: Discuss measures to enhance the resilience of ICT installations against natural disasters, cyberattacks, and other disruptions, including redundancy planning, backup systems, and disaster recovery protocols.
j) **User Experience and Usability:** Emphasize the importance of user experience (UX) and usability in ICT installations, considering factors such as intuitive design, accessibility features, and user feedback mechanisms.
k) **Collaboration with Stakeholders:** Foster collaboration with industry stakeholders, including technology providers, regulatory bodies, academia, and user groups, to promote innovation, knowledge sharing, and continuous improvement in ICT installations.

The Panel may **NOTE** and **DISCUSS**.

3.6 Telecom Regulatory Authority of India vide email dated 20th February 2023 has suggested incorporating the recommendations as in **Annex 4** (**P-10**) on "Rating of Buildings or Areas for Digital Connectivity", with a focus on amendments to building codes, essential inclusion of DCI in development plans, roles and responsibilities of DCI professionals, standards review by BIS, certification and capacity building through CoDCI, and mandatory rating of buildings for digital connectivity.

The Panel may **CONSIDER.**

3.7 All the members are requested to periodically visit the Manak Online (the Standardization Portal of BIS) including its Document Repository “tab” through which the related documents (other than the Meeting Notice, Agenda, Minutes, Working Draft, Preliminary Draft, Wide Circulation Draft) from BIS will be shared.

The following information has been recently listed under the Document Repository:

1) BIS' Library can be accessed ONLINE
2) TA/DA Guidelines
3) Guide to using the Standardization portal
4) Guide on HOW TO WRITE A STANDARD

The Panel may **NOTE.**

Item 4 COMMENTS RECEIVED ON PART 8/SECTION 6 'INFORMATION AND COMMUNICATION ENABLED INSTALLATIONS', OF DOC: SP7 : 2016

4.1 Recommendations have been received from PQ Welfare Consortium, Mumbai for "Ensuring Compliance with Safety Standards in Healthcare Facilities" and the same is given in **Annex 5 (P-18)**.

The Panel may **CONSIDER**.

ANNEX 1
(*Item* **2.1**)

COMPOSITION OF THE PANEL FOR INFORMATION AND COMMUNICATION ENABLED INSTALLATIONS, CED 46:P21

Sl No.	NAME OF THE ORGANIZATION	REPRESENTED BY	Participation in Meeting No.		
			1st	2nd	3rd
1)	In personal Capacity, New Delhi	Shri A. K. Mittal (Convener)	P	P	P
2)	Airports Authority of India, New Delhi	Shri D. K. Kamra Shri Vivek Chourey (Alternate)	P	P	A
3)	Broadband India Forum, New Delhi	Shri T V Ramachandran Dr Shiv Kumar (Alternate)	-	-	P
4)	Building Industry Consulting Service International- India District, Mumbai	Shri Ninad Mohan Desai	P	P	P
5)	Cellular Operators Association of India, New Delhi	Shri Vikram Tiwathia Smt Vertika Misra (Alternate)	A	A	P
6)	Central Industrial Security Force, New Delhi	Shri Naresh Kumar	P	A	P
7)	Central Public Works Department, New Delhi	Shri Vikas Rana Shri R. P. Gupta (Alternate)	P	P	A
8)	CMAI Association of India, New Delhi	Prof N. K. Goyal	P	P	A
9)	Department of Telecommunication, Ministry of Communications and IT, New Delhi	Shri Ashok Kumar Shri Rahul Jain (Alternate)	P	P	P
10)	Dept. of Electronics & Information Technology, Ministry of Communications and IT, New Delhi	Dr Anil Kumar Kaushik Shri Prakash Kumar (Alternate)	P	P	A
11)	Gujarat International Finance Tec City Company Limited (GIFTCL), Gandhinagar	Shri Ramakant Jha Shri Nilesh Purey (Alternate)	P	A	P
12)	Indian Buildings Congress, New Delhi	Shri Bhishma Kumar Chugh Shri P. S. Chadha (Alternate)	A	A	A
13)	Indian Institute of Architects, Mumbai	**Nomination Awaited**	-	-	-

Sl No.	NAME OF THE ORGANIZATION	REPRESENTED BY	Participation in Meeting No.		
			1st	2nd	3rd
14)	Internet Service Providers Association of India, New Delhi	Shri Brajesh Chandra Jain	P	P	A
15)	Military Engineer Services, New Delhi	Shri Man Mohan Mehrotra Shri Ashok Kumar (Alternate)	P	A	A
16)	Ministry of Railways, New Delhi	Smt Vinita Narera	P	A	A
17)	Proion Consultants, New Delhi	Smt Shruti Goel	P	P	P
18)	Roads and Buildings Department, Govt of Telangana, Hyderabad	Shri G. Ramakrishna Kumar Deputy Chief Engineer (Alternate)	A	A	A
19)	Shyam Spectra Private Limited, Gurugram	Shri Hem Chand Rajput	-	-	P
20)	Sterlite Technologies, Pune	Shri S. N. Gupta Shri Priyadarshi Sidhartha (Alternate)	-	A	A
21)	Telecom System Design & Manufacturers Association, New Delhi	Shri Bhupesh Yadav Shri Rahul Dubey (Alternate)	P	A	A
22)	The Institution of Engineers (India), Kolkata	**Nomination Awaited**	-	-	-
23)	Town and Country Planning Organization, New Delhi	Chief Planner (Shri Naresh Kumar Dhiran) Town and Country Planner (Alternate) ~~Shri R. Srinivas (Alternate)~~	P	P	A
24)	In Personal Capacity, Bangalore	Shri J. N. Bhavani Prasad	P	A	A

ANNEX 2
(*Item* **3.1**)

Details of Chapters of NBC 2016

Part/Section		*Title*
1	**PART 0**	**INTEGRATED APPROACH – A PRE-REQUISITE FOR APPLYING THE PROVISIONS OF THE CODE**
2…….	**PART 1**	**DEFINITIONS**
3……..**PART 2**		**ADMINISTRATION**
4……..**PART 3**		**DEVELOPMENT CONTROL RULES AND GENERAL BUILDING REQUIREMENTS**
5……..**PART 4**		**FIRE AND LIFE SAFETY**
6……..**PART 5**		**BUILDING MATERIALS**
	PART 6	**STRUCTURAL DESIGN**
7……		Section 1 Loads, Forces and Effects
8……		Section 2 Soils and Foundations
		Section 3 Timber and Bamboo
9……		3A Timber
10……		3B Bamboo
11……		Section 4 Masonry
		Section 5 Concrete
12…… ……		5A Plain and Reinforced Concrete
13…… ……		5B Prestressed Concrete
14…….....Section 6 Steel		
		Section 7 Prefabrication and Systems Building and Mixed/Composite Construction
15……7A Prefabricated Concrete		
16……7B Systems Building and Mixed/Composite Construction		
17..... Section 8 Glass and Glazing		
18……	**PART 7**	**CONSTRUCTIONAL PRACTICES AND SAFETY**
	PART 8	**BUILDING SERVICES**
19……		Section 1 Lighting and Ventilation
20……		Section 2 Electrical and Allied Installations
21……		Section 3 Air-conditioning, Heating and Mechanical Ventilation
22……		Section 4 Acoustics, Sound Insulation and Noise Control
		Section 5 Installation of Lifts and Escalators and Moving Walks
23……		5A Lifts
24……		5B Escalators and Moving Walks
25.....		Section 6 Information and Communication Enabled Installations
	PART 9	**PLUMBING SERVICES**

ANNEX 3
(*Item* **3.2**)

C O N T E N T S

ANNEX 4
(*Item* 3.6)

Summary of Recommendations on "Rating of Buildings or Areas for Digital Connectivity" dated 20th February, 2023

1. The Authority recommends that Model Building Bye-Laws (MBBL) and National Building Code of India (NBC) should be amended to incorporate necessary provisions on Digital Connectivity Infrastructure (DCI) as recommended herein.

2. The Authority also recommends that, DCI should be made an essential component of the building development plans, on the line of water supply, electrical services, gas supply, fire protection and fire safety requirements, etc.

3. In case of development of Buildings in rural, semi-urban, remote and hilly areas, etc. where MBBL is not directly applicable, the authority recommends that the Government may work with State Governments/UTs for incorporation of suitable provisions for DCI development in the respective byelaws or other relevant laws of the State Governments/UTs.

4. As RERA act protects the interests of the consumers of the real estate sector and provides platform for speedy disposal of their disputes, the Authority recommends that provisions for mandating DCI inside the Buildings, its maintenance, timely upgradation, etc. should be incorporated in the builder-buyer agreement for covering it under the jurisdiction of RERA act and its enforceability by the RERA. (Para 2.2.7)

5. The Authority recommends that the actors to design, deploy and evaluate the DCI should include the Property Manager and DCI Professionals i.e., DCI Designer, DCI Engineer and DCI Evaluator, where:

a) The Property Manager is the person or body who is responsible to oversee and manage the development, operation and maintenance of a Building and has the authority either as owner(s) of the Building 82 or as an agent of the owner(s). The term "Property Manager" would include an owner or a developer or a builder of a real estate project(s) or an area(s) responsible to plan, design and build facilities like
Multi-storey residential buildings, Commercial buildings or complexes, etc.

b) DCI Designer is a professional who has the competence and possesses prescribed qualifications to design DCI for Buildings.

c) DCI Engineer is a professional who has the competence and possesses prescribed qualifications to implement the DCI designed for Buildings.

d) DCI Evaluator is a professional who has the competence and possesses prescribed qualifications to measure and evaluate the quality of the DCI deployed inside Buildings.

6. The Authority further recommends that any person who possesses the requisite skills, as may be prescribed, can perform the functions as DCI Designer or DCI Engineer or DCI Evaluator.

7. The Authority recommends that a separate chapter should be included in MBBL on comprehensive framework for development of DCI.

8. The Authority recommends that the Bureau of Indian Standards (BIS) should be tasked to review existing standards and procedures of DCI for Buildings.

9. The Authority recommends that the "National Building Code Sectional Committee" constituted under NBC, also referred as Guiding Committee should include members from the Department of Telecommunication and Telecom Industry.

10. The Authority further recommends that the Panel on 'Information and Communication Enabled Installations' under NBC (Volume II, Part 8, Section 6) should be expanded to include representatives from 83 Telecommunication Engineering Centre (TEC) and Telecommunications Standards Development Society India (TSDSI) and, experts on telecom RF planning and experts on digital modelling of Buildings. The convener of this panel should be the representative nominated by DoT.

11. On standards for products and procedures for DCI, the Authority recommends that,

a) the BIS should prescribe and update standard templates which will be used by Property Managers for collecting building-related information and connectivity requirements of users. In case of nonavailability of data from the users, the Property Manager shall use the data available for similar Buildings. Data collected through such templates shall be used by the DCI Designers.

b) the standards and procedures framed, and templates prescribed for DCI by BIS should be made part of the National Building Code (NBC).

c) TEC should continue to work as the equipment standardization and certification agency for standard products and equipment required for DCI.

d) TEC should prescribe necessary specifications in respect of new products required for upgradation of DCI.

e) TEC should also ensure that the certified products for DCI are shareable and interoperable.

f) TEC should enlist and publish such DCI products and equipment which require certification.

12. The Authority recommends that BIS should prescribe different standards for different classes of Buildings for DCI.

13. Further, the Authority recommends that BIS should also prescribe such provisions of DCI that would be mandatorily required (essential 84 requirements) to be completed for issuance of completion/occupancy certificate for Buildings.

14. The Authority recommends that the Property Manager shall be the owner of the deployed DCI whether created by himself or through his agent and shall be responsible for maintenance, expansion and upgradation of such DCI. The Property Manager shall allow access of DCI to all service providers in fair, non-chargeable, transparent and non-discriminatory manner and shall not have any exclusive arrangements or agreements with any infrastructure/service provider. Provided that in case active wireless equipment is installed by a licensee, the licensee will be responsible for maintenance, expansion and upgradation of such DCI and to that extent, the ownership lies with that licensee. However, this installation of active wireless equipment will be carried out on behalf of the Property Manager and Property Manager shall be responsible for ensuring that the licensee compulsorily gives access of such active wireless equipment to all service providers on fair, transparent, non-discriminatory, and non-exclusive manner.

15. Further, the Authority recommends that, an amendment to the present Unified license conditions with a proviso for compulsory sharing of active wireless equipment in the Buildings may be carried out.

16. The Authority recommends that the revenues earned by sharing of active wireless equipment, as part of DCI, by lessor licensees should not attract License Fee (LF). For the same, such revenues should be reduced from the Gross Revenues (GR) of the lessor licensee to arrive at Applicable Gross Revenue (ApGR) of such lessor licensee. To implement above recommendation, it is further recommended that, a new item named as “Revenue earned from other licensees from sharing of active wireless equipment, as part of DCI” should be inserted under the license provisions namely “List of other items to be excluded from GR to arrive at ApGR”. It is also recommended that, appropriate modification 85 may be carried out in UL, UL(VNO) and ISP licenses. Also, the information collected in “Format of Statement of Revenue and License Fee” that is attached with each authorization chapter in UL, UL(VNO) and with ISP licenses needs to be modified to capture information from such revenues under a separate head.

17. For existing Buildings where DCI is partly created, the Authority recommends a collaborative approach among stakeholders to decide ownership i.e., Property Manager for development, upgradation and expansion of DCI. However, in cases where DCI is developed by a service provider/ IP-I(s), till no suitable arrangement is worked out to transfer the DCI to the Property Manager, such service providers/ IP-Is shall be governed by the mandatory provisions of the license/ registration conditions.

18. The Authority reiterates its recommendation in para 2.90 of its recommendations dated 29th November 2022 on “Use of Street Furniture for Small Cell and Aerial Fibre Deployment” wherein it was recommended that “enabling provisions or suitable terms and conditions shall be introduced in all telecom licenses and IP-I

registration agreement prohibiting the TSPs/IP-I providers from entering into any exclusive contract or right of ways with infrastructure owners/CAAs or any other authority".

19. The Authority recommends that in case of introduction of new spectrum bands, change in technologies, increased users' demands etc.,

a) DoT should take up with BIS and MoHUA for incorporation of amendments in National Building Code and Model Building Byelaws, respectively.

b) BIS should also prescribe essential provisions that would be required to be carried out by Property Manager for upgradation and expansion of DCI.

20. The Authority recommends that the MBBL should have appropriate provisions for the approval of upgradation and expansion of DCI.

21. The Authority further recommends that the Property Manager should ensure upgradation and expansion of DCI in the timeline as will be prescribed in the MBBL.

22. The Authority recommends that, in all existing Buildings owned by the Government, PSUs or autonomous bodies of the Government, commercial buildings and public places such as airports, ports, railway stations, bus stations, metro stations or any other Building as may be decided by MoHUA in consultation with DoT, DCI shall be upgraded or provided to meet the requirements of state-of-the-art digital connectivity. In such cases, the Authority also recommends that the building bye-laws should prescribe a reasonable time frame so as to ensure availability and accessibility of upgraded DCI.

23. The Authority further recommends that for existing Buildings other than those mentioned in recommendation no. 22, the new building byelaws should be issued by MoHUA within three years after due consultation with the various stakeholders. Till then, it is recommended that, the Property Managers of such existing Buildings shall implement the new byelaws voluntarily.

24. The Authority recommends that, the Indian Telegraph Act, 1885 should be amended as follows:

a) The Central Government may prescribe through rules for formation of Council of Digital Connectivity Infrastructure (CoDCI).
b) The rules may specify the manner of certification of persons to design, deploy and evaluate DCI.
c) Such rules may specify the qualification of and terms and conditions subject to which, such certification may be granted, including 87 through conduct of examinations for granting such certifications, the fees and charges to be paid thereof, and other connected matters.

25. The Authority recommends that a Council of DCI (CoDCI) should be established under the Department of Telecommunications (DoT), Ministry of Communication in collaboration with the Ministry of Housing and Urban Affairs (MoHUA), All India

Council for Technical Education (AICTE), National Skill Development Council (NSDC), Telecom Sector Skill Council (TSSC), and Construction Skill Development Council (CSDC) or any other organisation/institution as deemed appropriate. The CoDCI shall be responsible for taking all decisions in respect of certification, registration and capacity building of DCI Professionals.

26. The Authority recommends that broad roles and responsibilities of CoDCI are as follows:

a) To prescribe the qualification, roles and responsibilities of DCI Professionals.

b) To study the content of existing similar courses within and outside India and their suitability for DCI Professionals in India.

c) To suggest appropriate Graduate and Diploma courses including elective/ certification courses at various levels for DCI Professionals.

d) To accredit institutes and organizations for offering courses related to DCI. Considering that there are large number of Buildings in each State and UT, there may be a requirement of accreditation of institutions across all States and UTs for offering such courses and development of the workforce.

e) To conduct examination and certify DCI Professionals.

f) To organize training for trainers and skill upgradation of DCI professionals.

g) To register qualified and certified DCI Professionals, on similar lines to the CoA. Such Professionals once engaged by Property Managers for development of DCI and declared on their plan documents shall be Persons on Record.

h) To maintain a register of DCI Professionals and publish the same on online portal for access and use by various stakeholders.

j) To keep a track of various activities related to capacity building and dissemination of the information to all stakeholders, the council needs to develop a digital platform for the cohesive implementation of DCI and linking of the same with various agencies.

k) Any other work related to capacity building as deemed fit by the council.

27. The Authority recommends that the CoDCI, within one year of its establishment or three years from the date of these recommendations, whichever is earlier, should establish a mechanism for certification, registration and capacity building of DCI Professionals including setting up of digital platform for the cohesive implementation of DCI.

28. The Authority further recommends that till the time CoDCI is established, the provisions in new building bye-laws for DCI as recommended herein must be implemented by utilizing the services of the existing professionals already working in the field of design and development of Buildings and DCI.

29. The Authority recommends that a digital platform should be developed and maintained by CoDCI. The broad objectives of the digital platform include but not limited to the following:

a) Activities related to capacity building of DCI Professionals:

   i. Publish details of the courses, accredited institutions and the process for admissions, and applicable fee structures if any.
   ii. Facility for conducting examinations for certification of DCI Professionals.
   iii. Registration facility for certified DCI Professionals.

b) Publish the list of registered DCI Professionals and certified products and tools.

c) Provide a marketplace for buying and selling of certified products. Such e-marketplace should be linked with Open Network for Digital Commerce (ONDC).

d) Enable Property Managers to hire services of registered DCI Professionals.

e) Enable interaction and collaboration among various stakeholders through various technologies and tools.

f) To provide a feedback mechanism for the services delivered by registered DCI Professionals and certified products used.

g) To maintain details with regard to development projects/ Buildings approved – ongoing, completed and put to use by the local bodies and other competent authorities.

h) To create a repository in respect of the service providers along with technologies and spectrum bands, who are offering services in the area and update the same from time to time.

j) To create a repository of knowledge based on past learning of implementation of DCI projects to support in standardization of the processes.

k) To make available on a regular basis the information on standards, technology and best practices within India and at global level related to DCI.

l) To publish analytical reports/articles on DCI development and related issues.

m) To make available acts/ laws/ byelaws/ rules/ regulations related to DCI.

n) To facilitate online application, clearance and approval process for service providers seeking access to DCI created in Buildings

30. The Authority further recommends that, till the time CoDCI is established, the digital platform should be created by DoT to meet immediate objectives, which can later be handed over to the CoDCI.

31. The Authority recommends that, approval of DCI design, deployment and use of Buildings should remain with the existing institutions as per statute of State/UT Governments for the purpose.

32. The Authority further recommends that, the Authorities of the States/UTs responsible for approval of DCI development plans and evaluations thereof, should hire the services of a suitable expert/agency duly registered and certified by the Council of DCI (CoDCI).

33. The Authority recommends that the BIS Panel on 'Information and Communication Enabled Installations' should develop standards in respect of DCI for the Buildings, to be included in the National Building Code as mentioned in Appendix-II to this chapter. The Authority further recommends that definitions, related to DCI, as mentioned in para 6.1 of Appendix-I, should be made part of the NBC.

34. The Authority recommends that appropriate provisions for Rating of Buildings for Digital Connectivity should be included in the MBBL, on the lines of the provisions made in the MBBL for rating of green buildings.

35. The Authority recommends that to start with, the Rating of Buildings for digital connectivity should be made mandatory for all existing as well as new Buildings of public importance within two years of issue of the regulatory framework by TRAI or two years from obtaining occupancy certificate, whichever is later. The Authority further recommends that Rating of the following Buildings of public importance should be made mandatory:

a) Airports,
b) Ports,
c) Railway/ metro stations,
d) Bus stations,
e) Buildings of Central/ State/ UT Governments/ Local authorities/
f) Government agencies/ PSUs,
g) Government residential colonies,
h) Industrial estates including industrial parks, SEZs, multi-modal
j) logistic parks,
k) Large commercial office complexes,
l) Large commercial shopping complexes,
m) All institutes of higher education including research institutes,
n) All multi-speciality hospitals, and
p) Any other Buildings as Government may decide.

36. The Authority also recommends that, the Rating of Buildings for digital connectivity should be made mandatory for all new Buildings, excluding the class of Buildings as may be decided by MoHUA in consultation with the States/ UTs and other stakeholders.

37. The Authority recommends that the Property Manager should get Buildings rated for digital connectivity within two years of obtaining the occupancy certificate once TRAI has issued the regulatory framework.

38. The Authority also recommends that for Buildings other than those mandated, the Property Manager may get their Buildings rated for digital connectivity on voluntary basis.

39. The Authority recommends that, a new draft chapter on DCI for the Buildings, as suggested in the Appendix-I to this chapter, should be included in the Model Building Bye Laws, in line with the recommendation no. 7 at para 2.4.8.

ANNEX 5
(*Item* 4.1)

Recommendations of the PQ Welfare Consortium for "Ensuring Compliance with Safety Standards in Healthcare Facilities"

1. Emphasize the critical need to uphold prevailing safety standards, particularly those outlined in the National Electrical Code (NEC) 2023, during the accreditation process of hospitals by the National Accreditation Board for Hospitals & Healthcare Providers (NABH).
2. Highlight concerns regarding the implementation of Isolation Monitoring Devices (IMDs) and Arc Flash Detection Systems (AFDDs) in healthcare facilities across India, noting a lack of integration of IT electrical systems with Medical IMDs in many hospitals despite NABH certification.
3. Address the issue of non-compliance with required IEC and IS standards in safety audit reports, indicating a need for increased awareness among auditors regarding the importance of Medical category Insulation Transformers with Medical category IMDs for patient safety.
4. Reference recent updates in safety standards by the Central Electricity Authority (CEA) aligning with NEC 2023, stressing the importance of continuous updates and adherence to evolving safety protocols, including references to IEC guidelines.
5. Cite specific clauses from NEC 2023, such as Part 3, section 9-Requirements for Medical Locations, which prescribe detailed measures for medical locations and classify them into Group 0, 1, and 2, emphasizing the need for appropriate electrical safety measures based on these classifications.
6. Highlight the pivotal role of IMDs in regulating leakage current to ensure patient safety and urge NABH to enforce compliance with prevailing standards, educate hospitals and auditors on the significance of implementing Medical Grade Isolation Transformers with Medical Grade IMDs and AFFDs, and institute stringent measures to ensure hospitals' adherence to safety requirements as part of the accreditation process.
7. Stress the importance of NABH's commitment to promoting quality and excellence in healthcare delivery through reinforcement of safety standards and collaboration with stakeholders like PQWC to enhance patient safety across healthcare facilities in India.

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