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Telecom Regulatory Authority of India

भादूविप्रा
TRAI

Rating Manual 2026

for

Assessment of Digital Connectivity

under

Amended Rating of Properties for Digital Connectivity Regulations, 2024

MESSAGE

Reliable and high-quality digital connectivity is central to India's transformation into a digitally empowered economy and society. As technological innovation and data demand accelerate, robust connectivity within buildings and public spaces has become essential - not only for convenience, but as a foundational enabler for governance, productivity, and inclusion.

The **Rating Manual 2026** issued under the framework of **amended Rating of Properties for Digital Connectivity Regulations, 2024** advances TRAI's mandate to ensure transparent, measurable standards for digital infrastructure. This manual translates the regulatory vision into operational benchmarks tailored to varied property types.

It outlines a standardized and objective methodology for assessing digital infrastructure readiness, including parameters such as fiber availability, in-building solutions, network coverage, and service performance. This enables harmonized planning and predictable service outcomes for all stakeholders.

The introduction of a rating framework brings clarity and comparability to digital connectivity performance across real estate. It incentivizes proactive infrastructure planning and empowers decision-makers—developers, telecom operators, and end users—to align their efforts for future-ready, digitally inclusive environments.

As the national telecom regulator, TRAI remains committed to fostering an ecosystem where digital connectivity is universally available, equitable, and of high-quality. Through its consultative and regulatory frameworks, TRAI will continue to support convergence between infrastructure readiness, user experience, and innovation.

TRAI invites property developers, regulators, infrastructure providers, and telecom operators to engage with this framework in a collaborative, consultative spirit. Together, we can enable digital access as a core infrastructure right—supporting India's journey toward a fully connected and digitally inclusive future.

(Anil Kumar Lahoti)
Chairperson, TRAI

PREFACE

Digital technology has reshaped contemporary society, redefining how we communicate, work, and engage with our surroundings. With increasing reliance on seamless connectivity, robust digital infrastructure within properties has evolved from a desirable amenity to a critical utility. This includes high-bandwidth internet for remote work, uninterrupted mobile coverage, and intelligent building systems that enhance energy efficiency and security via real-time data exchange.

Yet, many existing and newly developed properties face persistent challenges in achieving comprehensive digital connectivity. Such challenges arise from legacy systems, insufficient planning, and the absence of uniform infrastructure deployment standards, limiting users from realising the benefits of a digitally connected environment. Recognizing these gaps, the Telecom Regulatory Authority of India (TRAI) notified the amended Rating of Properties for Digital Connectivity Regulations, 2024, aimed at establishing a structured framework for assessing digital connectivity in buildings and properties.

This regulation provides a framework to address these challenges by promoting uniform standards, enabling stakeholder coordination, and encouraging the integration of future-ready connectivity solutions. By defining a structured rating mechanism, these regulations support the integration of connectivity infrastructure - ensuring adequate bandwidth, low latency, and strong signal strength – as a core aspect of property development.

The framework invites collaboration among policymakers, developers, architects, telecom service providers, and consumers, to facilitate the development of properties that are digitally ready and future-focused. It fosters an ecosystem where Digital Connectivity Infrastructure (DCI) is planned and implemented as an integral component of all development activities.

This rating manual serves as a reference guide for the Digital Connectivity Rating Agencies (DCRAs), property managers, developers, architects, infrastructure providers and service operators to ensure seamless digital connectivity deployment and improved user experience.

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Abbreviations

Acronyms	Description
AI	Artificial Intelligence
AR	Augmented Reality
BIS	Bureau of Indian Standards
BMS	Building Management System
BoM	Bill of Material
BW	Bandwidth
CSSR	Call Setup Success Rate
DAS	Distributed Antenna System
DCI	Digital Connectivity Infrastructure
DCIP	Digital Connectivity Infrastructure Provider
DCRA	Digital Connectivity Rating Agency
DTH	Direct to Home
DWDM	Dense Wavelength Division Multiplexing
Gbps	Gigabits per Second
HVAC	Heating, Ventilation, and Air Conditioning
ICT	Information and Communications Technology
IoT	Internet of Things
IBS	In-Building Solutions
IP	Infrastructure Provider
IPv6	Internet Protocol version 6
ISP	Internet Service Provider
KPI	Key Performance Indicator
M2M	Machine to Machine Communication
MBBL	Model Building Bye-Laws

Acronyms	Description
Mbps	Megabits per Second
MCF	Maximum Chargeable Fee
Mn	Million
MoHUA	Ministry of Housing and Urban Affairs
MoS	Mean Opinion Score
NBCS	National Building Construction Standards
NDCP	National Digital Communication Policy
PM	Property Manager
PON	Passive Optical Network
QoE	Quality of Experience
QoS	Quality of Service
RF	Radio Frequency
RRU	Remote Radio Unit
RSRP	Reference Signal Received Power
SON	Self-Optimizing Networks
TEC	Telecom Engineering Center
TRAI	Telecom Regulatory Authority of India
TSP	Telecom Service Provider
UPS	Uninterrupted Power Supply
URIN	Unique Request Identification Number
VoLTE	Voice over Long-Term Evolution
VoNR	Voice over New Radio
VR	Virtual Reality
WFA	Work From Anywhere
WPA	Wi-Fi Protected Access

1. Introduction

1.1. Overview

Internet access serves as a critical enabler, connecting individuals and businesses to governments, markets, and a wide range of economic and social opportunities. Digital services, including e-payments, e-commerce, and e-identification, are revolutionizing business models across sectors such as financial services, healthcare, and education, while also transforming the delivery and consumption of goods throughout the broader economy. Emerging technologies like Internet of Things (IoT) and Artificial Intelligence (AI) have the potential to further accelerate the growth of the digital economy. In emerging markets, digital connectivity has been a significant driver of development over the past two decades, fostering economic growth, job creation, and poverty reduction. By expanding markets, improving efficiency in both business and government operations, and driving innovation in traditional sectors, digital technologies are unlocking new opportunities for inclusive development.

However, the benefits of digital connectivity cannot be fully realized without universal access to the Internet. Significant progress has been made over the past two decades to increase the reach of telecommunication networks, with 95 percent of the world population covered by a mobile broadband network[1].

1.2. Importance of Digital Connectivity

The development of resilient, world-class infrastructure—physical, social, financial, and digital—forms a cornerstone of India's strategy to achieve the vision of Viksit Bharat @ 2047. Among these, digital infrastructure has emerged as a critical necessity, often rivaling traditional infrastructure components such as power, water, and transportation. The COVID-19 pandemic not only reshaped the global order but also accelerated the expansion of digital infrastructure worldwide. Comprising the physical resources and systems required to process and utilize data effectively; digital infrastructure has become essential to societal functioning and quality of life. As nations aim to make their digital systems more resilient, agile, and forward-looking, India, with its vast population and technological potential, is well-positioned to assume a leadership role in shaping the future global digital landscape.

[1] https://www.itu.int/itu-d/reports/statistics/2023/10/10/ff23-mobile-network-coverage/

The rapid advancement of technologies such as 4G and 5G, coupled with enabling devices and software applications, has profoundly transformed both personal and professional lives while reshaping governance and business models globally. Today, individuals across all age groups increasingly rely on smart devices for activities such as studying, working, and entertainment. The availability of online services, including banking, e-commerce, citizen-centric solutions, and infotainment options like gaming and social networking, hinges on robust digital connectivity. In the modern era, it is almost unimaginable to function without access to these services, emphasizing the critical need for reliable and high-quality digital connectivity.

India's digital transformation holds immense promise, with nearly ~975 Mn internet users as of 31st May 2025[2] and a growing ecosystem of indigenous digital services, platforms, and applications. This digital transformation could unlock significant opportunities for businesses, startups, and innovators to invest in emerging technologies like AI, blockchain, and drones tailored to India's unique needs. However, the rapid adoption of frontier technologies has placed tremendous pressure on existing digital infrastructure. To harness the full potential of initiatives such as Smart Cities and Smart Health, focus on augmenting and modernizing digital infrastructure is essential to sustain this momentum and enable the seamless integration of advanced technologies into its digital infrastructure.

1.3. Background and Purpose

The purpose of the rating framework is to establish a standardized framework to assess the availability of digital connectivity infrastructure in different categories of properties and to encourage the stakeholders to improve the telecom network quality of service in properties. The aim is to improve consumer experience, ensure seamless digital connectivity, and promote stakeholder collaboration, making Digital Connectivity Infrastructure (DCI) an integral part of property development. The quality of telecommunication services inside the properties is an integral part of protection of consumer interest.

The framework also recognizes the importance of enabling visibility of planned digital connectivity at the design and construction stages of properties, while ensuring that final ratings continue to be awarded based on actual on-ground assessment.

[2] https://www.trai.gov.in/sites/default/files/2025-06/PR_No.51of2025_0.pdf

To provide legal and regulatory trigger for addressing the issue of accessibility and quality of digital connectivity inside properties, the Telecom Regulatory Authority of India has submitted recommendations to the Government on "Recommendations on Rating of Buildings or Areas for Digital Connectivity" dated 20th February 2023 and regulation on "Rating of Properties for Digital Connectivity,2024" dated 25th October 2024, as amended by the "Rating of Properties for Digital Connectivity (Amendment) Regulations, 2026" dated 13th May 2026. The recommendations and regulations are aimed at creating an ecosystem for co-creations of Digital Connectivity Infrastructure (DCI) as a part of any development activity, be it a Building or an Area.

The key objectives of amended regulation on Rating of Properties for Digital Connectivity, 2024, hereunder referred as the regulation, includes:

a. To improve consumer experience by ensuring seamless connectivity inside properties
b. To standardize and promote high-quality digital connectivity in residential, commercial, and public properties
c. To provide a standardized rating system to evaluate properties for their digital infrastructure and service readiness
d. To provide prospective tenants, owners, and businesses with transparent measure of quality of property's digital connectivity
e. To encourage coordination between property managers, Service Providers, DCIPs to implement connectivity standards.

The regulation is applicable for:

i. Property managers who intend to get their property, of minimum specified size, rated or audited for digital connectivity, either voluntarily or under the provisions of other applicable laws, rules or regulations;
ii. Digital connectivity rating agencies, who intend to award ratings to the property or audit it for digital connectivity under these regulations;
iii. In-Building Solution providers, who intend to establish their IBS within the property for providing IBS to service providers; and

iv. Service providers, who intend to integrate their telecommunication network with the digital communication infrastructure, including In-Building Solution, of the property for providing telecommunication services in the property.

1.4. Digital Connectivity Rating Framework

The regulation provides a standardized method to evaluate digital connectivity inside properties. The ratings, provided under the rating framework under the regulation, will enable stakeholders to make informed choices while promoting the development of robust digital infrastructure. The key aspects of rating framework include:

i. Standardized Process

The framework establishes a uniform methodology to assess the digital connectivity of properties and areas across various categories, ensuring comparability and reliability. Properties shall be evaluated based on defined parameters in the regulation such as fiber readiness, mobile network availability, in-building solutions, and Wi-Fi infrastructure. Different property types (commercial, residential, industrial, public spaces, hospitals, government offices, transport corridors and many more) may have tailored benchmarks to ensure relevant and fair assessments. The standardized process also provides for assessment of digital connectivity at different stages of property development, as specified in the regulations.

ii. Consistent Quality and Coverage

Integrating Digital Connectivity Infrastructure (DCI) at an early stage in property development ensures that digital services are of high quality, reducing connectivity gaps and enhancing user experience. The framework promotes the inclusion of diverse connectivity options, such as fiber optic networks, Wi-Fi, cellular connectivity, and satellite broadband, to enhance resilience. Properties will be assessed based on their capability to provide seamless indoor and outdoor network coverage**,** including provisions for small cells, DAS (Distributed Antenna Systems) and Wi-Fi network**.**

iii. Consumer Empowerment

A structured rating system enables consumers and stakeholders to make informed decisions based on digital connectivity performance, driving competitive improvements.

a. **Informed decision-making:** Prospective tenants and buyers can compare properties based on their connectivity rating, ensuring they choose locations with the best digital infrastructure.

b. **Market differentiation:** Property managers and consumers are incentivized to enhance their digital infrastructure to achieve higher ratings, improving property value and marketability.

c. **Future readiness:** Encourages property managers to adopt emerging technologies to future-proof their properties.

1.5. Objectives of the Rating Manual

The Rating Manual serves as a structured framework designed to ensure a fair, transparent, and standardized approach to assessing digital connectivity under the provisions of the regulation.

1.6. Scope of the Rating Manual

The Rating Manual outlines the detailed methodology to be followed by the stakeholders for assessment of digital connectivity in different categories of properties as per the assessment criteria provided in the regulation. This document provides a comprehensive guide for all stakeholders involved in implementation and assessment of digital connectivity in properties and areas, including Digital Connectivity Rating Agency (DCRA), Property Manager (PM), and Service Providers.

Key aspects of the manual include a detailed description of the overall rating process for digital connectivity. This process encompasses the registration procedures for DCRAs and property managers. It also specifies the evaluation methodology tailored for distinct property classifications provided in the regulation i.e. Category A properties and Category B properties.

The manual also elaborates on the processes for the award and renewal of ratings. Additionally, it sets forth provisions for a reporting and feedback mechanism, empowering stakeholders to provide input for maintaining and improving the rating framework. Processes for dispute resolution are also detailed, offering structured processes to address and resolve conflicts among stakeholders effectively.

Recognizing the dynamic nature of digital connectivity needs, the manual provides a protocol for the periodic review and updates of the rating manual. This ensures that the manual

remains relevant in addressing technological advancements, changing user expectations, and emerging challenges. The manual also includes a chapter dedicated to guidelines and best practices to be adhered to by property managers and DCRAs, fostering consistency and quality in the implementation of digital connectivity standards.

This rating manual provides processes and methodology for assessment of digital connectivity under the regulation. In case of any discrepancy or interpretation, the provision of the regulations shall prevail.

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2. Role of Stakeholders

The following sections provide an overview of roles of key stakeholders within the ecosystem including the digital connectivity rating agency, property manager, service provider, and digital connectivity infrastructure provider.

2.1. Digital Connectivity Rating Agency (DCRA)

DCRAs play a critical role in evaluating and certifying the quality, reliability, and readiness of digital connectivity in the properties. The responsibilities of DCRA, as per the regulations, include:

i. **Evaluation of property for digital connectivity**: Conduct thorough assessments of the digital connectivity in properties including fiber-optic availability, mobile network coverage, Wi-Fi accessibility, and broadband reliability and use established criteria to evaluate the digital connectivity.

ii. **Issuance of ratings**: Assign objective and transparent ratings based on the evaluation results, providing property managers and stakeholders with a clear indication of connectivity infrastructure and service performance. Generate official rating certificates that property managers can use to demonstrate their digital connectivity standards to tenants, investors, and businesses. DCRA ensures that ratings reflect real-world digital connectivity experiences, helping end-users make informed decisions about properties based on their digital connectivity requirements and available performance.

iii. **Feedback and recommendations**: Provide constructive feedback to property managers on areas for improvement in their digital connectivity infrastructure or services and indicate best practices and enhancements to help property managers achieve higher ratings.

iv. **Collaboration with stakeholders**: Work closely with property managers, service providers and infrastructure providers to gather necessary data for evaluations and maintain communication with TRAI to ensure compliance with regulatory standards.

v. **Continuous improvement**: Stay updated on technological advancements and regulatory changes to refine evaluation criteria and participate in training and workshops to enhance evaluation methodologies. Participate in training programs,

workshops, and knowledge-sharing initiatives to enhance evaluation methodologies and improve accuracy in assessments.

vi. **Reporting**: Maintain comprehensive records of all evaluations conducted, ratings issued, and feedback provided to property managers for different properties. Submit periodic reports and trend analyses to TRAI, highlighting industry-wide connectivity performance, key challenges, and areas needing regulatory attention.

vii. **Compliance with Regulations**: All the DCRA activities shall be within the framework of the regulations and directions or orders or guidelines issued from time to time by the Authority.

In addition to the above, a DCRA may, upon request from a Property Manager, undertake an Optional Digital Connectivity Audit for internal review and improvement purposes for a property, outside the formal rating process and without award of any Digital Connectivity Rating.

2.2. Property Manager (PM)

As defined in the regulations, the **"Property Manager"** means the person who is either the owner of the property to be rated for digital connectivity or has any legal right to control or manage the property. The Property Manager plays a key role in facilitating digital connectivity assessments, coordinating with relevant authorities, and implementing improvements to enhance user experience and maintain compliance with regulatory standards. Property Managers are responsible for overseeing the management and maintenance of properties, including ensuring adequate digital connectivity. The responsibilities of Property Manager, under the regulations*, inter-alia*, include:

i. **Application for ratings**:

   a. Submit applications for digital connectivity ratings through the rating platform and provide accurate and comprehensive information about the property's digital connectivity.

   b. Provide accurate and comprehensive information regarding the property's existing digital connectivity infrastructure, including network coverage, fiber availability, and telecom service provider details.

c. Ensure that all submitted data is up to date and reflects the actual service available on the property.

d. For under-construction properties, the Property Manager shall also submit a declaration and supporting design-stage documents, as prescribed by the Authority.

ii. **Documentation and compliance**:

a. Prepare and upload the necessary documentation required for the evaluation process and ensure ongoing compliance with standards set by DCRAs and TRAI.

b. Keep track of changes in compliance requirements and implement necessary updates to avoid penalties or service disruptions.

iii. **Maintenance of digital connectivity infrastructure**:

a. Regularly inspect and maintain the digital connectivity infrastructure to ensure optimal performance and address any connectivity issues promptly to maintain service quality.

b. Address connectivity issues proactively by working with telecom service providers and technical support teams.

c. Ensure proper maintenance and upgrades of network equipment to optimize performance and provide a seamless digital experience for occupants and tenants.

iv. **Collaboration with DCRAs**:

a. Facilitate the evaluation and rating process by providing Digital Connectivity Rating Agencies (DCRAs) with necessary access to the property.

b. Work closely with evaluators to share technical data, network reports, and other relevant details needed for the rating assessment.

c. Implement recommendations and best practices suggested by DCRAs to enhance the property's digital connectivity rating.

v. **Customer communication and tenant engagement**:

a. Act as the primary point of contact for tenants and occupants regarding digital connectivity services within the property.

b. Address concerns or complaints related to network performance and ensure that users are informed about available connectivity solutions and upgrades.

Educate tenants on digital connectivity features available in the property and promote initiatives aimed at improving network access and reliability.

A Property Manager may, at its discretion, engage a registered Digital Connectivity Rating Agency (DCRA) for an Optional Digital Connectivity Audit of the property for the purpose of identifying gaps and undertaking improvements in Digital Connectivity Infrastructure, without applying for a Digital Connectivity Rating under the Regulations.

2.3. Service Providers

The regulation defines Service Providers as any entity authorized under section 3 of the Telecommunications Act, 2023, or licensed under section 4 of the Indian Telegraph Act, 1885, to provide telecommunication service. Service Providers are responsible for delivering a wide range of telecommunications and digital services, including mobile and fixed-line communication, internet access, Wi-Fi, and broadband services. They serve as the backbone of digital connectivity, ensuring seamless and reliable communication for end-users. Their role is critical in maintaining and improving the overall quality of digital services, directly impacting the user experience and the effectiveness of digital infrastructure. The Service Providers are encouraged to collaborate with the property managers, other telecom service providers and DCIPs for extending and maintenance of digital connectivity in the properties.

2.4. Digital Connectivity Infrastructure Providers (DCIPs)/Infrastructure Providers Category 1 (IP-1s)

The Regulation recognizes In-Building Solution Providers (IBS Providers) as entities authorised to establish, operate, maintain, or expand In-Building Solutions (IBS) under section 3 of the Telecommunications Act, 2023 or licensed under section 4 of the Indian Telegraph Act, 1885. In-Building Solutions within properties may be established, operated, maintained or expanded by eligible entities such as Service Providers, Digital Connectivity Infrastructure Providers (DCIPs), Infrastructure Providers Category-I (IP-1s), or other authorised entities. Such entities shall be referred to as IBS Providers for the purpose of this Manual.

DCIPs/IP-1s are entities that develop and maintain the digital infrastructure as per their authorization. This includes network equipment, cabling, and other technological frameworks.

DCIPs/IP-1s are key enablers in the telecommunication and digital ecosystem for developing, deploying, and maintaining the physical and digital infrastructure that supports seamless digital connectivity services. Their role is vital in ensuring high-speed, reliable, and future-ready network infrastructure that caters to the growing demands of consumers, businesses, and service providers.

2.5. Consumers/ End Users

The consumer or end-user is the primary stakeholder in the broader ecosystem for assessing and rating digital connectivity in properties or specific geographical areas. Their role is pivotal, as the quality and reliability of connectivity directly impact their daily digital interactions, productivity, and overall satisfaction.

The fundamental objective of implementing a rating system is to enhance the quality of service and thereby experience (QoE) for consumers by identifying gaps in connectivity and encouraging improvements in digital infrastructure. To achieve this, user feedback and real-world end-user experiences must be integral components of the rating framework, ensuring that assessments reflect actual usability.

The quality of user experience can be measured objectively through various technical key performance indicators (KPIs). These include parameters such as network latency, download and upload speeds, signal strength, coverage consistency, etc. These metrics collectively define the Quality of Experience (QoE) from a technical standpoint and provide quantifiable data to assess digital connectivity standards.

On the other hand, subjective evaluation of QoE involves gathering consumer perceptions through structured methods such as end-user surveys, real-time feedback mechanisms, and digital reporting platforms. This qualitative input helps capture aspects of user experience that may not be fully reflected in technical measurements, such as service reliability, ease of connectivity, and user satisfaction with network performance.

By combining both objective technical assessments and subjective user feedback, the rating framework can provide a holistic evaluation of digital connectivity in properties and areas,

ultimately driving improvements that align with consumer expectations and technological advancements.

***

3. Registration Process and Rating Lifecycle

The rating lifecycle begins with the registration of the Digital Connectivity Rating Agency (DCRA) and property managers, ensuring adherence to established terms and conditions. Following this, properties are mapped to the categories provided in the regulations for the assessment process. The assessment phase involves a comprehensive review of the digital connectivity infrastructure and services in the properties against set benchmarks, verifying compliance with regulatory and operational standards. Only after completing the evaluation steps, the final rating is awarded providing a transparent and standardized measure of digital connectivity.

3.1. Eligibility Criteria of Digital Connectivity Rating Agency (DCRA) Registration

An entity shall be eligible for registration as a Digital Connectivity Rating Agency (DCRA) under regulation if it meets the criteria outlined in Section III – "Registration of Digital Connectivity Rating Agency" of the Regulation. The eligible entities may apply for registration as DCRA as per the guidelines issued by the Authority from time to time.

3.2. Registration Process of DCRA

The registration process for Digital Connectivity Rating Agencies (DCRA) is outlined under Section III – "Registration of Digital Connectivity Rating Agency" in the regulation. The process ensures that only eligible and competent entities can participate in property rating activities. The registration process, as provided in the regulations, is summarized below:

i. Any entity fulfilling the eligibility criteria under regulation and intending to commence activity as DCRA under the regulations, shall make an application to the Authority for grant of registration on the rating platform in the manner and format, and upon payment of such fee, as may be specified by the Authority.

ii. An application for registration, which is not complete in all respects or does not conform to the eligibility criteria specified under regulation or the instructions specified by the Authority from time to time, shall be rejected:

Provided that before rejecting any such application, the applicant shall be given an opportunity to rectify the deficiency, if any, within thirty days from the date of receipt of communication from the Authority;

Provided further that the Authority may, for sufficient reasons, extend the time for rectification of the deficiency by such time as it may be considered appropriate, but such extended time shall not exceed thirty days.

iii. The Authority may, if it so desires, ask the applicant to appear before it, in person, in connection with the grant of registration.

3.2.1 Grant of Registration and Listing on Rating Platform

The registration and listing process of DCRA on the rating platform is provided in regulation (6) as summarized below:

i. Eligible applicants meeting the eligibility criteria under regulation will be granted registration on the rating platform for a period of five years. However, the registration granted under sub-regulation shall be subject to payment of such fees and such terms and conditions, as may be specified by the Authority from time to time, by order or direction.

ii. The registration granted under sub-regulations shall be valid for the specified period unless it is suspended or cancelled by the Authority as per provisions of these regulations, or upon approval of the request of DCRA for withdrawal of its registration by the Authority.

iii. Such registration shall not confer any right upon the DCRA for assignment of work for rating of property.

iv. The Authority may, upon the request of DCRA and on being satisfied with its performance, subject to the DCRA meeting the eligibility criteria, renew the registration of DCRA for another five years.

v. However, in case of non-renewal of its registration by the Authority, DCRA shall continue to discharge its obligations under the regulations for the remaining validity period of its registration.

vi. If the applicant or DCRA submits information which is found to be false or misleading at any stage, either prior to the registration or during the validity of the registration,

the Authority shall, without prejudice to its rights under any law, Act or regulations, reject the application for registration or cancel or suspend the registration of DCRA. However, no order for cancellation or suspension of registration shall be made by the Authority unless DCRA has been given a reasonable opportunity of representing against such cancellation or suspension by the Authority.

3.2.2 Conditions of Registration for DCRA

The registration of DCRA shall be subject to the conditions prescribed under Section III – "Registration of Digital Connectivity Rating Agency" of the Regulation.

3.3. General Obligations for DCRA

DCRA is required to follow a set of terms and conditions prescribed under Section IV - "General Obligations of DCRA" of the regulations. These terms ensure transparency, accountability, and compliance in the rating process and cover the following aspects:

i. Code of Conduct.
ii. Disclosure of fees and other terms and conditions to the property manager.
iii. Evaluation and award of ratings.
iv. Monitoring of ratings.
v. Retention of records and audit of DCRA.

3.4. Registration of Property Manager

The registration of a Property Manager on the rating platform is an important step in ensuring that only eligible and authorized individuals or entities can apply for property ratings related to digital connectivity. This process is governed by the regulation under Section V – General Obligations of Property Manager. The process for registration is summarized below:

i. Any property manager, who intends to apply for a rating of their property for digital connectivity under these regulations, shall register himself on the rating platform, in such manner and format and upon payment of such fees, as may be specified by the Authority.
ii. No property manager, who is not registered on the rating platform, shall be eligible to apply for the rating of property being used, controlled, or managed by him, in accordance with the provisions of these regulations.

iii. If the property manager submits any false or misleading information, undertaking, declaration or documents under this regulation, it shall amount to the contravention of the provisions of the regulations and the authority may take action as per applicable laws, Act or regulations.

iv. The fees for rating of property shall be mutually decided by DCRA and the property manager as provided under regulation.

3.5. General Obligations for Property Manager

The general obligations of a Property Manager are provided in Section V– General Obligations of Property Manager. These obligations broadly cover the following aspects:

i. Facilitation and co-operation during rating process and inspection.

ii. Compliance of terms and conditions of rating certificate.

iii. Compliance to approved DCI design.

iv. Repair and maintenance of DCI.

v. Renewal of ratings.

vi. No exclusive arrangement with the service providers.

vii. Fair use of ratings.

viii. Change of property manager or ownership and continuity of DCI.

3.6. Classification of Properties for Rating

The classification of properties for the purpose of rating is one of the key aspects of the regulations. It provides a structured framework to assess and categorize properties based on their digital connectivity and ensure a standardized rating system for different types of properties.

Below is the detailed classification of properties as provided in Section II of the regulation:

S. No.	Classification	Category or Group	Type of Property
1.	Residential	A	Apartments, independent houses, gated communities or societies, etc.

S. No.	Classification	Category or Group	Type of Property
2.	Government Properties	A	All properties of the Central Government, the State Government, Courts, Public Sector Undertakings, Local Bodies, Heritage Sites, etc.
3.	Commercial and other Establishments	A	Commercial office complex, shopping malls, industrial estates, SEZs, convention centres, Hospitals, Hotels, Educational Institutions, etc.
4.	Other private or public areas	B	Airport, Bus Station, Railway Station, multi-modal logistic parks, etc.
5.	Stadiums or Sport Arenas or spaces of frequent gathering	B	Stadiums or permanent spaces of gathering
6.	Transport corridors	B	Expressways, Highways, Railways routes, Metro corridors etc.

Table 3.1: Classification of Properties for Rating of digital connectivity

3.7. Rating Process for Constructed Properties

The rating process for digital connectivity in properties follows a structured, multi-stage evaluation approach to ensure transparency, consistency, and reliability in assessing a property's digital capabilities. This framework is designed to evaluate service quality, infrastructure readiness, and user experience, ultimately assigning a rating that reflects the property's ability to support digital connectivity efficiently. The following steps outline the rating lifecycle and role of DCRA and Property Manager:

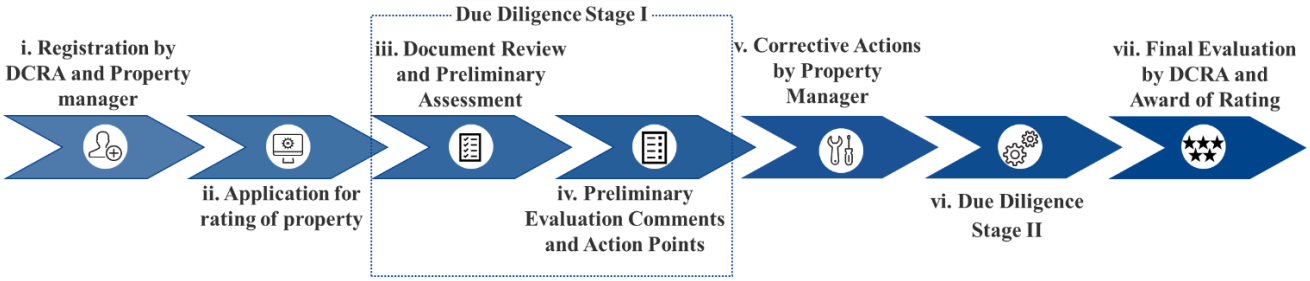

Figure 3.1: High Level Rating Workflow for Constructed Properties

i. **Registration by DCRA and Property Managers:** As already outlined in Section 3.2 and Section 3.4 of this manual, the interested DCRA and Property Managers need to register on the online rating platform. A one-time and non-refundable registration fee, as prescribed by the Authority, must be paid by the property manager at the time of registration. The registration enables Property Managers to apply for a rating assessment of their properties.

ii. **Application for Rating of Properties:**

a. Property Managers seeking a new rating or renewal of an existing rating for the property shall submit an online application along with the prescribed supporting documents.

b. A document checklist, including for fully constructed and under construction properties, will be available in the Frequently Asked Questions (FAQ) section on the rating platform.

c. Once application for rating is submitted by the property manager, the system will generate a Unique Request Identification Number (URIN) for tracking the application status.

d. The Property Manager can select any of the registered DCRA from the list provided on the rating platform.

e. The details of the maximum chargeable fee (MCF), to be charged by different DCRAs, will be available on the rating platform.

f. Online application of the Property Manager will be automatically assigned to the Digital Connectivity Rating Agency (DCRA) selected during the submission of application for rating.

iii. **Due-Diligence Stage I (Document Review and Preliminary Assessment):**

a. The selected DCRA shall conduct Stage I of due diligence to assess basic requirements for assessing the digital connectivity status of the property based on the submitted documents.

b. This stage of assessment must be completed in a time bound manner within 30 days from the date of assignment of the property to the DCRA.

c. If additional details or clarifications are required, the DCRA will notify the Property Manager to complete the application through the rating platform.

d. The Property Manager should provide relevant inputs to the DCRA within 7 days of the request by the DCRA failing which the delay will be attributed to the property manager and not to the DCRA.

e. All the requests and responses for seeking the inputs or clarifications shall be made through the rating platform.

iv. **Due-Diligence Stage I (Preliminary evaluation comments and action points):**

The DCRA shall share their comments with action items, if any, to the Property Manager concerned through the rating platform. The actions points shall be classified broadly in three categories as follows:

a. **Mandatory**: These action points will only include the actions required by Property Manager without which the evaluation process cannot proceed to next stage.

b. **Recommended**: These action items will include those points which may affect the rating score and consequently the rating of the property. The Property Manager may choose to ignore these comments and may confirm proceeding for the next stage of evaluation.

c. **Optional:** This category of action items will include suggestive actions to be taken by the Property Manager which does not affect the score and rating of the property. However, such actions may further improve quality of service and consumer experience.

v. **Corrective action by property manager:**

a. In response to the action points arising out of 'Preliminary evaluation', the Property Manager shall take remedial actions on mandatory points to proceed for second stage of evaluation.

b. After all the 'Mandatory' action points are complied, the Property Manager can apply for second stage of evaluation i.e., Due-Diligence Stage-II. However, the property managers are encouraged to consider action on recommended and optional inputs from DCRA to get the best possible score for their property.

vi. **Due-Diligence Stage II:**

a. The request for initiation of Due Diligence stage-II shall commence upon the request of the property manager after the action has been completed on at least 'Mandatory' action points or preferable other recommended and optional points.

b. The Due Diligence stage-II will involve the process of onsite verification of digital connectivity and associated infrastructure by the DCRA against the prescribed rating criteria including as provided in supporting documents.

c. The detailed methodology for scoring against each criterion and sub-criteria and respective weightage is provided in Chapter 4 for properties of category 'A' and Chapter 5 for properties of category 'B' of this manual.

d. The Due Diligence Stage-II will be completed by the DCRA in a time-bound manner preferable within 60 days of submission of request by the Property Manager for Due Diligence-II evaluation.

vii. **Final Evaluation by DCRA and Award of Rating:**

a. **Final Evaluation by DCRA:**

I. After the completion of Due Diligence stage - II, the DCRA shall consolidate all the relevant details and prepare a comprehensive assessment report. The assessment report shall cover the list of all documents collected; the summary criteria and sub-criteria wise comments, documents, score awarded, and list of test/evidence collected during the assessment.

II. The objective of each sub-criteria, methodology of assessment and scoring criteria against each criterion and sub-criteria are provided in **Chapter 4** for properties of category 'A' and **Chapter 5** for properties of category 'B'.

III. In the end, the assessment report will provide a score card for the property against each criteria and sub-criteria.

IV. A copy of assessment report with URIN and property details shall be uploaded against respective property. The assessment report will be digitally signed by the authorized representative of the DCRA. This report will also be visible to the property manager concerned.

V. The DCRA shall also update the score against each criterion and sub-criteria on rating platform to generate the rating certificate.

b. **Award of Rating:**

I. After the rating score is updated in the rating platform, the DCRA shall generate a rating certificate and sign it digitally.

II. The Property Manager will be able to download the rating certificate through their registered account on the rating platform against respective property till its validity.

III. The rating certificate shall be in a format as specified by the Authority from time to time.

c. Once the rating certificate is issued by DCRA, it will be available for the public to view or verify the rating certificates either through unique certificate number or QR code available on the certificate or other search and filter criteria as may be provided on the rating platform.

3.8. Rating Process for Properties Under Construction

The rating process for properties under construction follows a structured multi-stage evaluation approach in accordance with the provisions of the regulations. The process enables progressive assessment of Digital Connectivity Infrastructure (DCI) at the design stage, implementation stage, and post service operationalization stage, such that the final Digital Connectivity Rating reflects the actual level of digital connectivity available in the

property after digital connectivity services become operational. The following steps outline the rating lifecycle and role of DCRA and Property Manager:

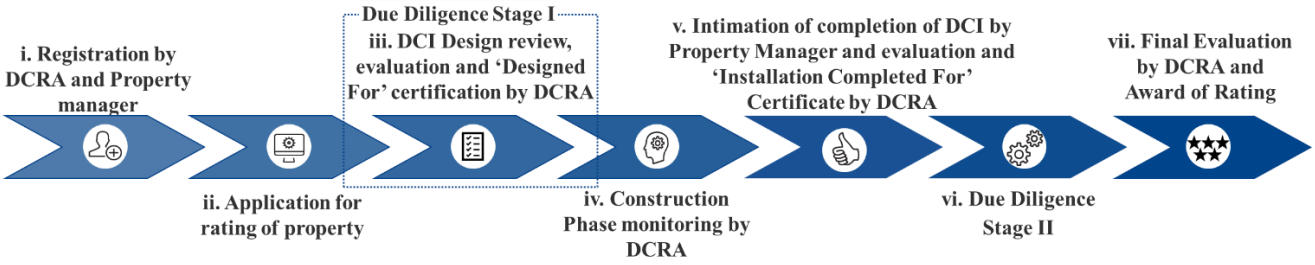

Figure 3.2: High Level Evaluation and Rating Workflow for Properties Under Construction

i. **Registration by DCRA and Property Managers:** As already outlined in Section 3.2 and Section 3.4 of this manual, the interested DCRA and Property Managers need to register on the online rating platform. A one-time and non-refundable registration fee, as prescribed by the Authority, must be paid by the property manager at the time of registration. The registration enables Property Managers to apply for a rating assessment of their properties. The property manager may also apply for the rating of under construction properties to enable assessment and guidance by DCRA on implementation of DCI in line with the provision. However, the final Digital Connectivity Rating certificate shall be issued only after provisioning and operationalisation of Digital Connectivity Infrastructure in accordance with the applicable provisions of the regulations and completion of final evaluation by the DCRA.

ii. **Application for Rating of Properties:**

a. Property Managers seeking rating for the property under construction shall submit an online application in accordance with regulations, once all components of Digital Connectivity Infrastructure (DCI) (covering relevant criteria and sub-criteria as per regulations 24 and 25) have been planned and approved as part of the building plan and implementation design is ready.

b. A document checklist, including for fully constructed and under construction properties, will be available in the Frequently Asked Questions (FAQ) section on the rating platform.

c. In addition to the standard requirements, the Property Manager shall submit a declaration specific to under-construction properties, in format specified in section 11.6. The declaration shall include the following:

   I. the **target star rating** that the property intends to achieve.

   II. a rating **criterion-wise and sub-criterion-wise plan**, including:

      (a) the proposed measures and design provisions to achieve the declared target rating;

      (b) the target score proposed against each applicable sub-criterion; and

      (c) explanatory remarks mapping the proposed measures to approved design documents.

   III. The plan shall be supported by approved design documents and **relevant documentary evidence**, such as approved building plans for DCI, layouts, infrastructure schematics, DCI design documents and other supporting technical documents related to DCI.

   IV. The Property Manager shall provide appropriate documentary evidence for each applicable sub-criterion, along with structured responses to specific questions, where prescribed, in order to enable the DCRA to assess the level of digital connectivity provisions at the design stage. Such responses shall clearly explain how the proposed Digital Connectivity Infrastructure complies with the requirements of the relevant criterion and sub-criterion.

d. In addition to the declaration and supporting documents specified above, Property Managers of under-construction properties shall submit all information, particulars, and documents as per regulation and this rating manual. This shall include details relating to the Property Manager and the property, such as property name, type, category, status, proof of ownership and ownership details, property address and area particulars, building layout plans including areas proposed for assessment, and any other information or documents required for assessment of digital connectivity under the Regulations and this Rating Manual.

e. Once application for rating is submitted by the property manager, the system will generate a Unique Request Identification Number (URIN) for tracking the application status.

f. The Property Manager can select any of the registered DCRA from the list provided on the rating platform.

g. The details of the maximum chargeable fee (MCF), to be charged by different DCRAs, will be available on the rating platform.

h. Online application of the Property Manager will be automatically assigned to the Digital Connectivity Rating Agency (DCRA) selected during the submission of application for rating.

iii. **Due Diligence Stage I (DCI Design Review, evaluation and 'Designed For' Certification by DCRA):**

a. For under-construction properties, the DCRA shall review the submitted declaration and documents to verify completeness, consistency, and alignment with the digital connectivity rating framework.

b. During the review of the declaration, design documents, and supporting information submitted by the Property Manager:

I. DCRA shall evaluate the design stage DCI based on approved DCI design documents and declaration submitted by the Property Manager.

II. The evaluation shall be carried out with respect to applicable rating criteria and sub-criteria based on the proposed design provisions.

III. In respect of those criteria and sub-criteria which involve parameters (such as network speed, coverage, no. of service providers etc.) that cannot be physically verified during the under-construction stage, the assessment shall be based on the structured responses provided in this declaration and the supporting documentary evidence submitted by the Property Manager. Such assessment shall be indicative in nature and subject to verification during Due Diligence Stage–II upon completion of construction and commissioning of Digital Connectivity Infrastructure.

IV. Based on such evaluation, the DCRA shall issue an evaluation report along with a 'Designed For' certificate for the proposed DCI design of the property to property manager.

V. The property shall be listed on the rating platform along with the status of issuance of the 'Designed For' certificate and associated evaluation details, as may be provided on the platform.

VI. The 'Designed For' certificate will be indicative in nature, reflecting design-stage preparedness only, and shall not be treated as a Digital Connectivity rating, whether final, provisional or otherwise. The certificate shall be in the format as specified by the Authority from time to time.

VII. This step must be completed by DCRA within a reasonable period.

iv. **Construction Phase Monitoring by DCRA:**

a. During the construction phase, the Property Manager shall implement the DCI in accordance with the approved DCI design documents. The DCRA shall, where required, review the progress of DCI implementation to ensure alignment with the proposed design and will also suggest corrective and improvement action points, if required, to Property Manager.

v. **Intimation of completion of DCI by Property Manager and evaluation and 'Installation Completed For' Certificate by DCRA:**

a. Upon completion of construction and installation of IBS in the property, the Property Manager shall intimate the DCRA through the rating platform.

b. The DCRA shall evaluate the implemented DCI in the property.

c. Based on such evaluation the DCRA shall issue an evaluation report along with 'Installation Completed For' certificate.

d. This stage confirms, based on evaluation by the DCRA, that the DCI has been implemented in the property following completion of construction and installation of IBS.

e. The certificate shall be made available on the rating platform for transparency. The certificate shall be in the format as specified by the Authority from time to time.

f. The certification shall serve as a prerequisite for initiation of Due Diligence Stage II.

vi. **Due-Diligence Stage II:**

a. Upon completion of construction, testing, and integration of Digital Connectivity Infrastructure, and after issuance of the 'Installation Completed For' certificate by concerned DCRA as recorded on the rating platform, and after the digital connectivity services become operational, the Property Manager shall submit a request for initiation of Due Diligence Stage II through the rating platform. Due Diligence Stage II shall be initiated only upon such request by the Property Manager.

b. The Due Diligence stage-II will involve the process of onsite verification of digital connectivity and associated infrastructure by the DCRA against the prescribed rating criteria including as provided in supporting documents.

c. The detailed methodology for scoring against each criterion and sub-criteria and respective weightage is provided in Chapter 4 for properties of category 'A' and Chapter 5 for properties of category 'B' of this manual.

d. The Due Diligence Stage-II will be completed by the DCRA in a time-bound manner preferable within 60 days of submission of request by the Property Manager for Due Diligence-II evaluation.

vii. **Final Evaluation by DCRA and Award of Rating:**

a. **Final Evaluation by DCRA:**

I. After the completion of Due Diligence stage - II, the DCRA shall consolidate all the relevant details and prepare a comprehensive assessment report. The assessment report shall cover the list of all documents collected; the summary criteria and sub-criteria wise comments, documents, score awarded, and list of test/evidence collected during the assessment.

II. The objective of each sub-criteria, methodology of assessment and scoring criteria against each criterion and sub-criteria are provided in **Chapter 4** for properties of category 'A' and **Chapter 5** for properties of category 'B'.

III. In the end, the assessment report will provide a score card for the property against each criteria and sub-criteria.

IV. A copy of assessment report with URIN and property details shall be uploaded against respective property. The assessment report will be digitally signed by the authorized representative of the DCRA. This report will also be visible to the property manager concerned.

V. The DCRA shall also update the score against each criterion and sub-criteria on rating platform to generate the rating certificate.

b. **Award of Rating:**

I. The award of Digital Connectivity Rating shall take place only after successful completion of Due Diligence Stage II and final evaluation by the DCRA. After the rating score is updated in the rating platform, the DCRA shall generate a rating certificate and sign it digitally.

II. The Property Manager will be able to download the rating certificate through their registered account on the rating platform against respective property till its validity.

III. The rating certificate shall be in a format as specified by the Authority from time to time.

c. Once the rating certificate is issued by DCRA, it will be available for the public to view or verify the rating certificates either through unique certificate number or QR code available on the certificate or other search and filter criteria as may be provided on the rating platform.

It is pertinent to note that the 'Designed For' certificate and 'Installation Completed For' certificate issued for properties under construction shall not be construed or used as a Digital Connectivity Rating under the regulations. The 'Final' digital connectivity rating shall be awarded after operationalisation of digital connectivity services and completion of final evaluation by the DCRA.

3.9. Optional Digital Connectivity Audit

There may be scenarios where a Property Manager may wish to review the level of Digital Connectivity Infrastructure (DCI) in a property for purpose of identifying gaps and undertaking improvements, without applying for a Digital Connectivity Rating. Additionally, once a rating is awarded, it becomes publicly visible, and therefore some Property Managers prefer to first identify gaps and undertake improvements before opting for a formal rating assessment.

In such situations, Property Managers may find value in obtaining an audit of the existing digital connectivity infrastructure against the criteria and sub-criteria prescribed in this Rating Manual, primarily for understanding the present status and areas requiring improvement.

In such cases, Property Manager may, on a voluntary basis, engage a registered Digital Connectivity Rating Agency (DCRA) to undertake an audit of the property's digital connectivity based on the criteria and sub-criteria specified in the Regulation and this Rating Manual.

For the limited purpose of facilitating initiation of such audit and enabling transparency in timelines, a simple electronic form shall be made available on the Rating Platform. The form shall capture basic details of the Property Manager and the property, along with selection of a registered DCRA. Additionally, the details of the maximum chargeable fee (MCF) for optional digital connectivity audit, to be charged by different DCRAs, will be available on the rating platform.

Upon submission of such request by the Property Manager, one or more DCRA(s), as selected by Property Manager, shall be notified through the platform. Thereafter, the Property Manager and the selected DCRA shall mutually agree on the scope of audit, timelines for completion, and fee structure. The audit shall be undertaken and completed within a mutually agreed time-bound schedule between the Property Manager and the DCRA.

Once mutual agreement is reached, the DCRA shall update its acceptance of the audit request on the platform along with the agreed date of completion of the audit.

The DCRA shall update the status of such audit on the platform upon completion. The role of the platform shall be limited to facilitation of initiation and status tracking only.

The outcome of an Optional Digital Connectivity Audit may include a report indicating the present status of Digital Connectivity, identification of gaps against the applicable criteria and sub-criteria as per this Rating Manual, and actionable recommendations for improvement. Any indicative score or indicative star rating level, if provided, shall be non-binding and for internal reference only. The structure and contents of such audit report shall be aligned with the template provided in section 11.7 of this Rating Manual.

The digital connectivity audit report prepared by the DCRA shall be shared directly with the Property Manager.

Such optional audit shall not create any right, expectation, or entitlement with respect to award of a Digital Connectivity Rating.

Participation in an Optional Digital Connectivity Audit shall not be a prerequisite for applying for a Digital Connectivity Rating, nor shall it have any bearing on the outcome of a rating assessment undertaken under the Regulation.

High-level workflow for Optional Digital Connectivity Audit is as:

Figure 3.3: High Level Workflow for Optional Digital Connectivity Audit

i. **Submission of Audit Request:** The Property Manager submits an Optional Digital Connectivity Audit request through a simple electronic form on the rating platform capturing basic property manager and property details along with selection of DCRA.

ii. **Notification to DCRA(s) and submission of proposals to Property Manager:** The shortlisted DCRA(s) receives intimation of the audit request through the platform. The concerned DCRA(s) will do the due diligence and submit their proposals directly to Property Manager. DCRA may also request for on-site visit if required.

iii. **Mutual Agreement:** The Property Manager and the selected DCRA mutually agree on scope of audit, time-bound schedule for completion of the audit, and fee. Property Manager shall update the selected DCRA on the platform.

iv. **Acceptance Update:** The DCRA updates acceptance of the audit request along with agreed date of completion.

v. **Conduct of Audit:** The DCRA undertakes assessment of Digital Connectivity against applicable criteria and sub-criteria, including on-site assessment, as per this rating manual and prepare audit report in accordance with the template provided in section 11.7 of this rating manual.

vi. **Report Sharing:** The report is shared directly between the DCRA and the Property Manager.

vii. **Status Update:** The DCRA updates the status of audit as 'completed' on the platform for monitoring purposes.

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4. Assessment Methodology for Category 'A' Properties

The regulation 24 under Section VII - "Rating criteria and process for evaluation of digital connectivity and award of ratings" of the Regulation provides criteria, weightage, and high-level sub-criteria against each main criterion for category 'A' properties as indicated in column [a], [b], and [c] respectively in Table 4.1. To enable uniform and objective assessment against each sub-criteria, the sub-criteria weightage shall be as provided in column [d]. The sub-criteria weightage has been arrived factoring their relative importance for assessment of digital connectivity and associated infrastructure.

Criteria No.	S. No. (as per regulation)	Criteria [a]	Weightage [b]	Sub-Criteria [c]	Sub Criteria Weightage [d]
4.1	1	Compliance to applicable Model Building Bye Laws (MBBL) and National Building Construction Standards (NBCS) for digital connectivity	5	4.1.1 Approved DCI design	2.5
				4.1.2 DCI implementation as per approved DCI design	2.5
4.2	2	Provision in civil infrastructure, over and above MBBL	5	4.2.1 Provision for expansion of telecom rooms and cable pathways	2

Criteria No.	S. No. (as per regulation)	Criteria [a]	Weightage [b]	Sub-Criteria [c]	Sub Criteria Weightage [d]
		and NBCS requirements, for ensuring robust digital connectivity		4.2.2 Provision for expansion of mobile and wireline connectivity	2
				4.2.3 Ease of access of DCI installed for repair or maintenance	1
4.3	3	Provision in power infrastructure, over and above MBBL or NBCS requirements, for ensuring reliable digital connectivity	5	4.3.1 Redundancy of power source	1
				4.3.2 UPS power backup for DCI	2
				4.3.3 Power continuity monitoring	1
				4.3.4 Building Management System	1
4.4	4	Digital Connectivity Infrastructure Resilience	10	4.4.1 Availability of alternate entry paths for digital connectivity infrastructure	3

Criteria No.	S. No. (as per regulation)	Criteria [a]	Weightage [b]	Sub-Criteria [c]	Sub Criteria Weightage [d]
				4.4.2 Non-flooding measures for DCI installation	3
				4.4.3 Implementation of redundancy in power source and DCI paths	4
4.5	5	Future Readiness of Digital Connectivity Infrastructure	10	4.5.1 Availability of the latest generation of mobile connectivity	4
				4.5.2 Support for future bands	3
				4.5.3 Upgradability of wireline DCI	3
4.6	6	Provision of Wired Connectivity infrastructure	20	4.6.1 Backhaul fiber/ wireless connectivity (service provider to property)	10

Criteria No.	S. No. (as per regulation)	Criteria [a]	Weightage [b]	Sub-Criteria [c]	Sub Criteria Weightage [d]
				4.6.2 Fiber connectivity till user premises	5
				4.6.3 Fiber connectivity in each room or office or commercial space	5
4.7	7	Availability of Service Providers	15	4.7.1 Number of wireline Internet Service providers having integration with Digital Connectivity Infrastructure	7.5
				4.7.2 Number of Mobile Service providers having coverage or integration with Digital Connectivity Infrastructure	7.5

Criteria No.	S. No. (as per regulation)	Criteria [a]	Weightage [b]	Sub-Criteria [c]	Sub Criteria Weightage [d]
4.8	8	Service Performance	25	4.8.1 Mobile network coverage and performance in public areas of property	6
				4.8.2 Secure public Wi-Fi network coverage and performance in public areas of property	4
				4.8.3 Mobile network coverage and performance in non-public areas	5
				4.8.4 Secure public Wi-Fi network coverage and performance in non-public areas	5

Criteria No.	S. No. (as per regulation)	Criteria [a]	Weightage [b]	Sub-Criteria [c]	Sub Criteria Weightage [d]
				4.8.5 Average download speed of different wireline network(s) in respective highest speed plan	5
4.9	9	User Experience	5	4.9.1 User feedback on digital connectivity experience	5*
* In case of new property, where actual end users are yet to use services, the weightage against 'User Experience' shall be merged with 'Service Performance' and will be distributed equally among each sub-criterion. (Refer Table 4.54)					

Table 4.1: Weightage for different sub-criteria for category 'A' properties

The Digital Connectivity Rating Agency (DCRA) shall assess the digital connectivity and associated infrastructure as per provisions of the Regulations. The detailed assessment methodology against each sub-criterion is provided in the following sections. The DCRA shall scrupulously follow the assessment methodology and collect the artifacts, evidence or test results as prescribed against respective sub-criteria under each main criterion. The required supporting documents shall be preserved by the DCRA or uploaded to the rating platform as per the requirement of the regulations, guidelines or rating manual issued or amended from time to time. For awarding the score against each sub-criteria, 'scoring criteria' tables have been provided in the following sections. A property can be awarded only one out of the given scores in 'scoring criteria' table meeting the relevant compliance requirement as prescribed.

4.1. Compliance to Applicable Model Building Bye Laws (MBBL) and National Building Construction Standards (NBCS) for Digital Connectivity (Weightage – 5)

This criterion evaluates whether a property adheres to the relevant provisions of Model Building Bye-Laws (MBBL) and the National Building Construction Standards (NBCS) of India in terms of digital connectivity infrastructure. Compliance with these provisions ensures that properties are designed and constructed with structured telecom infrastructure, safety standards, and future-readiness for advanced digital services.

4.1.1. Sub-Criteria: Approved Digital Connectivity Infrastructure (DCI) design (Weightage – 2.5)

i. Objective: The primary goal of this sub-criterion is to evaluate whether the digital connectivity infrastructure (DCI) for a property has been planned and approved in compliance with the applicable Model Building Bye-Laws (MBBL) and National Building Construction Standards (NBCS) regulations. Ensuring adherence to these standards is crucial for:

a. Establishing a strong foundation for seamless digital connectivity.

b. Future-proofing readiness of the property by integrating provisions for advanced communication technologies.

c. Enhancing digital accessibility and reliability for residents, businesses, and service providers.

ii. Assessment Methodology

The assessment of the approved DCI design will be conducted based on document verification, compliance checks, and certification validation. The key evaluation steps are:

a. **Availability of Approved DCI or ICT Infrastructure Design Documents:**

1. Confirm whether the property manager has obtained formal approval for the DCI blueprint.

2. Evaluate that the design considers all necessary elements of DCI as per applicable Model Building Bye-Laws (MBBL) or NBCS.

b. **Supporting documents:**

1. The architectural drawings for digital connectivity or ICT infrastructure
2. The documents should be duly stamped and certified by the competent authority (i.e., either the concerned local body or the concerned design approving authority of the project under the applicable building Bye-Laws of State/UT or Local body as case may be).

c. **Document Review:**

1. Verify whether the submitted design aligns with the relevant sections of MBBL and NBCS.
2. Evaluate if the design accommodates evolving digital connectivity needs, such as provisions for horizontal and vertical pathways, entry points, telecom rooms/telecom areas, HVAC (Heat ventilation air conditioning) in telecom room/telecom area etc. as per NBCS.

iii. Compliance checklist: The DCRAs shall prepare and maintain the compliance summary in the following format:

S. No.	Item description	Deviation from MBBL or NBCS (Yes/ No)	Type of deviations (if any)	Record maintenance requirement (Upload/ DCRA level)
1.	Approved DCI design documents by competent authority			Record and Upload
2.	Design drawings certified by competent authority			Record

S. No.	Item description	Deviation from MBBL or NBCS (Yes/ No)	Type of deviations (if any)	Record maintenance requirement (Upload/ DCRA level)
3.	Design compliance with MBBL and NBCS standards			Record and Upload
Note – Competent Authority refers to either the concerned local body or the concerned design approving authority of the project under the applicable building Bye-Laws of State/UT or Local body as case may be.				

Table 4.2: Compliance checklist

iv. **Scoring criteria:** The DCRA shall award score against this sub-criterion as follows:

S. No.	Score	Compliance Requirement
1.	2.5	On compliance to MBBL and NBCS.
2.	1.5	If there is minor deviation in design from MBBL or NBCS. Minor deviations shall be those deviations which do not impact future readiness and provision of digital connectivity i.e. the requirements under any criteria/sub-criteria listed in section 4.4 & 4.6 of this manual.
Note: Refer section 11.8 of this manual for Checklist to assess compliance to MBBL and NBCS		

Table 4.3: Scoring criteria

4.1.2. Sub-Criteria: DCI implementation as per approved DCI design (Weightage – 2.5)

i. **Objective:** The purpose of this assessment is to ensure that the Digital Connectivity Infrastructure (DCI) at the property site has been implemented in strict accordance with the approved DCI design. This verification is carried out in compliance with the Model Building Bye-Laws (MBBL) and National Building Construction Standards (NBCS) requirements to ensure standardization, quality, and maintainability of digital infrastructure deployment.

ii. **Assessment Methodology**

The assessment process is divided into three key components: Physical Inspection, Supporting Documents, and Documentation Review to ensure a thorough assessment.

a. **Physical Inspection:**

1. During physical verification, the DCRA shall verify the availability of DCI as per the approved design under sub-criteria 4.1.1.
2. The compliance and deviations, if any, shall be specifically recorded with supporting evidence.

b. **Supporting Documents:**

1. Photographs of installed key DCI infrastructure.
2. Site inspection reports for DCI with design vs implementation comparisons.
3. Testing and Commissioning certificates for DCI as applicable.

c. **Documentation Review:**

1. Verify the as-build documents and confirm it is as per the approved design.
2. Validate the veracity of as-build DCI implementation with testing and commissioning certificates for different DCI components.
3. Record observations in the onsite visit report.

iii. **Compliance checklist:** The DCRAs shall prepare and maintain the compliance summary in the following format:

S. No.	Item description	Deviation from MBBL or NBCS (Yes/ No)	Type of deviations (if any)	Record maintenance requirement (Upload/ DCRA level)
1.	As-build DCI is as per approved design			Record and Upload
2.	Photographs of DCI			Record and Upload
3.	Site inspection reports for DCI with design comparisons			Record and Upload
4.	Testing and Commissioning certificates for DCI as applicable			Record

Table 4.4: Compliance checklist

iv. **Scoring criteria:** The DCRA shall award score against this sub-criterion as follows:

S. No.	Score	Compliance Requirement
1.	2.5	On compliance with the approved design in the implementation of DCI or ICT infrastructure
2.	1.5	If there is minor deviation from approved design in implementation of DCI or ICT infrastructure. Minor deviations shall be those deviations which do not impact future readiness and provision of digital connectivity i.e. the requirements under any criteria/sub-criteria listed in section 4.4 & 4.6 of this manual.

Table 4.5: Scoring criteria

4.2. Provision in Civil Infrastructure, over and above MBBL and NBCS requirements, for Ensuring Robust Digital Connectivity

(Weightage – 5)

This criterion evaluates the extent to which a property goes beyond the mandatory requirements set by the Model Building Bye-Laws (MBBL) and National Building Construction Standards (NBCS) to enhance its digital connectivity infrastructure.

4.2.1. Sub-Criteria: Provision for expansion of telecom rooms and cable pathways

(Weightage – 2)

i. **Objective:** To assess the civil infrastructure provisions, over and above MBBL or NBCS requirements, for supporting DCI maintenance and future upgradation**.** Such provisions may include the capacity for expanding telecom rooms/telecom areas, cable pathways to support increasing telecom and digital infrastructure needs over time.

ii. **Assessment Methodology**

a. **Site Inspection:** The Digital Connectivity Rating Agency (DCRA) will conduct physical inspections to assess:

1. The availability and scalability of such civil infrastructure beyond the requirement of NBCS.
2. Upgradability and maintainability of DCI to support future digital infrastructure needs. Here maintainability shall mean the ease of installation, repair, and replacement of digital connectivity infrastructure by the property manager or the service provider, as applicable.

b. **Supporting documents:** The DCRA will review building layout plans to verify:

1. The allocation of space for telecom rooms/telecom areas, and cable pathways.
2. Whether these provisions exceed the standard requirements of NBCS or MBBL.

c. **Documentation Review:**

1. Validate the building layout plans and mark the specific civil infrastructure considered as being provisioned beyond requirements of NBCS or MBBL.
2. Prepare or review the assessment report (if already available with property manager) on upgradability and maintainability of the civil infrastructure to support future digital infrastructure needs.

iii. Compliance checklist: The DCRAs shall prepare and maintain the compliance summary in the following format:

S. No.	Item description	Compliance (Yes/ No)	Record maintenance requirement (Upload/ DCRA level)
1.	Building layout plans for DCI or ICT infrastructure duly marked and signed by DCRA and property manager		Record and Upload
2.	Expansion feasibility reports – DCI or ICT infrastructure pathways and telecom rooms/telecom areas		Record and Upload

Table 4.6: Compliance checklist

iv. Scoring criteria: The DCRA shall award score against this sub-criterion as follows:

S. No.	Score	Compliance Requirement
1.	2	If telecom rooms/telecom areas, horizontal and vertical pathways are expandable to accommodate ≥ 50% expansion with respect to existing capacity.

S. No.	Score	Compliance Requirement
2.	1.5	If telecom rooms/telecom areas, horizontal and vertical pathways are expandable to accommodate ≥ 30% and < 50% expansion with respect to existing capacity.
3.	0.5	If telecom rooms/telecom areas, horizontal and vertical pathways are expandable to accommodate up to 30% expansion with respect to existing capacity.

Table 4.7: Scoring criteria

4.2.2. Sub-Criteria: Provision for expansion of mobile and wireline connectivity

(Weightage – 2)

i. **Objective:** To assess the availability of civil infrastructure like DCI space, pathways, and provisions to allow for the expansion of both mobile (e.g., 4G/5G/6G) and wireline connectivity (e.g., fiber-optic cables, Television, camera etc.) inside the property as technology evolves.

ii. **Assessment Methodology**

a. **Physical Verification of Expansion Conduits:**

1. Inspect the telecom room/telecom area, ducts, risers, and pathways to assess if sufficient space is available for future mobile and wireline deployments.
2. Inspect the space earmarked for installation of mobile base station(s), distributed antenna system, Wi-Fi infrastructure, Direct to Home (DTH) system etc. to extend coverage inside the property including lifts and basements.

b. **Technology Readiness:** Evaluate whether the current civil infrastructure design supports emerging technologies such as 5G, Internet of Things (IoT), Machine to Machine Communication (M2M) and high capacity fiber networks.

c. **Supporting Documents:**

1. Layout diagrams for existing civil infrastructure for DCI.

2. Layout indicating provisions for future expansion.

d. **Documentation Review:** Verify the updated network diagrams and future expansion plans during the physical verification and site inspection.

iii. Compliance checklist: The DCRAs shall prepare and maintain the compliance summary in the following format:

S. No.	Item description	Compliance (Yes/ No)	Record maintenance requirement (Upload/ DCRA level)
1.	Updated network diagrams		Record and Upload
2.	Future expansion plans		Record and Upload

Table 4.8: Compliance checklist

iv. Scoring criteria: The DCRA shall award score against this sub-criterion as follows:

S. No.	Score	Compliance Requirement
1.	2	If civil infrastructure or space provision and pathways are available and space is earmarked, in the approved layout, to support installation of Mobile base station(s), Distributed Antenna System (DAS), Wi-Fi, Wireline infrastructure and Direct to Home (DTH) system etc.
2.	1.5	If space provision and pathways exist for at least Mobile base station, DAS, and Wireline infrastructure
3.	1	If space provision and pathways exist for at least Wi-Fi or Wireline infrastructure

Table 4.9: Scoring criteria

4.2.3. Sub-Criteria: Ease of access of DCI installed for repair or maintenance (Weightage – 1)

i. **Objective:** Properly planned access areas for DCI are essential to ensure ease of maintenance and repair of digital connectivity infrastructure. This reduces downtime and service interruptions. These sub-criteria intend to evaluate the ease of maintenance of DCI which is supported by the provisioned civil infrastructure. The equipment, cables, pathways, ducts should be easily accessible for smooth repair and maintenance of DCI by respective service providers.

ii. **Assessment Methodology:**

a. **Physical Accessibility:** Conduct on-site assessments to check the physical accessibility of pathways, telecom rooms/telecom areas, cable ducts and equipment points.

b. **Labelling and Marking Verification:** Verify all DCI equipment, pathways, cable ducts etc. are clearly labelled and marked.

c. **Supporting documents**

1. Site photos showing maintenance pathways.
2. As-build documentation.

iii. **Compliance checklist:** The DCRAs shall prepare and maintain the compliance summary in the following format:

S. No.	Item description	Compliance (Yes/ No)	Record maintenance requirement (Upload/ DCRA level)
1.	Site photos showing maintenance pathways		Record and Upload
2.	Maintenance checklists		Record

Table 4.10: Compliance checklist

iv. **Scoring criteria:** The DCRA shall award score against this sub-criterion as follows:

S. No.	Score	Compliance Requirement
1.	1	If physical accessibility of pathways, telecom rooms/telecom areas, cable ducts and equipment is provided **and** labelling of pathways, telecom rooms/telecom areas, cable ducts and equipment is available for DCI.
2.	0.5	If physical accessibility of pathways, telecom rooms/telecom areas, cable ducts and equipment is provided **or** labelling of pathways, telecom rooms/telecom areas, cable ducts and equipment is available for DCI.

Table 4.11: Scoring criteria

4.3. Provision in Power Infrastructure, over and above MBBL or NBCS requirements, for Ensuring Reliable Digital Connectivity

(Weightage – 5)

This criterion evaluates additional provisions in power infrastructure that go beyond the Model Building Bye-Laws (MBBL) and National Building Construction Standards (NBCS) to ensure uninterrupted and reliable power supply for digital connectivity.

4.3.1. Sub-Criteria: Redundancy of power source

(Weightage – 1)

i. **Objective:** The redundant power sources are essential for reliable operation of digital connectivity. Under this sub-criterion, the availability of redundancy in power sources is assessed to ensure that DCI remain operational even during power failures. This redundancy may include backup generators or alternative power systems.

ii. **Assessment Methodology:**

a. **Verification of actual peak load and available capacity of redundant power source:**

1. Verify the availability of redundant power source for DCI.
2. Verify whether all key DCI and systems are on redundant power source like alternate feeder or separate power generator.

b. **Power Source Switching Tests:** Check the functionality of the automatic switchover mechanism between primary and backup power sources on a sample basis.

c. **Supporting documents:**

1. Power layout diagrams.
2. DCI load switchover test report.

d. **Documentation Review:** Verify the power layout diagrams, load test reports submitted by the property manager.

iii. **Compliance checklist:** The DCRAs shall prepare and maintain the compliance summary in the following format:

S. No.	Item description	Compliance (Yes/ No)	Record maintenance requirement (Upload/ DCRA level)
1.	Power layout diagrams		Record and Upload
2.	Load switchover testing reports		Record and Upload

Table 4.12: Compliance checklist

iv. **Scoring criteria:** The DCRA shall award score against this sub-criterion as follows:

S. No.	Score	Compliance Requirement
1.	1	If all digital connectivity services affecting load is supported/ fed by redundant power source

Table 4.13: Scoring criteria

4.3.2. Sub-Criteria: UPS power backup for DCI

(Weightage – 2)

i. **Objective:** The continuity of power supply is essential for uninterrupted digital connectivity and Uninterrupted Power Supply (UPS) systems play an important role in service availability for any telecom or information and communication technology system. This sub-criterion will assess the availability and robustness of power backup system in case of failure of input sources i.e. commercial power and generator supply.

ii. **Assessment Methodology:**

a. **UPS backup verification for DCI:**

1. Check from the line diagram whether all DCI systems are provided with UPS backup.
2. Verify the DCI system rated load and correspond UPS power capacity provided for DCI from commissioning reports or other authentic documents to calculate the provisioned UPS backup time.
3. Check the availability of UPS system redundancy by way of load sharing among multiple UPS if applicable.
4. Sample test the UPS system's ability to provide uninterrupted power to the DCI by simulating input power failure.

b. **Supporting documents:**

1. Electrical system line diagram for key DCI elements including redundant input sources and UPS system(s).
2. Test reports of UPS power backup time or other supporting document(s) with full DCI load and other load if any.

iii. **Compliance checklist:** The DCRAs shall prepare and maintain the compliance summary in the following format:

S. No.	Item description	Compliance (Yes/ No)	Record maintenance requirement (Upload/ DCRA level)
1.	Electrical system line diagram including redundant input sources and UPS system(s)		Record and Upload
2.	Whether all key DCI systems affecting service availability are on UPS?		Record
3.	Whether UPS system has redundancy?		Record
4.	UPS switch over successfully tested during sample testing?		Record
5.	Whether duration of UPS backup matches with available test reports with full DCI load?		Record and Upload

Table 4.14: Compliance checklist

iv. **Scoring criteria:** The DCRA shall award score against this sub-criterion as follows:

S. No.	Score	Compliance Requirement
1.	2	UPS power backup for important DCI components > 3 Hrs in absence of generator backup, or > 1 Hr where generator backup is available.
2.	1	UPS power backup for important DCI components is ≥ 1 and ≤ 3 Hrs in absence of generator backup, or ≥ 0.5 and ≤ 1 Hrs, where generator backup is available.

Table 4.15: Scoring criteria

4.3.3. Sub-Criteria: Power continuity monitoring (Weightage – 1)

i. **Objective:** The power supply monitoring system plays an important role in ensuring the power supply continuity to DCI. If the health of power systems like generator or UPS or switch gear systems is not monitored on a continuous basis, it may result in major interruption when input commercial power supply fails. Therefore, this sub-criterion provides special emphasis on the implementation of monitoring system in the property for power services.

ii. **Assessment Methodology:**

a. **Verification of Monitoring Dashboards:** Verify availability of dashboards or interfaces showing real-time power status, health status of UPS, generator(s), alerts, and reports/ alerts in case of power failures.

b. **Validation of Automated Alerts:** Test alert mechanisms for their ability to notify maintenance team of power anomalies in real time.

Supporting documents: Monitoring system screenshots with alerts generated during testing.

iii. **Compliance checklist:** The DCRAs shall prepare and maintain the compliance summary in the following format:

S. No.	Item description	Compliance (Yes/ No)	Record maintenance requirement (Upload/ DCRA level)
1.	Monitoring system high level diagram		Record and Upload
2.	Capture monitoring system dashboard screenshot		Record and Upload

Table 4.16: Compliance checklist

iv. **Scoring criteria:** The DCRA shall award score against this sub-criterion as follows:

S. No.	Score	Compliance Requirement
1.	1	The dashboard covers end-to-end health status monitoring of all power systems
2.	0.5	The dashboard covers end-to-end health status monitoring of important power systems which may affect DCI availability

Table 4.17: Scoring criteria

4.3.4. Sub-Criteria: Building Management System (Weightage – 1)

i. **Objective:** While power monitoring system manages power related installations, building management system (BMS) encompasses monitoring of major building services like fire alarms, access control, Heating, Ventilation Air conditioning (HVAC), power systems etc. These facilities may affect the performance and availability of DCI and digital connectivity services. Thus, availability of BMS in the property enhances the DCI service availability and continuity. Therefore, this sub-criterion has been incorporated as a part of assessment for an enabling system for digital connectivity services.

ii. **Assessment Methodology**

a. **Real-Time Data Integration Tests:** Verify that the DCI power, fire alarms and HVAC management system is integrated with the BMS or equivalent centralized monitoring system to provide centralized control and monitoring for DCI systems.

b. **BMS or equivalent centralized monitoring system communication and notification validation:** Validate that the BMS or equivalent centralized monitoring system receives accurate input data from related sensors or actuators and disseminates to the operations team in configured timelines.

c. **Supporting documents:**

1. BMS or equivalent centralized monitoring system high level diagram for DCI system areas of the property.

d. **Documentation Review:**

1. Verify the BMS or equivalent centralized monitoring system screenshots against system diagrams.

iii. Compliance checklist: The DCRAs shall prepare and maintain the compliance summary in the following format:

S. No.	Item description	Compliance (Yes/ No)	Record maintenance requirement (Upload/ DCRA level)
1.	BMS or equivalent centralized monitoring system architecture diagrams		Record and Upload
2.	Test report on DCI power systems, fire alarms and HVAC integration with BMS or equivalent centralized monitoring system		Record and Upload
3.	Sample test report on detection and notification of main power supply failure and takeover by generator/UPS for DCI		Record and Upload

Table 4.18: Compliance checklist

iv. **Scoring criteria:** The DCRA shall award score against this sub-criterion as follows:

S. No.	Score	Compliance Requirement
1.	1	On availability of BMS or an equivalent centralized monitoring system covering power, fire alarm and HVAC for telecom room(s)/telecom area(s) in the property
2.	0.5	On availability of BMS or an equivalent centralized monitoring system covering at least two out of, power, fire alarm and HVAC for telecom room(s)/telecom area(s) in the property

Table 4.19: Scoring criteria

4.4. Digital Connectivity Infrastructure Resilience

(Weightage – 10)

Digital connectivity infrastructure (DCI) resilience is a critical factor in ensuring uninterrupted and high-quality digital connectivity for properties. Resilience refers to the ability of the infrastructure to withstand disruptions, minimize downtime, and provide redundancy in case of failures or network congestion.

4.4.1. Sub-Criteria: Availability of alternate entry paths for digital connectivity infrastructure

(Weightage – 3)

i. **Objective:** To assess the availability of alternate external entry paths in the property. The alternate entry paths enable the service providers to extend digital connectivity with route diversity which reduces the service disruptions in case of fault in one segment of the network ring including any damage within the property. The availability of route diversity up to the telecom rooms/telecom areas is an ideal scenario.

ii. **Assessment Methodology:**

a. **Physical verification as per design documents:**

1. Examine on-site layouts for ducts from the entry points and cable pathways to confirm the availability of alternate entry paths for DCI in the property.
2. Sufficient capacity for multiple service providers.

b. **Supporting documents:** Ducts and pathway layout diagrams to verify the availability on site.

iii. **Compliance checklist:** The DCRAs shall prepare and maintain the compliance summary in the following format:

S. No.	Item description	Compliance (Yes/ No)	Record maintenance requirement (Upload/ DCRA level)
1.	Ducts layout diagrams from different external entry points for fiber/ DCI		Record and Upload
2.	Pathway layout diagrams from ducts to telecom room(s)/telecom area(s) for fiber/ DCI		Record and Upload

Table 4.20: Compliance checklist

iv. **Scoring criteria:** The DCRA shall award score against this sub-criterion as follows:

S. No.	Score	Compliance Requirement
1.	3	Availability of alternate duct from property entry point and cable pathway routes till telecom room(s)/telecom area(s)

S. No.	Score	Compliance Requirement
2.	2	Availability of alternate duct from property entry point till telecom room(s)/telecom area(s)
3.	1	Availability of alternate cable pathway routes from common location in property till telecom room(s)/telecom area(s)

Table 4.21: Scoring criteria

4.4.2. Sub-Criteria: Non-flooding measures for DCI installation (Weightage – 3)

i. **Objective:** Flooding can cause significant damage to digital connectivity infrastructure and disruption in digital connectivity. Measures like raised installations, waterproof enclosures, and drainage systems may prevent flooding of key DCI elements. This sub-criterion intends to the implementation of non-flooding measures in the property to protect the DCI.

ii. **Assessment Methodology:**

a. **Site Inspection:**

1. Check with the site layout and actual location of telecom rooms/telecom areas if they are located on higher floors, away from potential flooding zones like basements or ground floors.
2. Verify that power equipment like generator set, UPS, switch over panels are installed on raised platforms or locations which are less susceptible to flooding.
3. Verify that no water drain system is connected to the telecom/DCI rooms/telecom areas which can cause backflow.

b. **Drainage System Review:** Check the availability of drainage systems with functional checks to prevent backflow of floodwaters.

c. **Supporting documents:**

1. Design and layout documentation to review infrastructure layouts to verify that flood prevention measures align with best practices.

2. Sample photographic evidence for key DCI system as proof of implementation.

iii. **Compliance checklist:** The DCRAs shall prepare and maintain the compliance summary in the following format:

S. No.	Item descriptions	Compliance (Yes/ No)	Record maintenance requirement (Upload/ DCRA level)
1.	Site photos of whether DCI/telecom room(s)/telecom area(s) are above ground floor as per design and implementation?		Record and Upload
2.	Site photos of whether key power systems like UPS/ Generators for DCI are installed on ground or higher floor with non-flooding consideration?		Record and Upload
3.	Site photos of whether drainage system is implemented as per design layout?		Record and Upload

Table 4.22: Compliance checklist

iv. **Scoring criteria:** The DCRA shall award score against this sub-criterion as follows:

S. No.	Score	Compliance Requirement
1.	3	Telecom/DCI room(s)/Telecom area(s) and UPS are above ground floor and generators/ switching panels are installed with non-flooding considerations
2.	2	Only Telecom/DCI room(s)/Telecom area(s) is implemented above ground floor and backup power system (UPS) is implemented with non-flooding measure
3.	1	If Telecom/DCI room(s)/Telecom area(s) and generator system is implemented with non-flooding consideration

Table 4.23: Scoring criteria

4.4.3. Sub-Criteria: Implementation of redundancy in power source and DCI paths

(Weightage – 4)

i. **Objective:** The redundant pathways for power and fiber cables inside the property provide path diversity in extending digital connectivity within and across the floor or building blocks. Redundancy should be applied to both the power supply and the connectivity pathways for ensuring that the DCI through other path can take over without impacting digital connectivity.

ii. **Assessment Methodology:**

a. **Redundancy Verification:**

1. Review the DCI for the presence of at least two independent power sources (e.g., main power grid and backup generators or UPS).
2. Examine the availability of path diversity for fiber or other cables across the building blocks, basements, and towers from Telecom/digital connectivity infrastructure room(s)/ Telecom area(s).

3. Verify that digital connectivity till key aggregation points is supported by a minimum of two physically separated paths.

b. **Supporting documents:**

1. Power and cable layout for DCI indicating path redundancy.
2. Sample test reports demonstrate that actual redundancy performance has been tested during commissioning.

c. **Documentation Review:**

1. Verify power and cable layout diagram for DCI indicating path redundancy with actual implementation.
2. Validate test reports to confirm that redundancy mechanisms function as intended.

iii. Compliance checklist: The DCRAs shall prepare and maintain the compliance summary in the following format:

S. No.	Item description	Compliance (Yes/No)	Record maintenance requirement (Upload/ DCRA level)
1.	Whether DCI is supported with redundant power sources (Generator/ UPS)?		Record
2.	Whether power system network layout for DCI is implemented with path diversity?		Record and Upload
3.	Whether sample test reports demonstrate testing of redundancy?		Record and Upload

S. No.	Item description	Compliance (Yes/No)	Record maintenance requirement (Upload/ DCRA level)
4.	Whether path diversity for fiber and other cables (DTH/ ethernet as applicable) across the building blocks, basements and towers from telecom/digital connectivity infrastructure room(s)/ telecom area(s) is implemented?		Record and Upload

Table 4.24: Compliance checklist

iv. **Scoring criteria:** The DCRA shall award score against this sub-criterion as follows:

S. No.	Score	Compliance Requirement
1.	4	If redundant paths are implemented for power system to DCI and fiber path in the property
2.	2	If either the power system to DCI or the fiber path incorporates path redundancy

Table 4.25: Scoring criteria

4.5. Future Readiness of Digital Connectivity Infrastructure (Weightage – 10)

Future readiness in digital connectivity infrastructure ensures that properties are equipped to support next-generation telecom technologies, evolving connectivity needs and increasing data demands. Future-ready property may be considered to have been designed to adapt, scale, and integrate upcoming innovations in digital connectivity,

enabling seamless adoption of emerging technologies like 5G, advanced Wi-Fi and smart building solutions.

4.5.1. Sub-Criteria: Availability of the latest generation of mobile connectivity (Weightage – 4)

i. **Objective:** The infrastructure should be equipped to support the latest generation of mobile connectivity, such as 4G/5G and future network standards, to ensure high-speed, low-latency, and reliable communication. The availability of advanced mobile infrastructure significantly impacts digital connectivity performance and user experience. This sub-criterion focuses on assessing whether a property has the necessary infrastructure to support current and next-generation mobile networks and is future-ready for upcoming technologies.

ii. **Assessment Methodology:**

a. **Inspection of latest technology installed Infrastructure:**

1. **Physical Verification**: Inspect the property's mobile network infrastructure, providing coverage to the property including distributed antenna systems (DAS), and backhaul connectivity.
2. **Technology Support**: Evaluate if the installed infrastructure is sufficient to provide coverage in the different areas of the property.

b. **Technical Validation:**

1. Cross-check compatibility with current frequency bands with different service providers for latest/current technology.

c. **Supporting documents:**

1. List of the latest generation mobile connectivity equipment's installed in the property.
2. Photographs of installed latest generation mobile connectivity equipment.

iii. **Compliance checklist:** The DCRAs shall prepare and maintain the compliance summary in the following format:

S. No.	Item description	Compliance (Yes/ No)	Record maintenance requirement (Upload/ DCRA level)
1.	Whether the equipment installed supports the latest generation of mobile connectivity?		Record
2.	Photographs of installed latest generation mobile connectivity equipment		Record and Upload

Table 4.26: Compliance checklist

iv. **Scoring criteria:** The DCRA shall award score against this sub-criterion as follows:

S. No.	Score	Compliance Requirement
1.	4	If equipment like DAS, RRU, Base Station, etc. supporting 5G **and** 4G technology are installed in the property for mobile connectivity
2.	2	If equipment like DAS, RRU, Base Station, etc. supporting 4G **or** 5G technology are installed in the property for mobile connectivity

Table 4.27: Scoring criteria

4.5.2. Sub-Criteria: Support for future bands (Weightage – 3)

i. **Objective:** To ensure long-term relevance and adaptability, digital connectivity infrastructure must be designed to support the integration of future wireless communication bands and evolving wired and mobile technologies. The rapid evolution of telecommunications standards, frequency bands, and network technologies necessitates a future-proof approach to infrastructure planning. This

enables seamless upgrades, minimizes costly retrofitting, and ensures properties remain technologically competitive for years to come.

ii. Assessment Methodology

a. Validate the support or upgradability of installed Digital Connectivity Infrastructure (DCI) for future bands for latest technology.

b. Verify RF infrastructure installed like radio units, baseband units, duplexers, combiners, and transmitters, as applicable, are capable for supporting upcoming technologies and frequency bands.

c. **Supporting documents:**

1. Bill of Material (BoM) installed at the property and datasheets for relevant equipment.

iii. Compliance checklist: The DCRAs shall prepare and maintain the compliance summary in the following format:

S. No.	Item description	Compliance (Yes/ No)	Record maintenance requirement (Upload/ DCRA level)
1.	Bill of Material (BoM) installed at building along with datasheets for relevant equipment		Record
2.	Whether DCI supports future bands for mobile or Wi-Fi network as applicable as per datasheets?		Record and Upload

Table 4.28: Compliance checklist

iv. **Scoring criteria:** The DCRA shall award score against this sub-criterion as follows:

S. No.	Score	Compliance Requirement
1.	3	If installed infrastructure supports future bands for 4G and 5G technology and/or Wi-Fi network as per the extant National Frequency Allocation Plan issued by DoT.
2.	2	If installed infrastructure supports future bands for 4G technology and/or Wi-Fi network as per the extant National Frequency Allocation Plan issued by DoT.
3.	1	If installed infrastructure supports future bands for 4G technology or Wi-Fi network as per the extant National Frequency Allocation Plan issued by DoT.

Table 4.29: Scoring criteria

4.5.3. Sub-Criteria: Upgradability of wireline DCI (Weightage – 3)

i. **Objective:** Wireline digital connectivity infrastructure (DCI), such as fiber-optic networks, plays a crucial role in ensuring high-speed internet access and seamless communication. As technology evolves, infrastructure must be designed to accommodate future upgrades, such as higher bandwidth capacities, new transmission standards, and enhanced network architectures. This sub-criterion evaluates whether the existing fiber-optic network can be scaled or upgraded without requiring extensive rework.

ii. **Assessment Methodology:**

a. **Existing bandwidth verification:**

1. Assess the current fiber-optic network's bandwidth capabilities to determine if it supports high-speed data transfer (e.g., 1 Gbps, 10 Gbps, or higher).

2. Evaluate the type of fiber used and whether it can support technologies such as Dense Wavelength Division Multiplexing (DWDM) or Passive Optical Networks (PON).

b. **Scalability review:**

1. Inspect the physical infrastructure, including cable pathways, ducts, and fiber termination points, to verify if additional fiber cables can be added in the future without major structural modifications.
2. Check the fiber distribution frames to assess whether they allow easy upgrades or expansions.
3. Determine whether there is spare capacity in existing ducts and conduits to accommodate additional fiber strands if needed.

c. **Supporting documents:**

1. Documents to demonstrate upgradability of wireline DCI.
2. Photographic evidence of installed wireline DCI to document their capacity for future expansion.

iii. Compliance checklist: The DCRAs shall prepare and maintain the compliance summary in the following format:

S. No.	Item description	Compliance (Yes/ No)	Record maintenance requirement (Upload/ DCRA level)
1.	Upgradability of existing wireline DCI equipment's (switches/ routers/ splitters/ PON etc.) and relevant cables		Record

S. No.	Item description	Compliance (Yes/ No)	Record maintenance requirement (Upload/ DCRA level)
2.	Whether the bandwidth supported through optical fiber with speed 1 Gbps or higher?		Record and Upload

Table 4.30: Compliance checklist

iv. **Scoring criteria**: The DCRA shall award score against this sub-criterion as follows:

S. No.	Score	Compliance Requirement
1.	3	If existing wireline infrastructure is on fiber and support minimum 1 Gbps to end users
2.	2	If existing wireline infrastructure is on fiber and support minimum 500 Mbps to end users
3.	1	If existing wireline infrastructure is on fiber and support minimum 100 Mbps to end users

Table 4.31: Scoring criteria

4.6. Provision of Wired Connectivity Infrastructure (Weightage – 20)

This criterion evaluates the availability, quality, and scalability of the wired connectivity infrastructure within a property.

A robust wired network ensures high-speed, reliable, and low-latency digital connectivity, supporting various applications such as business operations, smart building technologies and residential broadband needs as per property use.

4.6.1. Sub-Criteria: Backhaul fiber/ wireless connectivity (service provider to property)

(Weightage – 10)

i. **Objective:** A high capacity backhaul connection is essential to ensure high-speed and uninterrupted digital connectivity for users within the property. The presence of a dedicated fiber or wireless connection from the service provider to the property enhances network performance, reduces latency, and supports high-bandwidth applications such as video conferencing, cloud computing, and smart building management systems.

ii. **Assessment Methodology:**

a. **Backhaul connectivity availability check:**

1. Conduct a physical verification of the backhaul infrastructure connected to the service provider's network.
2. Check redundancy measures, such as dual entry fiber paths etc., in place for uninterrupted connectivity in case of failure.

b. **Bandwidth capacity check:**

1. Record the provisioned Bandwidth capacity in the property for each service provider.
    i. BW capacity on fiber
    ii. BW capacity on wireless
    iii. BW on any other media (please specify)

c. **Supporting documents:**

1. Connectivity details from service providers to the property and supporting documents regarding available bandwidth from each service provider.

d. **Documentation Review:** Validate the Telecom/ Internet service provider agreements and backhaul connectivity/ bandwidth testing results.

iii. **Compliance checklist:** The DCRAs shall prepare and maintain the compliance summary in the following format:

S. No.	Item description	Compliance (Yes/ No)	Record maintenance requirement (Upload/ DCRA level)
1.	Backhaul connectivity testing results		Record
2.	Photographs of wireless or fiber termination point at main telecom room/telecom area / receiving equipment		Record and Upload

Table 4.32: Compliance checklist

iv. **Scoring criteria:** The DCRA shall award score against this sub-criterion as follows:

S. No.	Score	Criteria
1.	10	Score Awarded= $5 \times \frac{\left\{\begin{matrix}1\times\text{No. of wireline (internet) service providers}\\ \text{having fiber backhaul}\end{matrix}\right\}+\left\{\begin{matrix}0.75\times\text{ No. of wireline (internet) service providers}\\ \text{having wireless backhaul with minimum speed} \geq 10\text{ Gbps}\end{matrix}\right\}+\left\{\begin{matrix}0.5\times\text{ No. of wireline (internet) service providers}\\ \text{having wireless backhaul with minimum speed} \geq 1\text{ Gbps and} < 10\text{ Gbps}\end{matrix}\right\}}{\text{No. of wireline (internet) service providers present in the property}} + 5 \times \frac{\left\{\begin{matrix}1\times\text{No. of wireless (mobile) service providers}\\ \text{having fiber backhaul}\end{matrix}\right\}+\left\{\begin{matrix}0.75\times\text{ No. of wireless (mobile) service providers}\\ \text{having wireless backhaul with minimum speed} \geq 10\text{ Gbps}\end{matrix}\right\}+\left\{\begin{matrix}0.5\times\text{ No. of wireless (mobile) service providers}\\ \text{having wireless backhaul with minimum speed} \geq 1\text{ Gbps and} < 10\text{ Gbps}\end{matrix}\right\}}{\text{No. of wireless (mobile) service providers present in the property}}$

Table 4.33: Scoring criteria

4.6.2. Sub-Criteria: Fiber connectivity till user premises (Weightage – 5)

i. **Objective:** Sub-criterion assesses whether high capacity fiber-optic infrastructure extends from the telecommunication room/transmission room/telecommunication area up to the end-users within a property. The aim is to facilitate the extension of digital connectivity to the residents, businesses, and offices. A fiber-optic connection reaching the user premises guarantees superior bandwidth, lower latency, and future-proof infrastructure capable of supporting evolving digital requirements such as 5G backhaul, cloud services, and smart building applications. The well planned and laid fiber cables from telecom room(s)/telecom area(s) to the user premises (flat/ home/ office/ shop etc. as applicable) enables faster provisioning and easy to maintain.

ii. **Assessment Methodology**

a. **Physical Inspection:** Verify that fiber-optic cabling extends up to each residential, office, or commercial unit within the property.

b. **Supporting documents:**

1. Fiber network architecture showing fiber distribution from the telecom room/telecom area or meeting point to each unit.
2. Fiber test reports confirming connectivity to each unit.

iii. **Compliance checklist:** The DCRAs shall prepare and maintain the compliance summary in the following format:

S. No.	Item description	Compliance (Yes/ No)	Record maintenance requirement (Upload/ DCRA level)
1.	Fiber layout diagrams up to user premises		Record and Upload

S. No.	Item description	Compliance (Yes/ No)	Record maintenance requirement (Upload/ DCRA level)
2.	Sample fiber test reports confirming connectivity to each user premise		Record and Upload

Table 4.34: Compliance checklist

iv. **Scoring criteria:** The DCRA shall award score against this sub-criterion as follows:

S. No.	Score	Compliance Requirement
1.	5	If fiber connectivity is extended from telecommunication room/ transmission room/ telecommunication area to all user units within the property
2.	4	If fiber connectivity is extended from telecommunication room/ transmission room/ telecommunication area to a minimum of 75% of user units within the property
3.	3	If fiber connectivity is extended from telecommunication room/ transmission room/ telecommunication area to a minimum of 50% of user units within the property
4.	2	If fiber connectivity is extended from telecommunication room/ transmission room/ telecommunication area to a minimum of 30% of user units within the property

Table 4.35: Scoring criteria

4.6.3. Sub-Criteria: Fiber connectivity in each room or office or commercial space

(Weightage – 5)

i. **Objective:** The goal of this sub-criterion is to assess whether every individual space within the property, whether a residential unit, office, or commercial establishment—has fiber connectivity. This guarantees seamless high-speed internet access across the entire property, eliminating connectivity dead zones and ensuring a uniform digital experience for all occupants.

ii. **Assessment Methodology:**

a. **Visual Inspection:** Inspect rooms, offices, or commercial spaces on a sample basis to confirm the presence of fiber-optic connectivity infrastructure and termination points in each room/ office.

b. **Supporting documents:**

1. Network layout diagram for user units showing fiber terminations and sample test reports for fiber terminations.
2. Site survey reports and photographic evidence.

iii. **Compliance checklist:** The DCRAs shall prepare and maintain the compliance summary in the following format:

S. No.	Item description	Compliance (Yes/ No)	Record maintenance requirement (Upload/ DCRA level)
1.	Network layout diagram for user units showing fiber terminations		Record
2.	Sample test reports for fiber terminations testing		Record and Upload

Table 4.36: Compliance checklist

iv. **Scoring criteria:** The DCRA shall award score against this sub-criterion as follows:

S. No.	Score	Compliance Requirement
1.	5	If fiber connectivity is extended in each room/ office/ commercial space of all user units within the property
2.	4	If fiber connectivity is extended in each room/ office/ commercial space of minimum 75% of user units within the property
3.	3	If fiber connectivity is extended in each room/ office/ commercial space of minimum 50% of user units within the property
4.	2	If fiber connectivity is extended in each room/ office/ commercial space of minimum 30% of user units within the property

Table 4.37: Scoring criteria

4.7. Availability of Service Providers

(Weightage – 15)

This criterion evaluates the number and diversity of wireline and mobile service providers that have integrated their services with the Digital Connectivity Infrastructure (DCI) of a property. A higher number of available providers ensure better service quality, redundancy, and consumer choice.

4.7.1. Sub-Criteria: Number of wireline Internet Service providers having integration with Digital Connectivity Infrastructure

(Weightage – 7.5)

i. **Objective:** The presence of multiple wireline Internet Service Providers (ISPs) within a property significantly enhances competition, service quality, redundancy, and network resilience, ensuring reliable and high-speed digital connectivity. A multi-ISP infrastructure benefits property managers, businesses, and residents by

providing greater flexibility, improved service continuity, and optimized cost structures.

ii. Assessment Methodology:

a. **Verification of ISP Integration:** Confirm the number of wireline TSP/ ISPs integrated with the DCI by inspecting the infrastructure and service availability.

b. **Telecom/Internet Service Provider Agreement Review:** Verify agreements with TSP/ISPs and sample integration test reports.

c. **Validation:** Verify that all integrated TSP/ISPs are operational.

d. **Supporting documents:**

1. Telecom/ Internet Service Provider (TSP/ ISP) Agreements.
2. Network integration certificates/ test reports.
3. Service subscription status.

iii. Compliance checklist: The DCRAs shall prepare and maintain the compliance summary in the following format:

S. No.	Item description	Compliance (Yes/ No)	Record maintenance requirement (Upload/ DCRA level)
1.	Telecom/ Internet Service Provider (ISP) Agreements		Record
2.	Network integration certificates/ test reports		Record
3.	Service subscription status		Record and Upload

Table 4.38: Compliance checklist

iv. **Scoring criteria:** The DCRA shall award score against this sub-criterion as follows:

S. No.	Score	Compliance Requirement
1.	7.5	If 3 or more internet service providers have integration with DCI in the property with active service subscription
2.	5	If a minimum of 2 internet service providers have integration with DCI in the property with active service subscription
3.	2	If at least one internet service provider has integration with DCI in the property with active service subscription

Table 4.39: Scoring criteria

4.7.2. Sub-Criteria: Number of Mobile Service providers having coverage or integration with Digital Connectivity Infrastructure (Weightage – 7.5)

i. **Objective:** The objective of this sub-criterion is to assess the extent to which multiple mobile service providers (TSPs) are integrated with the property's digital connectivity infrastructure (DCI) or have adequate service coverage measured as per methodology in section 4.8. Having multiple mobile service providers ensures users have reliable network coverage, high-quality service, and reduced congestion, particularly in high-density areas like commercial properties, residential complexes, and office spaces.

ii. **Assessment Methodology:**

a. **Coverage Verification:**

1. Confirm the number of Telecom Service Providers (TSPs) providing indoor coverage for the property.
2. Validate integration of the DCI with In-Building Solutions (IBS)/ Small Cells/ Wi-Fi offload for enhanced indoor mobile coverage.

b. **Supporting documents:**

1. Agreements signed with Telecom Service Providers.
2. Walk/drive test results and/or RF coverage map in the property.

Documentation Review: Validate the TSP agreements and network integration test reports.

iii. Compliance checklist: The DCRAs shall prepare and maintain the compliance summary in the following format:

S. No.	Item description	Compliance (Yes/ No)	Record maintenance requirement (Upload/ DCRA level)
1.	Walk/drive test results and/or RF coverage map in the property		Record and Upload
2.	Network performance test results from multiple operators		Record
3.	Agreements signed with Telecom Service Providers (without commercial details)		Record

Table 4.40: Compliance checklist

iv. Scoring criteria: The DCRA shall award score against this sub-criterion as follows:

S. No.	Score	Compliance Requirement
1.	7.5	If 3 or more mobile service providers individually have overall more than 75% coverage (RSRP ≥ -110 dBm) for 4G/5G services in the property either through integration with DCI or otherwise.

S. No.	Score	Compliance Requirement
2.	5	If at least two mobile service providers individually have overall more than 75% coverage (RSRP ≥ -110 dBm) for 4G/5G services in the property either through integration with DCI or otherwise.
3.	2	If at least one mobile service providers have overall more than 75% coverage (RSRP ≥ -110 dBm) for 4G/5G services in the property either through integration with DCI or otherwise.

Table 4.41: Scoring criteria

4.8. Service Performance (Weightage – 25)

Service performance is a critical factor in evaluating the digital connectivity of a property. This criterion assesses service performance parameters to assess digital experience in the property including lifts and basements. For assessment of mobile service coverage, the reference minimum signal strength for 2G/4G/5G technology shall be same as prescribed by TRAI for publishing of coverage map under revised QoS regulation i.e. '*THE STANDARDS OF QUALITY OF SERVICE OF ACCESS (WIRELINE AND WIRELESS) AND BROADBAND (WIRELINE AND WIRELESS) SERVICE REGULATIONS, 2024 (06 of 2024)*'.

To assess service performance for mobile (data and voice services) and Wi-Fi services (data services), at least one sample for each of 5x5 meter or less size of tile size will be collected as far as feasible for respective service provider. For example, if the total public area of the property is 10000 square meters, then a minimum of 400 samples in each day are to be collected for relevant parameter. App designated by TRAI shall be used for the testing of coverage and download speeds. To calculate the download speeds for mobile and Wi-Fi services, all the download speed samples shall be arranged in descending order (starting highest download speed recorded during entire assessment period) and the 80th percentile value, arrived after such arrangement, shall be considered the minimum download speed. For illustration, if a total of 1200 samples have been collected during the assessment period,

then these values shall be arranged in descending order and 1200*0.8=960th value of download speed shall be taken as minimum download speed for the mobile or Wi-Fi service.

For assessment of voice service performance, a structured and repeatable methodology shall be followed to measure key parameters. During the assessment, one test device (call terminating) will be placed at a fixed location in the property and other device (call originating) shall be used for sample collection around different areas of the property as per sampling methodology. Each test call shall begin with dial initiation, and a maximum of 15 seconds shall be allowed for the call to be successfully established. Calls not connected within this duration shall be recorded as failed attempts. For calls that are successfully established, the call shall be maintained for a duration of 90 to 120 seconds to observe call stability and identify any premature disconnections. After completion of the call duration, the call shall be normally terminated. A wait time of 15 seconds shall be observed before initiating the next call. This process shall be repeated in accordance with the sampling plan. The same methodology shall be referred to in the subsequent sections where Call Setup Time, Call Setup Success Rate, and Call Drop Rate are defined and calculated. The DCRA shall use industry-standard tools for assessment of voice service performance. Further, DCRA must ensure using the same tool for evaluating all service providers within a property to assess voice service performance.

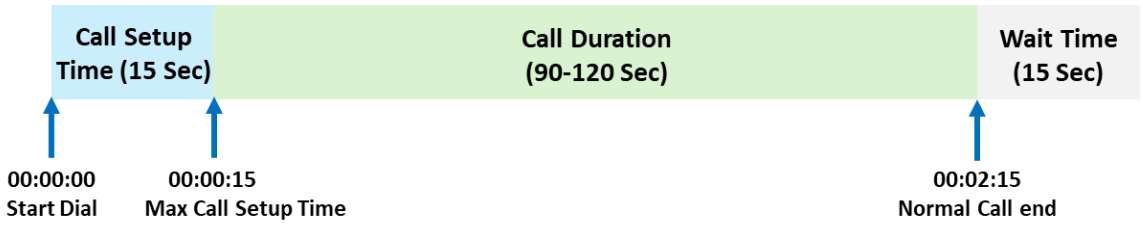

Figure 4.1: Call Flow for measuring Voice services performance

For non-public areas, where complete accessibility may not be feasible, to assess service performance for mobile (data and voice services) and Wi-Fi services (data services), measurement samples shall be collected over a minimum of 70% of the non-public area on each floor and tower based on the prescribed sampling methodology.

4.8.1. Sub-Criteria: Mobile network coverage and performance in public areas of property

(Weightage – 6)

i. **Objective:** The mobile network performance in public areas (e.g., common area, lobbies, corridors, lifts, basements) should meet minimum requirements for signal strength and speed which is essential for superior user experience, safety, and efficient operations.

ii. **Assessment Methodology:**

a. Conduct RF testing for mobile coverage in public spaces like lobbies, corridors, common utilities like gym, banquet hall, garden, parking, lifts, basements, and entrances using App designated by TRAI.

b. Assess data speed and voice call quality over minimum three days {preferably 10 am to 8 pm with samples uniformly distributed covering peak hours (10 am to 12 noon and 6 pm to 8 pm) in property} using prescribed methodology for each service provider whose coverage is available on the property and accounted under criteria *'4.7- Availability of Service Providers'*. Measurements to be carried out shall include peak as well as off-peak hours.

c. The call setup time, call setup success rate and call drop rate, for voice services, will be measured as per the measurement methodology prescribed in section 4.8.1. ii. d. Number of test samples and methodology shall be as prescribed in section 4.8 above.

d. The following methodology shall be used for calculating call setup success rate, call drop rate and call setup time:

1. **Call setup success rate:** Call Setup Success Rate is defined as the ratio of Established Calls to Call Attempts. 'Established Calls' mean the following events have happened in call setup:

(a) Call attempt is made

(b) The signaling channel is allocated

(c) The call is routed to the outwards path of the terminating network

(d) An alert signal is received by caller in the form of ring back tone, busy tone, or an announcement.

CSSR = (Total Call Established/ Total Call Attempt) *100

2. **Call Drop rate:** Call drop represents the service provider network's ability to maintain a call once it has been successfully established. This parameter shall include both incoming calls and outgoing calls which, once they have been established and have an assigned traffic channel/ bearer, are dropped, or interrupted before their normal completion by the user, the cause of the early termination being within the service provider's network.

   Call Drop Rate = (Total Call Drop/Total Call Established) *100

3. **Call setup time:** Time taken from call initiate to call alerting/ringing.

   Call Setup Time = T2- T1

   T2- Ringing (VoLTE/VoNR),

   T1- Invite (VoLTE/VoNR)

iii. Supporting documents

1. Walk/drive test results and/or RF coverage map of public areas.
2. Speed test logs and call setup time, call setup success rate and call drop rate reports.

iv. Compliance checklist: The DCRAs shall prepare and maintain the compliance summary in the following format:

S. No.	Item description	Compliance (Yes/ No)	Record maintenance requirement (Upload/ DCRA level)
1.	Walk/drive test results and/or RF coverage map of public areas		Record and Upload

S. No.	Item description	Compliance (Yes/ No)	Record maintenance requirement (Upload/ DCRA level)
2.	Speed test logs, call setup time, call setup success rate and call drop rate		Record and Upload
3.	Speed and coverage samples mapped on the Layout maps (floors/areas)		Record and Upload

Table 4.42: Compliance checklist

v. **Scoring criteria:** The DCRA shall award score against this sub-criterion as follows:

S. No.	Score	Compliance Requirement
Part A		
1.	4	If at least 3 service providers individually have overall more than 85% mobile coverage (RSRP ≥ -110 dBm) for 4G/5G services in public areas (including common area, lifts, and basements), with minimum download speed of 10Mbps for 4G or 100 Mbps for 5G technology as applicable.
2.	3	If at least two service providers individually have overall more than 85% mobile coverage (RSRP ≥ -110 dBm) for 4G/5G services in public areas (including common area, lifts, and basements), with minimum download speed of 10Mbps for 4G or 100 Mbps for 5G technology as applicable.

S. No.	Score	Compliance Requirement
3.	2	If at least one service provider has more than 85% mobile coverage (RSRP ≥ -110 dBm) for 4G/5G services in public areas (including common area, lifts, and basements), with minimum download speed of 10Mbps for 4G or 100 Mbps for 5G technology as applicable.
Part B		
1.	2	If call drop rate ≤ 2% **and** call setup success rate ≥ 98% for each service provider
2.	1	If call drop rate ≤ 2% **or** call setup success rate ≥ 98% for each service provider
Note 1: Refer methodology in Section 4.8 for calculation of minimum download speed and sampling methodology. **Note 2:** This sub-criterion is evaluated in two parts — Part A and Part B. The property shall be assessed separately under each part. The overall score for this sub-criterion shall be the sum of the scores awarded in Part A and Part B.		

Table 4.43: Scoring criteria

4.8.2. Sub-Criteria: Secure public Wi-Fi network coverage and performance in public areas of property

(Weightage – 4)

i. **Objective:** Public Wi-Fi in the property may complement the mobile coverage. However, it should be secure and offer a high level of performance, with fast speeds and low latency. With secure and seamless public Wi-Fi coverage in the property, consumers can avail the data and voice service. The assessment shall include evaluating its Wi-Fi network availability, security measures in place, speed, and latency required for reliable digital connectivity.

ii. Assessment Methodology:

a. Identify all public areas within the property where Wi-Fi services are provided, such as lobbies, lounges, cafeterias, parking areas, lifts, basements, and open seating spaces.

b. Conduct sample WPA2/ WPA3 compliance checks for security.

c. Conduct speed and latency tests covering peak hours (10 am to 12 noon and 6 pm to 8 pm) over minimum three days (preferably 10 am to 8 pm) using App designated by TRAI using prescribed methodology.

iii. Supporting documents:

1. **Speed Test Results:** Logs of speed and latency test results from various locations and times, demonstrating network reliability.

2. **Wi-Fi Security Audit Reports:** Reports confirming compliance with WPA2/WPA3 security standards, network authentication mechanisms, and encryption configurations.

iv. Compliance checklist: The DCRAs shall prepare and maintain the compliance summary in the following format:

S. No.	Item description	Compliance (Yes/ No)	Record maintenance requirement (Upload/ DCRA level)
1.	Wi-Fi speed test results		Record and Upload
2.	Wi-Fi security audit reports		Record
3.	Speed samples mapped on the Layout maps (floors/areas)		Record and Upload

Table 4.44: Compliance checklist

v. **Scoring criteria:** The DCRA shall award score against this sub-criterion as follows:

S. No.	Score	Compliance Requirement
1.	4	If minimum download speed of 20 Mbps is available from Wi-Fi in public or common area of the property (including lifts and basements).
2.	2	If minimum download speed of 10 Mbps is available from Wi-Fi in public or common area of the property (including lifts and basements).
Note: Refer methodology in Section 4.8 for calculation of minimum download speed and sampling methodology.		

Table 4.45: Scoring criteria

4.8.3. Sub-Criteria: Mobile network coverage and performance in non-public areas

(Weightage – 5)

i. **Objective:** The mobile network should maintain high performance in private or restricted areas, such as residential flats, offices, conference rooms, executive cabins etc. within a property. The objective of this criterion is to assess the availability of mobile network coverage in private areas of the property.

ii. **Assessment Methodology:**

a. Conduct RF testing for mobile coverage in pre-defined non-public areas using App designated by TRAI.

b. Assess data speed and voice call quality over minimum three days {preferably 10 am to 8 pm with samples uniformly distributed covering peak hours (10 am to 12 noon and 6 pm to 8 pm) in property} using prescribed methodology for each service provider whose coverage is available on the property and accounted under criteria '4.7- Availability of Service Providers'. Measurements to be carried out shall include peak as well as off-peak hours.

c. The call setup time, call setup success rate and call drop rate, for voice services, will be measured as per the measurement methodology prescribed in section 4.8.3. ii. d. Number of test samples and methodology shall be as prescribed in section 4.8 above.

d. The following methodology shall be used for calculating call setup success rate, call drop rate and call setup time:

1. **Call setup success rate:** Call Setup Success Rate is defined as the ratio of Established Calls to Call Attempts. 'Established Calls' mean the following events have happened in call setup:

   (a) Call attempt is made

   (b) The signaling channel is allocated

   (c) The call is routed to the outwards path of the terminating network

   (d) An alert signal is received by caller in the form of ring back tone, busy tone, or an announcement.

   CSSR = (Total Call Established/ Total Call Attempt) *100

2. **Call Drop rate:** Call drop represents the service provider network's ability to maintain a call once it has been successfully established. This parameter shall include both incoming calls and outgoing calls which, once they have been established and have an assigned traffic channel/ bearer, are dropped, or interrupted before their normal completion by the user, the cause of the early termination being within the service provider's network.

   Call Drop Rate = (Total Call Drop/Total Call Established) *100

3. **Call setup time:** Time taken from call initiate to call alerting/ringing.

   Call Setup Time = T2- T1

   T2- Ringing (VoLTE/VoNR),

   T1- Invite (VoLTE/VoNR)

iii. Supporting documents:

1. Walk/drive test results and/or RF coverage map of the area under test.

2. Speed test logs and call setup time, call setup success rate and call drop rate reports.

iv. Compliance checklist: The DCRAs shall prepare and maintain the compliance summary in the following format:

S. No.	Item description	Compliance (Yes/ No)	Record maintenance requirement (Upload/ DCRA level)
1.	Walk/drive test results and/or RF coverage map of the area under test		Record and Upload
2.	Speed test logs, call setup time, call setup success rate and call drop rate		Record and Upload
3.	Speed and coverage samples mapped on the Layout maps (floors/areas)		Record and Upload

Table 4.46: Compliance checklist

v. Scoring criteria: The DCRA shall award score against this sub-criterion as follows:

S. No.	Score	Compliance Requirement
Part A		
1.	4	If at least 3 service providers individually have overall more than 80% mobile coverage (RSRP ≥ -110 dBm) for 4G/5G services in non-public areas, with minimum download speed of 10Mbps for 4G or 100 Mbps for 5G technology as applicable.

S. No.	Score	Compliance Requirement
2.	3	If at least 2 service providers individually have overall more than 70% mobile coverage (RSRP ≥ -110 dBm) for 4G/5G services in non-public areas, with average minimum download speed of 10Mbps for 4G or 100 Mbps for 5G technology as applicable.
3.	2	If at least 2 service providers individually have overall more than 50% mobile coverage (RSRP ≥ -110 dBm) for 4G/5G services in non-public areas, with average minimum download speed of 10Mbps for 4G or 100 Mbps for 5G technology as applicable.
Part B		
1.	1	If call drop rate ≤ 2% **and** call setup success rate ≥ 98% for each service provider
2.	0.5	If call drop rate ≤ 2% **or** call setup success rate ≥ 98% for each service provider
Note 1: Refer methodology in Section 4.8 for calculation of minimum download speed and sampling methodology. **Note 2:** This sub-criterion is evaluated in two parts — Part A and Part B. The property shall be assessed separately under each part. The overall score for this sub-criterion shall be the sum of the scores awarded in Part A and Part B.		

Table 4.47: Scoring criteria

4.8.4. Sub-Criteria: Secure public Wi-Fi network coverage and performance in non-public areas

(Weightage – 5)

i. **Objective:** Public Wi-Fi in the property may complement the mobile coverage. However, it should be secure and offer a high level of performance, with fast speeds and low latency. With secure and seamless public Wi-Fi coverage in the property,

consumers can avail the data and voice service. The goal is to assess Wi-Fi coverage in non-public areas, such as residential flats, enterprise workspaces, executive offices, conference rooms, etc. These areas require reliable, high-speed, and encrypted Wi-Fi connectivity to support business operations, data security, and seamless enterprise communication.

ii. Assessment Methodology:

To evaluate compliance with this sub-criterion, the following steps will be undertaken:

a. Identify all non-public areas within the property where Wi-Fi services are provided.

b. Conduct sample WPA2/ WPA3 compliance checks for security.

c. Conduct speed and latency tests covering peak hours (10 am to 12 noon and 6 pm to 8 pm) over minimum three days (preferably 10 am to 8 pm) using App designated by TRAI using prescribed methodology.

iii. Supporting documents:

a. **Speed Test Results:** Logs of speed and latency test results from various locations and times, demonstrating network reliability.

b. **Wi-Fi Security Audit Reports:** Reports confirming compliance with WPA2/ WPA3 security standards, network authentication mechanisms, and encryption configurations.

iv. Compliance checklist: The DCRAs shall prepare and maintain the compliance summary in the following format:

S. No.	Item description	Compliance (Yes/ No)	Record maintenance requirement (Upload/ DCRA level)
1.	Wi-Fi security certifications		Record
2.	Wi-Fi speed test results		Record and Upload

S. No.	Item description	Compliance (Yes/ No)	Record maintenance requirement (Upload/ DCRA level)
3.	Speed samples mapped on the Layout maps (floors/areas)		Record and Upload

Table 4.48: Compliance checklist

v. **Scoring criteria:** The DCRA shall award score against this sub-criterion as follows:

S. No.	Score	Compliance Requirement
1.	5	If minimum download speed of 20 Mbps is available from Wi-Fi in non-public area of the property
2.	3	If minimum download speed of 10 Mbps is available from Wi-Fi in non-public area of the property
3.	2	If minimum download speed of < 10 Mbps and > 2 Mbps is available from Wi-Fi in non-public area of the property
Note: Refer methodology in Section 4.8 for calculation of minimum download speed and sampling methodology.		

Table 4.49: Scoring criteria

4.8.5. Sub-Criteria: Average download speed of different wireline network(s) in respective highest speed plan (Weightage – 5)

i. **Objective:** The objective of this sub-criterion is to assess the highest average download speed supported by different wireline networks or service providers under their offered plans in the property.

ii. Assessment Methodology:

a. Conduct speed tests using standard tools (App designated by TRAI). Conduct tests during the prescribed time window (preferably 10 am to 8 pm) including peak traffic hour(s) (10 am to 12 noon and 6 pm to 8 pm) at least at five different user locations distributed across the property as far as possible. Minimum five test sample per location shall be collected.

b. To calculate the average download speeds, all the download speed samples shall be arranged in descending order (starting highest download speed recorded during entire assessment period) and the 90th percentile value, arrived after such arrangement, shall be considered the average download speed. For illustration, if a total of 120 samples have been collected during the assessment period, then these values shall be arranged in descending order and 120*0.9=108th value of download speed shall be taken as average download speed.

c. **Supporting documents:** Speed test results with timestamps.

iii. Compliance checklist: The DCRAs shall prepare and maintain the compliance summary in the following format:

S. No.	Item description	Compliance (Yes/ No)	Record maintenance requirement (Upload/ DCRA level)
1.	Speed test results with timestamps		Record and Upload
2.	Speed samples mapped on the Layout maps (floors/areas)		Record and Upload

Table 4.50: Compliance checklist

iv. **Scoring criteria:** The DCRA shall award score against this sub-criterion as follows:

S. No.	Score	Compliance Requirement
1.	5	If download speed of any two wireline network is more than 500 Mbps as calculated above [section 4.8.5 ii. b.]
2.	4	If the download speed of any two wireline network is more than 250 Mbps as calculated above [section 4.8.5 ii. b.]
3.	3	If the download speed of any two wireline network is more than 100 Mbps as calculated above [section 4.8.5 ii. b.]
4.	2	If the download speed of any two wireline network is more than 50 Mbps as calculated above [section 4.8.5 ii. b.]

Table 4.51: Scoring criteria

4.9. User Experience (Weightage – 5)

User experience assesses user feedback on digital connectivity, including network reliability, speed, latency, and ease of access. It considers factors like seamless browsing, streaming quality, and minimal disruptions. A positive experience indicates robust connectivity, while frequent issues highlight areas for improvement.

4.9.1. Sub-Criteria: User feedback on digital connectivity experience (Weightage – 5)

i. **Objective:** The objective of this sub-criterion is to collect and analyze user feedback regarding their experience with mobile, wireline, and Wi-Fi services in a property. User insights help assess the real-world performance of the digital connectivity infrastructure, identify gaps in service quality and drive improvements to enhance the overall connectivity experience.

ii. Assessment Methodology:

a. Conduct structured surveys capturing user satisfaction on voice call quality, voice call accessibility, voice call retainability, data speed (wireline and wireless), latency, service uptime and coverage.

b. The feedback should be collected from a minimum of 10% of the users of the property if the total users are less than 1000. In case total users are more than 1000, then feedback may be collected from a minimum of 100 users. The sampled users shall, to the extent feasible, be distributed across the service providers and blocks/towers available in the property. Each user shall be mapped to a distinct unit (such as house, apartment, office, or shop etc.) within the property, and only one user per unit shall be considered for the purpose of survey. The users in survey should be distributed across gender and broad adult age groups.

iii. Supporting documents:

a. User feedback form (please refer to Appendix section for the indicative feedback form).

iv. Compliance checklist: The DCRAs shall prepare and maintain the compliance summary in the following format.

S. No.	Item description	Compliance (Yes/ No)	Record maintenance requirement (Upload/ DCRA level)
1.	User feedback form		Record and Upload

Table 4.52: Compliance checklist

v. Scoring criteria: The DCRA shall award score against this sub-criterion as follows:

S. No.	Score	Compliance Requirement
1.	5	If 80% of users provide overall positive experience for digital connectivity in the property

S. No.	Score	Compliance Requirement
2.	4	If 70% of users provide overall positive experience for digital connectivity in the property
3.	3	If 60% of users provide overall positive experience for digital connectivity in the property
4.	2	If 50% of users provide overall positive experience for digital connectivity in the property
5.	1	If 40% of users provide overall positive experience for digital connectivity in the property

Table 4.53: Scoring criteria

Note: Overall positive experience refers to the user feedback provided in the form prescribed under Appendix 11.4 of this Manual. In this context, if a user has rated the Overall Experience as 4 or higher, the experience shall be considered as positive.

Note: In case of new property, where actual end users are yet to use services, the weightage against 'User Experience' shall be merged with 'Service Performance' and will be distributed equally among each sub-criterion. For instance, the complete weightage of 'User Experience' i.e. 5 will be distributed equally (1 each) among 5 sub-criteria of 'Service Performance'. Considering an example of 4.8.5 (Average download speed of different wireline network(s) in respective highest speed plan), the maximum scoring in such scenario would change to 6. Accordingly, the scores of scoring criteria (Table 4.51) will be updated to 6,5,4,3 for S. No. 1,2,3,4 respectively. Similar change will be incorporated for sub-criteria 4.8.2,4.8.4 and 4.8.5 of Section 4.8 (Service Performance) where score of each scoring criteria will be incremented by 1. For sub-criteria 4.8.1 and 4.8.3, similar change will be incorporated for scoring in Part A only i.e. scoring of Part B will remain the same.

4.10. Summary of Rating Score

After assessment and scoring against each criterion and sub-criteria as per assessment methodology, the DCRA shall prepare the summary of rating score in following format for final updating in the rating platform for generating the rating certificate. It is to be noted that

the scores against each sub-criteria will be awarded strictly as per the scoring criteria given above.

Criteria No.	Criteria [a]	Weightage [b]	Sub-Criteria [c]	Sub Criteria Weightage [d]	Score awarded by DCRA [e]
4.1	Compliance to applicable Model Building Bye Laws (MBBL) and National Building Construction Standards (NBCS) for digital connectivity	5	4.1.1 Approved DCI design	2.5	
			4.1.2 DCI implementation as per approved DCI design	2.5	
4.2	Provision in civil infrastructure, over and above MBBL and NBCS requirements, for ensuring robust digital connectivity	5	4.2.1 Provision for expansion of telecom rooms and cable pathways	2	
			4.2.2 Provision for expansion of mobile and wireline connectivity	2	
			4.2.3 Ease of access of DCI installed for	1	

Criteria No.	Criteria [a]	Weightage [b]	Sub-Criteria [c]	Sub Criteria Weightage [d]	Score awarded by DCRA [e]
			repair or maintenance		
4.3	Provision in power infrastructure, over and above MBBL or NBCS requirements, for ensuring reliable digital connectivity	5	4.3.1 Redundancy of power source	1	
			4.3.2 UPS power backup for DCI	2	
			4.3.3 Power continuity monitoring	1	
			4.3.4 Building Management System	1	
4.4	Digital Connectivity Infrastructure Resilience	10	4.4.1 Availability of alternate entry paths for digital connectivity infrastructure	3	
			4.4.2 Non-flooding measures for DCI installation	3	
			4.4.3 Implementation of redundancy in power source and DCI paths	4	

Criteria No.	Criteria [a]	Weightage [b]	Sub-Criteria [c]	Sub Criteria Weightage [d]	Score awarded by DCRA [e]
4.5	Future Readiness of Digital Connectivity Infrastructure	10	4.5.1 Availability of the latest generation of mobile connectivity	4	
			4.5.2 Support for future bands	3	
			4.5.3 Upgradability of wireline DCI	3	
4.6	Provision of Wired Connectivity infrastructure	20	4.6.1 Backhaul fiber/ wireless connectivity (service provider to property)	10	
			4.6.2 Fiber connectivity till user premises	5	
			4.6.3 Fiber connectivity in each room or office or commercial space	5	
4.7	Availability of Service Providers	15	4.7.1 Number of wireline Internet Service providers having integration with Digital	7.5	

Criteria No.	Criteria [a]	Weightage [b]	Sub-Criteria [c]	Sub Criteria Weightage [d]	Score awarded by DCRA [e]
			Connectivity Infrastructure		
			4.7.2 Number of Mobile Service providers having coverage or integration with Digital Connectivity Infrastructure	7.5	
4.8	Service Performance	25	4.8.1 Mobile network coverage and performance in public areas of property	6*	
			4.8.2 Secure public Wi-Fi network coverage and performance in public areas of property	4*	

Criteria No.	Criteria [a]	Weightage [b]	Sub-Criteria [c]	Sub Criteria Weightage [d]	Score awarded by DCRA [e]
			4.8.3 Mobile network coverage and performance in non-public areas	5*	
			4.8.4 Secure public Wi-Fi network coverage and performance in non-public areas	5*	
			4.8.5 Average download speed of different wireline network(s) in respective highest speed plan	5*	
4.9	User Experience	5	4.9.1 User feedback on digital connectivity experience	5#	
* In case of new property, where actual end users are yet to use services, these weightages will be incremented by 1. # In case of new property, where actual end users are yet to use services, this weightage will be considered as 0.					

Table 4.54: Summary of Rating Score

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5. Assessment Methodology for Category 'B' Properties

The regulation 25 under Section – VII "Rating criteria and process for evaluation of digital connectivity and award of ratings" of the Regulation provides criteria, weightage and high-level sub-criteria against each main criterion as indicated in column [a], [b], and [c] respectively in Table 5.1. To enable uniform and objective assessment against each sub-criteria, the sub-criteria weightage shall be as provided in column [d]. The sub-criteria weightage has been arrived, factoring their relative importance for assessment of digital connectivity and associated infrastructure for properties under Category 'B'.

Criteria No.	Criteria [a]	Weightage [b]	Sub-Criteria [c]	Sub Criteria Weightage [d]
5.1	Provision in power infrastructure for ensuring reliable digital connectivity	10	5.1.1 Redundancy of power source	2
			5.1.2 UPS power backup for DCI	4
			5.1.3 Power continuity monitoring	2
			5.1.4 Building Management System	2
5.2	Digital Connectivity Infrastructure Resilience	10	5.2.1 Availability of alternate entry paths for digital connectivity infrastructure	3
			5.2.2 Non-flooding measures for DCI installation	3
			5.2.3 Implementation of redundancy in power source and DCI paths	4

Criteria No.	Criteria [a]	Weightage [b]	Sub-Criteria [c]	Sub Criteria Weightage [d]
5.3	Future Readiness of Digital Connectivity Infrastructure	10	5.3.1 Availability of the latest generation of mobile connectivity	4
			5.3.2 Support for future bands	3
			5.3.3 Upgradability of wireline DCI	3
5.4	Provision of Wired Connectivity infrastructure	20	5.4.1 Backhaul fibre/ wireless connectivity (service provider to property)	10
			5.4.2 Fibre connectivity till user premises	5
			5.4.3 Fibre connectivity in each room or office or commercial space	5
5.5	Availability of Service Providers	15	5.5.1 Number of wireline Internet Service providers having integration with Digital Connectivity Infrastructure	7.5
			5.5.2 Number of Mobile Service providers having coverage or integration with Digital Connectivity Infrastructure	7.5
5.6	Service Performance	25	5.6.1 Mobile network coverage and performance in public areas of property	6

Criteria No.	Criteria [a]	Weightage [b]	Sub-Criteria [c]	Sub Criteria Weightage [d]
			5.6.2 Secure public Wi-Fi network coverage and performance in public areas of property	4
			5.6.3 Mobile network coverage and performance in non-public areas	5
			5.6.4 Secure public Wi-Fi network coverage and performance in non-public areas	5
			5.6.5 Average download speed of different wireline network(s) in respective highest speed plan	5
5.7	User Experience	10	5.7.1 User feedback on digital connectivity experience	10

Table 5.1: Weightage for different sub-criteria for category 'B' properties

The Digital Connectivity Rating Agency (DCRA) shall assess the digital connectivity and associated infrastructure as per provisions of the Regulations. The assessment methodology against each sub-criterion is provided in the following sections. The DCRA shall scrupulously follow the assessment methodology and collect the artifacts, evidence or test results as prescribed against respective sub-criteria under each main criterion. The required supporting documents shall be preserved by the DCRA or uploaded to the rating platform as per the requirement of the regulations, guidelines or rating manual issued or amended from time to time. For awarding the score against each sub-criteria, 'scoring criteria' tables have been provided in the following sections. A property can be awarded only one out of the given scores in 'scoring criteria' table meeting the relevant compliance requirement as prescribed.

5.1. Provision in Power Infrastructure for Ensuring Reliable Digital Connectivity

(Weightage – 10)

This criterion evaluates provisions in power infrastructure to ensure uninterrupted and reliable power supply for digital connectivity.

5.1.1. Sub-Criteria: Redundancy of power source

(Weightage – 2)

i. **Objective:** The redundant power sources are essential for reliable operation of digital connectivity. Under this sub-criterion, the availability of redundancy in power sources is assessed to ensure that DCI remain operational even during power failures. This redundancy may include backup generators or alternative power systems.

ii. **Assessment Methodology:**

a. **Verification of actual peak load and available capacity of redundant power source:**

1. Verify the availability of redundant power source for DCI.
2. Verify whether all key DCI and systems are on redundant power source like alternate feeder or separate power generator.

b. **Power Source Switching Tests:** Check the functionality of the automatic switchover mechanism between primary and backup power sources on a sample basis.

c. **Supporting documents:**

1. Power layout diagrams.
2. DCI load switchover test report.

d. **Documentation Review:** Verify the power layout diagrams, load test reports submitted by the property manager.

iii. **Compliance checklist:** The DCRAs shall prepare and maintain the compliance summary in the following format:

S. No.	Item description	Compliance (Yes/ No)	Record maintenance requirement (Upload/ DCRA level)
1.	Power layout diagrams		Record and Upload
2.	Load switchover testing reports		Record and Upload

Table 5.2: Compliance checklist

iv. **Scoring criteria:** The DCRA shall award score against this sub-criterion as follows:

S. No.	Score	Compliance Requirement
1.	2	If all digital connectivity services affecting load is supported/ fed by redundant power source

Table 5.3: Scoring criteria

5.1.2. Sub-Criteria: UPS power backup for DCI (Weightage – 4)

i. **Objective:** The continuity of power supply is essential for uninterrupted digital connectivity and Uninterrupted Power Supply (UPS) systems play an important role in service availability for any telecom or information and communication technology system. This sub-criterion will assess the availability and robustness of power backup system in case of failure of input sources i.e. commercial power and generator supply.

ii. **Assessment Methodology**

a. **UPS backup verification for DCI:**

1. Check from the line diagram whether all DCI systems are provided with UPS backup.
2. Verify the DCI system rated load and correspond UPS power capacity provided for DCI from commissioning reports or other authentic documents to calculate the provisioned UPS backup time.

3. Check the availability of UPS system redundancy by way of load sharing among multiple UPS if applicable.
4. Sample test the UPS system's ability to provide uninterrupted power to the DCI by simulating input power failure.

b. **Supporting documents:**

1. Electrical system line diagram for key DCI elements including redundant input sources and UPS system(s).
2. Test reports of UPS power backup time or other supporting document(s) with full DCI load and other load if any.

iii. Compliance checklist: The DCRAs shall prepare and maintain the compliance summary in the following format:

S. No.	Item description	Compliance (Yes/ No)	Record maintenance requirement (Upload/ DCRA level)
1.	Electrical system line diagram including redundant input sources and UPS system(s)		Record and Upload
2.	Whether all key DCI systems affecting service availability are on UPS?		Record
3.	Whether UPS system has redundancy?		Record
4.	UPS switch over successfully tested during sample testing?		Record

S. No.	Item description	Compliance (Yes/ No)	Record maintenance requirement (Upload/ DCRA level)
5.	Whether duration of UPS backup matches with available test reports with full DCI load?		Record and Upload

Table 5.4: Compliance checklist

iv. **Scoring criteria:** The DCRA shall award score against this sub-criterion as follows:

S. No.	Score	Compliance Requirement
1.	4	UPS power backup for important DCI components > 3 Hrs in absence of generator backup, or > 1 Hr where generator backup is available.
2.	2	UPS power backup for important DCI components is ≥1 and ≤3 Hrs in absence of generator backup, or ≥ 0.5 and ≤ 1 Hrs, where generator backup is available.

Table 5.5: Scoring criteria

5.1.3. Sub-Criteria: Power continuity monitoring (Weightage – 2)

i. **Objective:** The power supply monitoring system plays an important role in ensuring the power supply continuity to DCI. If the health of power systems like generator or UPS or switch gear systems is not monitored on a continuous basis, it may result in major interruption when input commercial power supply fails. Therefore, this sub-criterion provides special emphasis on the implementation of monitoring system in the property for power services.

ii. **Assessment Methodology:**

a. **Verification of Monitoring Dashboards:** Verify availability of dashboards or interfaces showing real-time power status, health status of UPS, generator(s), alerts, and reports/ alerts in case of power failures.

b. **Validation of Automated Alerts:** Test alert mechanisms for their ability to notify maintenance team of power anomalies in real time.

c. **Supporting documents:** Monitoring system screenshots with alerts generated during testing.

iii. **Compliance checklist:** The DCRAs shall prepare and maintain the compliance summary in the following format:

S. No.	Item description	Compliance (Yes/ No)	Record maintenance requirement (Upload/ DCRA level)
1.	Monitoring system high level diagram		Record and Upload
2.	Capture monitoring system dashboard screenshot		Record and Upload

Table 5.6: Compliance checklist

iv. **Scoring criteria:** The DCRA shall award score against this sub-criterion as per the following scoring criteria:

S. No.	Score	Compliance Requirement
1.	2	The dashboard covers end-to-end health status monitoring of all power systems
2.	1	The dashboard covers end-to-end health status monitoring of important power systems which may affect DCI availability

Table 5.7: Scoring criteria

5.1.4. Sub-Criteria: Building Management System (Weightage – 2)

i. **Objective:** While power monitoring system manages power related installations, building management system (BMS) encompasses monitoring of major building services like fire alarms, access control, Heating, Ventilation Air conditioning (HVAC), power systems etc. These facilities may affect the performance and availability of DCI and digital connectivity services. Thus, availability of BMS in the property enhances the DCI service availability and continuity. Therefore, this sub-criterion has been incorporated as a part of assessment for an enabling system for digital connectivity services.

ii. **Assessment Methodology:**

a. **Real-Time Data Integration Tests:** Verify that the DCI power, fire alarms and HVAC management system is integrated with the BMS or equivalent centralized monitoring system to provide centralized control and monitoring for DCI systems.

b. **BMS or equivalent centralized monitoring system communication and notification validation:** Validate that the BMS or equivalent centralized monitoring system receives accurate input data from related sensors or actuators and disseminates to the operations team in configured timelines.

c. **Supporting documents:**

1. BMS or equivalent centralized monitoring system high level diagram for DCI system areas of the property.

d. **Documentation Review:**

1. Verify the BMS or equivalent centralized monitoring system screenshots against system diagrams.

iii. **Compliance checklist:** The DCRAs shall prepare and maintain the compliance summary in the following format:

S. No.	Item description	Compliance (Yes/ No)	Record maintenance requirement (Upload/ DCRA level)
1.	BMS or equivalent centralized monitoring system architecture diagrams		Record and Upload
2.	Test report on DCI power systems, fire alarms and HVAC integration with BMS or equivalent centralized monitoring system		Record and Upload
3.	Sample test report on detection and notification of main power supply failure and takeover by generator/ UPS for DCI		Record and Upload

Table 5.8: Compliance checklist

iv. **Scoring criteria:** The DCRA shall award score against this sub-criterion as follows:

S. No.	Score	Compliance Requirement
1.	2	On availability of BMS or an equivalent centralized monitoring system covering power, fire alarm and HVAC for telecom room(s)/ telecom area(s) in the property
2.	1	On availability of BMS or an equivalent centralized monitoring system covering at least two out of, power, fire alarm and HVAC for telecom room(s)/ telecom area(s) in the property

Table 5.9: Scoring criteria

5.2. Digital Connectivity Infrastructure Resilience

(Weightage – 10)

Digital connectivity infrastructure (DCI) resilience is a critical factor in ensuring uninterrupted and high-quality digital connectivity for properties. Resilience refers to the ability of the infrastructure to withstand disruptions, minimize downtime, and provide redundancy in case of failures or network congestion.

5.2.1. Sub-Criteria: Availability of alternate entry paths for digital connectivity infrastructure

(Weightage – 3)

i. **Objective:** To assess the availability of alternate external entry paths in the property. The alternate entry paths enable the service providers to extend digital connectivity with route diversity which reduces the service disruptions in case of fault in one segment of the network ring including any damage within the property. The availability of route diversity up to the telecom rooms/ telecom areas is an ideal scenario.

ii. **Assessment Methodology:**

a. **Physical verification as per design documents:**

1. Examine on-site layouts for ducts from the entry points and cable pathways to confirm the availability of alternate entry paths for DCI in the property.
2. Sufficient capacity for multiple service providers.

b. **Supporting documents:** Ducts and pathway layout diagrams to verify the availability on site.

iii. **Compliance checklist:** The DCRAs shall prepare and maintain the compliance summary in the following format:

S. No.	Item description	Compliance (Yes/ No)	Record maintenance requirement (Upload/ DCRA level)
1.	Ducts layout diagrams from different external entry points for fiber/ DCI		Record and Upload
2.	Pathway layout diagrams from ducts to telecom room(s)/ telecom area(s) for fiber/ DCI		Record and Upload

Table 5.10: Compliance checklist

iv. **Scoring criteria:** The DCRA shall award score against this sub-criterion as follows:

S. No.	Score	Compliance Requirement
1.	3	Availability of alternate duct from property entry point and cable pathway routes till telecom room(s)/ telecom area(s)
2.	2	Availability of alternate duct from property entry point till telecom room(s)/ telecom area(s)
3.	1	Availability of alternate cable pathway routes from common location in property till telecom room(s)/ telecom area(s)

Table 5.11: Scoring criteria

5.2.2. Sub-Criteria: Non-flooding measures for DCI installation (Weightage – 3)

i. **Objective:** Flooding can cause significant damage to digital connectivity infrastructure and disruption in digital connectivity. Measures like raised installations, waterproof enclosures, and drainage systems may prevent flooding of

key DCI elements. This sub-criterion intends to the implementation of non-flooding measures in the property to protect the DCI.

ii. Assessment Methodology:

a. **Site Inspection:**

1. Check with the site layout and actual location of telecom rooms/ telecom area if they are located on higher floors, away from potential flooding zones like basements or ground floors.
2. Verify that power equipment like generator set, UPS, switch over panels are installed on raised platforms or locations which are less susceptible to flooding.
3. Verify that no water drain system is connected to the DCI rooms/ telecom rooms/ telecom areas which can cause backflow.

b. **Drainage System Review:** Check the availability of drainage systems with functional checks to prevent backflow of floodwaters.

c. **Supporting documents:**

1. Design and layout documentation to review infrastructure layouts to verify that flood prevention measures align with best practices.
2. Sample photographic evidence for key DCI system as proof of implementation.

iii. Compliance checklist: The DCRAs shall prepare and maintain the compliance summary in the following format:

S. No.	Item description	Compliance (Yes/ No)	Record maintenance requirement (Upload/ DCRA level)
1.	Site photos of whether DCI/ telecom room(s)/ telecom area(s) are above ground		Record and Upload

S. No.	Item description	Compliance (Yes/ No)	Record maintenance requirement (Upload/ DCRA level)
	floor as per design and implementation?		
2.	Site photos of whether key power systems like UPS/ Generators for DCI are installed on ground or higher floor with non-flooding consideration?		Record and Upload
3.	Site photos of whether drainage system is implemented as per design layout?		Record and Upload

Table 5.12: Compliance checklist

iv. **Scoring criteria:** The DCRA shall award score against this sub-criterion as follows:

S. No.	Score	Compliance Requirement
1.	3	Telecom/ DCI room(s)/ Telecom area(s) and UPS are above ground floor and generators/ switching panels are installed with non-flooding considerations
2.	2	Only telecom/ DCI room(s)/ Telecom area(s) is implemented above ground floor and backup power system (UPS) is implemented with non-flooding measure

S. No.	Score	Compliance Requirement
3.	1	If telecom/ DCI room(s)/ Telecom area(s) and generator system is implemented with non-flooding consideration

Table 5.13: Scoring criteria

5.2.3. Sub-Criteria: Implementation of redundancy in power source and DCI paths

(Weightage – 4)

i. Objective: The redundant pathways for power and fiber cables inside the property provide path diversity in extending digital connectivity within and across the floor or building blocks. Redundancy should be applied to both the power supply and the connectivity pathways for ensuring that the DCI through other path can take over without impacting digital connectivity.

ii. Assessment Methodology:

a. **Redundancy Verification:**

1. Review the DCI for the presence of at least two independent power sources (e.g., main power grid and backup generators or UPS).
2. Examine the availability of path diversity for fiber or other cables across the building blocks, basements, and towers from telecom/ digital connectivity infrastructure room(s)/ telecom area(s).
3. Verify that digital connectivity till key aggregation points is supported by a minimum of two physically separated paths.

b. **Supporting documents:**

1. Power and cable layout for DCI indicating path redundancy.
2. Sample test reports demonstrate that actual redundancy performance has been tested during commissioning.

c. **Documentation Review:**

1. Verify power and cable layout diagram for DCI indicating path redundancy with actual implementation.

2. Validate test reports to confirm that redundancy mechanisms function as intended.

iii. **Compliance checklist:** The DCRAs shall prepare and maintain the compliance summary in the following format:

S. No.	Item description	Compliance (Yes/ No)	Record maintenance requirement (Upload/ DCRA level)
1.	Whether DCI is supported with redundant power sources (Generator/ UPS)?		Record
2.	Whether power system network layout for DCI is implemented with path diversity?		Record and Upload
3.	Whether sample test reports demonstrate testing of redundancy?		Record and Upload
4.	Whether path diversity for fiber and other cables (DTH/ ethernet as applicable) across the building blocks, basements and towers from telecom/ digital connectivity infrastructure room(s)/ telecom area(s) is implemented?		Record and Upload

Table 5.14: Compliance checklist

iv. **Scoring criteria:** The DCRA shall award score against this sub-criterion as follows:

S. No.	Score	Compliance Requirement
1.	4	If redundant paths are implemented for power system to DCI and fiber path in the property
2.	2	If either the power system to DCI or the fiber path incorporates path redundancy

Table 5.15: Scoring criteria

5.3. Future Readiness of Digital Connectivity Infrastructure (Weightage – 10)

Future readiness in digital connectivity infrastructure ensures that properties are equipped to support next-generation telecom technologies, evolving connectivity needs and increasing data demands. Future-ready property may be considered to have been designed to adapt, scale, and integrate upcoming innovations in digital connectivity, enabling seamless adoption of emerging technologies like 5G, advanced Wi-Fi and smart building solutions.

5.3.1. Sub-Criteria: Availability of the latest generation of mobile connectivity (Weightage – 4)

i. **Objective:** The infrastructure should be equipped to support the latest generation of mobile connectivity, such as 4G/ 5G and future network standards, to ensure high-speed, low-latency, and reliable communication. The availability of advanced mobile infrastructure significantly impacts digital connectivity performance and user experience. This sub-criterion focuses on assessing whether a property has the necessary infrastructure to support current and next-generation mobile networks and is future-ready for upcoming technologies.

ii. **Assessment Methodology:**

a. **Inspection of latest technology installed Infrastructure:**

1. **Physical Verification**: Inspect the property's mobile network infrastructure, providing coverage to the property including distributed antenna systems (DAS), and backhaul connectivity.

2. **Technology Support**: Evaluate if the installed infrastructure is sufficient to provide coverage in the different areas of the property.

b. **Technical Validation:**

1. Cross-check compatibility with current frequency bands with different service providers for latest/ current technology.

c. **Supporting documents:**

1. List of the latest generation mobile connectivity equipment's installed in the property.
2. Photographs of installed latest generation mobile connectivity equipment.

iii. Compliance checklist: The DCRAs shall prepare and maintain the compliance summary in the following format:

S. No.	Item description	Compliance (Yes/ No)	Record maintenance requirement (Upload/ DCRA level)
1.	Whether the equipment installed supports the latest generation of mobile connectivity?		Record
2.	Photographs of installed latest generation mobile connectivity equipment		Record and Upload

Table 5.16: Compliance checklist

iv. Scoring criteria: The DCRA shall award score against this sub-criterion as follows:

S. No.	Score	Compliance Requirement
1.	4	If equipment like DAS, RRU, Base Station, etc. supporting 5G **and** 4G technology are installed in the property for mobile connectivity
2.	2	If equipment like DAS, RRU, Base Station, etc. supporting 4G **or** 5G technology are installed in the property for mobile connectivity

Table 5.17: Scoring criteria

5.3.2. Sub-Criteria: Support for future bands (Weightage – 3)

i. **Objective:** To ensure long-term relevance and adaptability, digital connectivity infrastructure must be designed to support the integration of future wireless communication bands and evolving wired and mobile technologies. The rapid evolution of telecommunications standards, frequency bands, and network technologies necessitates a future-proof approach to infrastructure planning. This enables seamless upgrades, minimizes costly retrofitting, and ensures properties remain technologically competitive for years to come.

ii. **Assessment Methodology:**

a. Validate the support or upgradability of installed Digital Connectivity Infrastructure (DCI) for future bands for latest technology.

b. Verify RF infrastructure installed like radio units, baseband units, duplexers, combiners, and transmitters, as applicable, are capable for supporting upcoming technologies and frequency bands.

c. **Supporting documents:**

1. Bill of Material (BoM) installed at the property and datasheets for relevant equipment.

iii. **Compliance checklist:** The DCRAs shall prepare and maintain the compliance summary in the following format:

S. No.	Item description	Compliance (Yes/ No)	Record maintenance requirement (Upload/ DCRA level)
1.	Bill of Material (BoM) installed at building along with datasheets for relevant equipment		Record
2.	Whether DCI supports future bands for mobile or Wi-Fi network as applicable as per datasheets?		Record and Upload

Table 5.18: Compliance checklist

iv. **Scoring criteria:** The DCRA shall award score against this sub-criterion as follows:

S. No.	Score	Compliance Requirement
1.	3	If installed infrastructure supports future bands for 4G and 5G technology and/or Wi-Fi network as per the extant National Frequency Allocation Plan issued by DoT.
2.	2	If installed infrastructure supports future bands for 4G technology and/or Wi-Fi network as per the extant National Frequency Allocation Plan issued by DoT.
3.	1	If installed infrastructure supports future bands for 4G technology or Wi-Fi network as per the extant National Frequency Allocation Plan issued by DoT.

Table 5.19: Scoring criteria

5.3.3. Sub-Criteria: Upgradability of wireline DCI (Weightage – 3)

Objective: Wireline digital connectivity infrastructure (DCI), such as fiber-optic networks, plays a crucial role in ensuring high-speed internet access and seamless communication. As technology evolves, infrastructure must be designed to accommodate future upgrades, such as higher bandwidth capacities, new transmission standards, and enhanced network architectures. This sub-criterion evaluates whether the existing fiber-optic network can be scaled or upgraded without requiring extensive rework.

i. Assessment Methodology:

a. **Existing bandwidth verification:**

1. Assess the current fiber-optic network's bandwidth capabilities to determine if it supports high-speed data transfer (e.g., 1 Gbps, 10 Gbps, or higher).
2. Evaluate the type of fiber used and whether it can support technologies such as Dense Wavelength Division Multiplexing (DWDM) or Passive Optical Networks (PON).

b. **Scalability review:**

1. Inspect the physical infrastructure, including cable pathways, ducts, and fiber termination points, to verify if additional fiber cables can be added in the future without major structural modifications.
2. Check the fiber distribution frames to assess whether they allow easy upgrades or expansions.
3. Determine whether there is spare capacity in existing ducts and conduits to accommodate additional fiber strands if needed.

c. **Supporting documents:**

1. Documents to demonstrate upgradability of wireline DCI.
2. Photographic evidence of installed wireline DCI to document their capacity for future expansion.

ii. **Compliance checklist:** The DCRAs shall prepare and maintain the compliance summary in the following format:

S. No.	Item description	Compliance (Yes/ No)	Record maintenance requirement (Upload/ DCRA level)
1.	Upgradability of existing wireline DCI equipment's (switches/ routers/ splitters/ PON etc.) and relevant cables		Record
2.	Whether the bandwidth supported through optical fiber with speed 1 Gbps or higher?		Record and Upload

Table 5.20: Compliance checklist

iii. **Scoring criteria**: The DCRA shall award score against this sub-criterion as follows:

S. No.	Score	Compliance Requirement
1.	3	If existing wireline infrastructure is on fiber and support minimum 1 Gbps to end users
2.	2	If existing wireline infrastructure is on fiber and support minimum 500 Mbps to end users
3.	1	If existing wireline infrastructure is on fiber and support minimum 100 Mbps to end users

Table 5.21: Scoring criteria

5.4. Provision of Wired Connectivity Infrastructure (Weightage – 20)

This criterion evaluates the availability, quality, and scalability of the wired connectivity infrastructure within a property.

A robust wired network ensures high-speed, reliable, and low-latency digital connectivity, supporting various applications such as business operations, smart building technologies and residential broadband needs as per property use.

5.4.1. Sub-Criteria: Backhaul fiber/ wireless connectivity (service provider to property) (Weightage – 10)

i. **Objective:** A high capacity backhaul connection is essential to ensure high-speed and uninterrupted digital connectivity for users within the property. The presence of a dedicated fiber or wireless connection from the service provider to the property enhances network performance, reduces latency, and supports high-bandwidth applications such as video conferencing, cloud computing, and smart building management systems.

ii. **Assessment Methodology:**

a. **Backhaul connectivity availability check:**

1. Conduct a physical verification of the backhaul infrastructure connected to the service provider's network.
2. Check redundancy measures, such as dual entry fiber paths etc., in place for uninterrupted connectivity in case of failure.

b. **Bandwidth capacity check:**

1. Record the provisioned Bandwidth capacity in the property for each service provider.
    i. BW capacity on fiber
    ii. BW capacity on wireless
    iii. BW on any other media (please specify)

c. **Supporting documents:**

1. Connectivity details from service providers to the property and supporting documents regarding available bandwidth from each service provider.

d. **Documentation Review:** Validate the Telecom/ Internet service provider agreements and backhaul connectivity/ bandwidth testing results.

iii. Compliance checklist: The DCRAs shall prepare and maintain the compliance summary in the following format:

S. No.	Item description	Compliance (Yes/ No)	Record maintenance requirement (Upload/ DCRA level)
1.	Backhaul connectivity testing results		Record
2.	Photographs of wireless or fiber termination point at main telecom room/ telecom area/ receiving equipment		Record and Upload

Table 5.22: Compliance checklist

iv. **Scoring criteria:** The DCRA shall award score against this sub-criterion as follows:

S. No.	Score	Criteria
1.	10	Score Awarded= $5 \times \frac{\left\{\begin{matrix}1\times\text{No. of wireline (internet) service providers}\\ \text{having fiber backhaul}\end{matrix}\right\}+\left\{\begin{matrix}0.75\times\text{ No. of wireline (internet) service providers}\\ \text{having wireless backhaul with minimum speed} \geq 10\text{ Gbps}\end{matrix}\right\}+\left\{\begin{matrix}0.5\times\text{ No. of wireline (internet) service providers}\\ \text{having wireless backhaul with minimum speed} \geq 1\text{ Gbps and} < 10\text{ Gbps}\end{matrix}\right\}}{\text{No. of wireline (internet) service providers present in the property}} + 5 \times \frac{\left\{\begin{matrix}1\times\text{No. of wireless (mobile) service providers}\\ \text{having fiber backhaul}\end{matrix}\right\}+\left\{\begin{matrix}0.75\times\text{ No. of wireless (mobile) service providers}\\ \text{having wireless backhaul with minimum speed} \geq 10\text{ Gbps}\end{matrix}\right\}+\left\{\begin{matrix}0.5\times\text{ No. of wireless (mobile) service providers}\\ \text{having wireless backhaul with minimum speed} \geq 1\text{ Gbps and} < 10\text{ Gbps}\end{matrix}\right\}}{\text{No. of wireless (mobile) service providers present in the property}}$

Table 5.23: Scoring criteria

5.4.2. Sub-Criteria: Fiber connectivity till user premises (Weightage – 5)

i. **Objective:** Sub-criterion assesses whether high capacity fiber-optic infrastructure extends from the telecommunication room/ transmission room/ telecommunication area up to the end-users within a property. The aim is to facilitate the extension of digital connectivity to the residents, businesses, and offices. A fiber-optic connection reaching the user premises guarantees superior bandwidth, lower latency, and future-proof infrastructure capable of supporting evolving digital requirements such as 5G backhaul, cloud services, and smart building applications. The well planned and laid fiber cables from telecom room(s)/ telecom area(s) to the user premises (flat/ home/ office/ shop etc. as applicable) enables faster provisioning and easy to maintain.

ii. **Assessment Methodology:**

a. **Physical Inspection:** Verify that fiber-optic cabling extends up to each residential, office, or commercial unit within the property.

b. **Supporting documents:**

1. Fiber network architecture showing fiber distribution from the telecom room/ telecom area or meeting point to each unit.
2. Fiber test reports confirming connectivity to each unit.

iii. **Compliance checklist:** The DCRAs shall prepare and maintain the compliance summary in the following format:

S. No.	Item description	Compliance (Yes/ No)	Record maintenance requirement (Upload/ DCRA level)
1.	Fiber layout diagrams up to user premises		Record and Upload
2.	Sample fiber test reports confirming connectivity to each user premise		Record and Upload

Table 5.24: Compliance checklist

iv. **Scoring criteria:** The DCRA shall award score against this sub-criterion as follows:

S. No.	Score	Compliance Requirement
1.	5	If fiber connectivity is extended from telecommunication room/ transmission room/ telecommunication area to all user units within the property
2.	4	If fiber connectivity is extended from telecommunication room/ transmission room/ telecommunication area to a minimum of 75% of user units within the property

S. No.	Score	Compliance Requirement
3.	3	If fiber connectivity is extended from telecommunication room/ transmission room/ telecommunication area to a minimum of 50% of user units within the property
4.	2	If fiber connectivity is extended from telecommunication room/ transmission room/ telecommunication area to a minimum of 30% of user units within the property

Table 5.25: Scoring criteria

5.4.3. Sub-Criteria: Fiber connectivity in each room or office or commercial space

(Weightage – 5)

Objective: The goal of this sub-criterion is to assess whether every individual space within the property, whether a residential unit, office, or commercial establishment—has fiber connectivity. This guarantees seamless high-speed internet access across the entire property, eliminating connectivity dead zones and ensuring a uniform digital experience for all occupants.

i. **Assessment Methodology:**

a. **Visual Inspection:** Inspect rooms, offices, or commercial spaces on a sample basis to confirm the presence of fiber-optic connectivity infrastructure and termination points in each room/ office.

b. **Supporting documents:**

1. Network layout diagram for user units showing fiber terminations and sample test reports for fiber terminations.
2. Site survey reports and photographic evidence.

ii. **Compliance checklist:** The DCRAs shall prepare and maintain the compliance summary in the following format:

S. No.	Item description	Compliance (Yes/ No)	Record maintenance requirement (Upload/ DCRA level)
1.	Network layout diagram for user units showing fiber terminations		Record
2.	Sample test reports for fiber terminations testing		Record and Upload

Table 5.26: Compliance checklist

iii. **Scoring criteria:** The DCRA shall award score against this sub-criterion as follows:

S. No.	Score	Compliance Requirement
1.	5	If fiber connectivity is extended in each room/ office/ commercial space of all user units within the property
2.	4	If fiber connectivity is extended in each room/ office/ commercial space of minimum 75% of user units within the property
3.	3	If fiber connectivity is extended in each room/ office/ commercial space of minimum 50% of user units within the property
4.	2	If fiber connectivity is extended in each room/ office/ commercial space of minimum 30% of user units within the property

Table 5.27: Scoring criteria

5.5. Availability of Service Providers

(Weightage – 15)

This criterion evaluates the number and diversity of wireline and mobile service providers that have integrated their services with the Digital Connectivity Infrastructure (DCI) of a property. A higher number of available providers ensure better service quality, redundancy, and consumer choice.

5.5.1. Sub-Criteria: Number of wireline Internet Service providers having integration with Digital Connectivity Infrastructure

(Weightage – 7.5)

i. **Objective:** The presence of multiple wireline Internet Service Providers (ISPs) within a property significantly enhances competition, service quality, redundancy, and network resilience, ensuring reliable and high-speed digital connectivity. A multi-ISP infrastructure benefits property managers, businesses, and residents by providing greater flexibility, improved service continuity, and optimized cost structures.

ii. **Assessment Methodology:**

a. **Verification of ISP Integration:** Confirm the number of wireline TSP/ ISPs integrated with the DCI by inspecting the infrastructure and service availability.

b. **Telecom/Internet Service Provider Agreement Review:** Verify agreements with TSP/ ISPs and sample integration test reports.

c. **Validation:** Verify that all integrated TSP/ ISPs are operational.

d. **Supporting documents:**

1. Telecom/ Internet Service Provider (TSP/ ISP) Agreements.
2. Network integration certificates/ test reports.
3. Service subscription status.

iii. **Compliance checklist:** The DCRAs shall prepare and maintain the compliance summary in the following format:

S. No.	Item description	Compliance (Yes/ No)	Record maintenance requirement (Upload/ DCRA level)
1.	Telecom/ Internet Service Provider (ISP) Agreements		Record
2.	Network integration certificates/ test reports		Record
3.	Service subscription status		Record and Upload

Table 5.28: Compliance checklist

iv. **Scoring criteria:** The DCRA shall award score against this sub-criterion as follows:

S. No.	Score	Compliance Requirement
1.	7.5	If 3 or more internet service providers have integration with DCI in the property with active service subscription
2.	5	If a minimum of 2 internet service providers have integration with DCI in the property with active service subscription
3.	2	If at least one internet service provider has integration with DCI in the property with active service subscription

Table 5.29: Scoring criteria

5.5.2. Sub-Criteria: Number of Mobile Service providers having coverage or integration with Digital Connectivity Infrastructure

(Weightage – 7.5)

i. **Objective:** The objective of this sub-criterion is to assess the extent to which multiple mobile service providers (TSPs) are integrated with the property's digital connectivity infrastructure (DCI) or have adequate service coverage measured as per methodology in section 5.6. Having multiple mobile service providers ensures users have reliable network coverage, high-quality service, and reduced congestion, particularly in high-density areas like commercial properties, residential complexes, and office spaces.

ii. **Assessment Methodology:**

a. **Coverage Verification:**

1. Confirm the number of Telecom Service Providers (TSPs) providing indoor coverage for the property.
2. Validate integration of the DCI with In-Building Solutions (IBS)/ Small Cells/ Wi-Fi offload for enhanced indoor mobile coverage.

b. **Supporting documents:**

1. Agreements signed with Telecom Service Providers.
2. Walk/drive test results and/or RF coverage map in the property.

c. **Documentation Review:** Validate the TSP agreements and network integration test reports.

iii. **Compliance checklist:** The DCRAs shall prepare and maintain the compliance summary in the following format:

S. No.	Item description	Compliance (Yes/ No)	Record maintenance requirement (Upload/ DCRA level)
1.	Walk/ drive test results and/or RF coverage map in the property		Record and Upload
2.	Network performance test results from multiple operators		Record
3.	Agreements signed with Telecom Service Providers (without commercial details)		Record

Table 5.30: Compliance checklist

iv. **Scoring criteria:** The DCRA shall award score against this sub-criterion as follows:

S. No.	Score	Compliance Requirement
1.	7.5	If 3 or more mobile service providers individually have overall more than 75% coverage (RSRP ≥ -110 dBm) for 4G/ 5G services in the property either through integration with DCI or otherwise.
2.	5	If at least two mobile service providers individually have overall more than 75% coverage (RSRP ≥ -110 dBm) for 4G/ 5G services in the property either through integration with DCI or otherwise.

S. No.	Score	Compliance Requirement
3.	2	If at least one mobile service providers has overall more than 75% coverage (RSRP ≥ -110 dBm) for 4G/ 5G services in the property either through integration with DCI or otherwise.

Table 5.31: Scoring criteria

5.6. Service Performance (Weightage – 25)

Service performance is a critical factor in evaluating the digital connectivity of a property. This criterion assesses service performance parameters to assess digital experience in the property including lifts and basements. For assessment of mobile service coverage, the reference minimum signal strength for 2G/ 4G/ 5G technology shall be same as prescribed by TRAI for publishing of coverage map under revised QoS regulation i.e. '*THE STANDARDS OF QUALITY OF SERVICE OF ACCESS (WIRELINE AND WIRELESS) AND BROADBAND (WIRELINE AND WIRELESS) SERVICE REGULATIONS, 2024 (06 of 2024)'*.

To assess service performance for mobile (data and voice services) and Wi-Fi services (data services), at least one sample for each of 5x5 meter or less size of tile size will be collected as far as feasible for respective service provider. For example, if the total public area of the property is 10000 square meters, then a minimum of 400 samples in each day are to be collected for relevant parameters. App designated by TRAI shall be used for the testing of coverage and download speeds. To calculate the download speeds for mobile and Wi-Fi services, all the download speed samples shall be arranged in descending order (starting highest download speed recorded during entire assessment period) and the 80th percentile value, arrived after such arrangement, shall be considered the minimum download speed. For illustration, if a total of 1200 samples have been collected during the assessment period, then these values shall be arranged in descending order and 1200*0.8=960th value of download speed shall be taken as minimum download speed for the mobile or Wi-Fi service.

For assessment of voice service performance, a structured and repeatable methodology shall be followed to measure key parameters. During the assessment, one test device (call terminating) will be placed at a fixed location in the property and other device (call

originating) shall be used for sample collection around different areas of the property as per sampling methodology. Each test call shall begin with dial initiation, and a maximum of 15 seconds shall be allowed for the call to be successfully established. Calls not connected within this duration shall be recorded as failed attempts. For calls that are successfully established, the call shall be maintained for a duration of 90 to 120 seconds to observe call stability and identify any premature disconnections. After completion of the call duration, the call shall be normally terminated. A wait time of 15 seconds shall be observed before initiating the next call. This process shall be repeated in accordance with the sampling plan. The same methodology shall be referred to in the subsequent sections where Call Setup Time, Call Setup Success Rate, and Call Drop Rate are defined and calculated. The DCRA shall use industry-standard tools for assessment of voice service performance. Further, DCRA must ensure using the same tool for evaluating all service providers within a property to assess voice service performance.

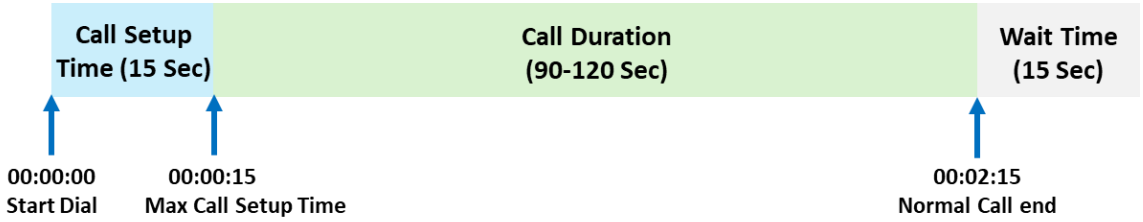

Figure 5.1: Call Flow for measuring Voice services performance

For non-public areas, where complete accessibility may not be feasible, to assess service performance for mobile (data and voice services) and Wi-Fi services (data services), measurement samples shall be collected over a minimum of 70% of the non-public area on each floor and tower based on the prescribed sampling methodology.

5.6.1. Sub-Criteria: Mobile network coverage and performance in public areas of property

(Weightage – 6)

i. **Objective:** The mobile network performance in public areas (e.g., common area, lobbies, corridors) should meet minimum requirements for signal strength and speed which is essential for superior user experience, safety, and efficient operations.

ii. Assessment Methodology:

a. Conduct RF testing for mobile coverage in public spaces like lobbies, corridors, common utilities like gym, banquet hall, garden, parking, lifts, basements, and entrances using App designated by TRAI.

b. Assess data speed and voice call quality over minimum three days {preferably 10 am to 8 pm with samples uniformly distributed covering peak hours (10 am to 12 noon and 6 pm to 8 pm) in property} using prescribed methodology for each service provider whose coverage is available on the property and accounted under criteria '5.5- *Availability of Service Providers'*. Measurements to be carried out shall include peak as well as off-peak hours.

c. The call setup time, call setup success rate and call drop rate, for voice services, will be measured as per the measurement methodology prescribed in section 5.6.1. ii. d. Number of test samples and methodology shall be as prescribed in section 5.6 above.

d. The following methodology shall be used for calculating call setup success rate, call drop rate and call setup time:

1. **Call setup success rate:** Call Setup Success Rate is defined as the ratio of Established Calls to Call Attempts. 'Established Calls' mean the following events have happened in call setup:

   (a) Call attempt is made

   (b) The signaling channel is allocated

   (c) The call is routed to the outwards path of the terminating network

   (d) An alert signal is received by caller in the form of ring back tone, busy tone, or an announcement.

   CSSR = (Total Call Established/ Total Call Attempt) *100

2. **Call Drop rate:** Call drop represents the service provider network's ability to maintain a call once it has been successfully established. This parameter shall include both incoming calls and outgoing calls which, once they have been established and have an assigned traffic channel/ bearer, are dropped,

or interrupted before their normal completion by the user, the cause of the early termination being within the service provider's network.

Call Drop Rate = (Total Call Drop/Total Call Established) *100

3. **Call setup time:** Time taken from call initiate to call alerting/ringing.

Call Setup Time = T2- T1

T2- Ringing (VoLTE/VoNR),

T1- Invite (VoLTE/VoNR)

iii. Supporting documents:

1. Walk/ drive test results and/or RF coverage map of public areas.
2. Speed test logs and call setup time, call setup success rate and call drop rate reports.

iv. Compliance checklist: The DCRAs shall prepare and maintain the compliance summary in the following format:

S. No.	Item description	Compliance (Yes/ No)	Record maintenance requirement (Upload/ DCRA level)
1.	Walk/ drive test results and/or RF coverage map of public areas		Record and Upload
2.	Speed test logs, call setup time, call setup success rate and call drop rate		Record and Upload
3.	Speed and coverage samples mapped on the Layout maps (floors/ areas)		Record and Upload

Table 5.32: Compliance checklist

v. **Scoring criteria:** The DCRA shall award score against this sub-criterion as follows:

S. No.	Score	Compliance Requirement
Part A		
1.	4	If at least 3 service providers individually have overall more than 85% mobile coverage (RSRP ≥ -110 dBm) for 4G/ 5G services in public areas (including common area, lifts, and basements), with minimum download speed of 10Mbps for 4G or 100 Mbps for 5G technology as applicable.
2.	3	If at least two service providers individually have overall more than 85% mobile coverage (RSRP ≥ -110 dBm) for 4G/ 5G services in public areas (including common area, lifts, and basements), with minimum download speed of 10Mbps for 4G or 100 Mbps for 5G technology as applicable.
3.	2	If at least one service provider has more than 85% mobile coverage (RSRP ≥ -110 dBm) for 4G/ 5G services in public areas (including common area, lifts, and basements), with minimum download speed of 10Mbps for 4G or 100 Mbps for 5G technology as applicable.
Part B		
1.	2	If call drop rate ≤ 2% **and** call setup success rate ≥ 98% for each service provider
2.	1	If call drop rate ≤ 2% **or** call setup success rate ≥ 98% for each service provider
Note 1: Refer methodology in Section 5.6 for calculation of minimum download speed and sampling methodology.		

S. No.	Score	Compliance Requirement
Note 2: This sub-criterion is evaluated in two parts — Part A and Part B. The property shall be assessed separately under each part. The overall score for this sub-criterion shall be the sum of the scores awarded in Part A and Part B.		

Table 5.33: Scoring criteria

5.6.2. Sub-Criteria: Secure public Wi-Fi network coverage and performance in public areas of property

(Weightage – 4)

i. **Objective:** Public Wi-Fi in the property may complement the mobile coverage. However, it should be secure and offer a high level of performance, with fast speeds and low latency. With secure and seamless public Wi-Fi coverage in the property, consumers can avail the data and voice service. The assessment shall include evaluating its Wi-Fi network availability, security measures in place, speed, and latency required for reliable digital connectivity.

ii. **Assessment Methodology:**

a. Identify all public areas within the property where Wi-Fi services are provided, such as lobbies, lounges, cafeterias, parking areas, lifts, basements, and open seating spaces.

b. Conduct sample WPA2/ WPA3 compliance checks for security.

c. Conduct speed and latency tests covering peak hours (10 am to 12 noon and 6 pm to 8 pm) over minimum three days (preferably 10 am to 8 pm) using App designated by TRAI using prescribed methodology.

iii. **Supporting documents:**

1. **Speed Test Results:** Logs of speed and latency test results from various locations and times, demonstrating network reliability.
2. **Wi-Fi Security Audit Reports:** Reports confirming compliance with WPA2/ WPA3 security standards, network authentication mechanisms, and encryption configurations.

iv. **Compliance checklist:** The DCRAs shall prepare and maintain the compliance summary in the following format:

S. No.	Item description	Compliance (Yes/ No)	Record maintenance requirement (Upload/ DCRA level)
1.	Wi-Fi speed test results		Record and Upload
2.	Wi-Fi security audit reports		Record
3.	Speed samples mapped on the Layout maps (floors/ areas)		Record and Upload

Table 5.34: Compliance checklist

v. **Scoring criteria:** The DCRA shall award score against this sub-criterion as follows:

S. No.	Score	Compliance Requirement
1.	4	If minimum download speed of 20 Mbps is available from Wi-Fi in public or common area of the property (including lifts and basements).
2.	2	If minimum download speed of 10 Mbps is available from Wi-Fi in public or common area of the property (including lifts and basements).
Note: Refer methodology in Section 5.6 for calculation of minimum download speed and sampling methodology.		

Table 5.35: Scoring criteria

5.6.3. Sub-Criteria: Mobile network coverage and performance in non-public areas

(Weightage – 5)

i. **Objective:** The mobile network should maintain high performance in private or restricted areas, such as residential flats, offices, conference rooms, executive cabins etc. within a property. The objective of this criterion is to assess the availability of mobile network coverage in private areas of the property.

ii. **Assessment Methodology:**

a. Conduct RF testing for mobile coverage in pre-defined non-public areas using App designated by TRAI.

b. Assess data speed and voice call quality over minimum three days {preferably 10 am to 8 pm with samples uniformly distributed covering peak hours (10 am to 12 noon and 6 pm to 8 pm) in property} using prescribed methodology for each service provider whose coverage is available on the property and accounted under criteria '5.5- Availability of Service Providers'. Measurements to be carried out shall include peak as well as off-peak hours.

c. The call setup time, call setup success rate and call drop rate, for voice services, will be measured as per the measurement methodology prescribed in section 5.6.3. ii. d. Number of test samples and methodology shall be as prescribed in section 5.6 above.

d. The following methodology shall be used for calculating call setup success rate, call drop rate and call setup time:

1. **Call setup success rate:** Call Setup Success Rate is defined as the ratio of Established Calls to Call Attempts. 'Established Calls' mean the following events have happened in call setup:

(a) Call attempt is made

(b) The signaling channel is allocated

(c) The call is routed to the outwards path of the terminating network

(d) An alert signal is received by caller in the form of ring back tone, busy tone, or an announcement.

CSSR = (Total Call Established/ Total Call Attempt) *100

2. **Call Drop rate:** Call drop represents the service provider network's ability to maintain a call once it has been successfully established. This parameter shall include both incoming calls and outgoing calls which, once they have been established and have an assigned traffic channel/ bearer, are dropped, or interrupted before their normal completion by the user, the cause of the early termination being within the service provider's network.

   Call Drop Rate = (Total Call Drop/Total Call Established) *100

3. **Call setup time:** Time taken from call initiate to call alerting/ringing.

   Call Setup Time = T2- T1

   T2- Ringing (VoLTE/VoNR),

   T1- Invite (VoLTE/VoNR)

iii. Supporting documents:

1. Walk/ drive test results and/or RF coverage map of the area under test.
2. Speed test logs and call setup time, call setup success rate and call drop rate reports.

iv. Compliance checklist: The DCRAs shall prepare and maintain the compliance summary in the following format:

S. No.	Item description	Compliance (Yes/ No)	Record maintenance requirement (Upload/ DCRA level)
1.	Walk/ drive test results and/or RF coverage map of the area under test		Record and Upload
2.	Speed test logs, call setup time, call setup success rate and call drop rate		Record and Upload

S. No.	Item description	Compliance (Yes/ No)	Record maintenance requirement (Upload/ DCRA level)
3.	Speed and coverage samples mapped on the Layout maps (floors/ areas)		Record and Upload

Table 5.36: Compliance checklist

v. **Scoring criteria:** The DCRA shall award score against this sub-criterion as follows:

S. No.	Score	Compliance Requirement
Part A		
1.	4	If at least 3 service providers individually have overall more than 80% mobile coverage (RSRP ≥ -110 dBm) for 4G/ 5G services in non-public areas, with minimum download speed of 10Mbps for 4G or 100 Mbps for 5G technology as applicable.
2.	3	If at least 2 service providers individually have overall more than 70% mobile coverage (RSRP ≥ -110 dBm) for 4G/ 5G services in non-public areas, with average minimum download speed of 10Mbps for 4G or 100 Mbps for 5G technology as applicable.
3.	2	If at least 2 service providers individually have overall more than 50% mobile coverage (RSRP ≥ -110 dBm) for 4G/ 5G services in non-public areas, with average minimum download speed of 10Mbps for 4G or 100 Mbps for 5G technology as applicable.
Part B		

S. No.	Score	Compliance Requirement
1.	1	If call drop rate ≤ 2% **and** call setup success rate ≥ 98% for each service provider
2.	0.5	If call drop rate ≤ 2% **or** call setup success rate ≥ 98% for each service provider
Note 1: Refer methodology in Section 5.6 for calculation of minimum download speed and sampling methodology. **Note 2:** This sub-criterion is evaluated in two parts — Part A and Part B. The property shall be assessed separately under each part. The overall score for this sub-criterion shall be the sum of the scores awarded in Part A and Part B.		

Table 5.37: Scoring criteria

5.6.4. Sub-Criteria: Secure public Wi-Fi network coverage and performance in non-public areas

(Weightage – 5)

i. **Objective:** Public Wi-Fi in the property may complement the mobile coverage. However, it should be secure and offer a high level of performance, with fast speeds and low latency. With secure and seamless public Wi-Fi coverage in the property, consumers can avail the data and voice service. The goal is to assess Wi-Fi coverage in non-public areas, such as residential flats, enterprise workspaces, executive offices, conference rooms, etc. These areas require reliable, high-speed, and encrypted Wi-Fi connectivity to support business operations, data security, and seamless enterprise communication.

ii. **Assessment Methodology:**

To evaluate compliance with this sub-criterion, the following steps will be undertaken:

a. Identify all non-public areas within the property where Wi-Fi services are provided.

b. Conduct sample WPA2/ WPA3 compliance checks for security.

c. Conduct speed and latency tests covering peak hours (10 am to 12 noon and 6 pm to 8 pm) over minimum three days (preferably 10 am to 8 pm) using App designated by TRAI using prescribed methodology.

iii. Supporting documents:

1. **Speed Test Results:** Logs of speed and latency test results from various locations and times, demonstrating network reliability.
2. **Wi-Fi Security Audit Reports:** Reports confirming compliance with WPA2/ WPA3 security standards, network authentication mechanisms, and encryption configurations.

iv. Compliance checklist: The DCRAs shall prepare and maintain the compliance summary in the following format:

S. No.	Item description	Compliance (Yes/ No)	Record maintenance requirement (Upload/ DCRA level)
1.	Wi-Fi security certifications		Record
2.	Wi-Fi speed test results		Record and Upload
3.	Speed samples mapped on the Layout maps (floors/ areas)		Record and Upload

Table 5.38: Compliance checklist

v. Scoring criteria: The DCRA shall award score against this sub-criterion as follows:

S. No.	Score	Compliance Requirement
1.	5	If minimum download speed of 20 Mbps is available from Wi-Fi in non-public area of the property.

S. No.	Score	Compliance Requirement
2.	3	If minimum download speed of 10 Mbps is available from Wi-Fi in non-public area of the property.
3.	2	If minimum download speed of < 10 Mbps and > 2 Mbps is available from Wi-Fi in non-public area of the property.
Note: Refer methodology in Section 5.6 for calculation of minimum download speed and sampling methodology.		

Table 5.39: Scoring criteria

5.6.5. Sub-Criteria: Average download speed of different wireline network(s) in respective highest speed plan

(Weightage – 5)

i. **Objective:** The objective of this sub-criterion is to assess the highest average download speed supported by different wireline networks or service providers under their offered plans in the property.

ii. **Assessment Methodology:**

a. Conduct speed tests using standard tools (App designated by TRAI). Conduct tests during the prescribed time window (preferably 10 am to 8 pm) including peak traffic hour(s) (10 am to 12 noon and 6 pm to 8 pm) at least at five different user locations distributed across the property as far as possible. Minimum five test sample per location shall be collected.

b. To calculate the average download speeds, all the download speed samples shall be arranged in descending order (starting highest download speed recorded during entire assessment period) and the 90th percentile value, arrived after such arrangement, shall be considered the average download speed. For illustration, if a total of 120 samples have been collected during the assessment period, then these values shall be arranged in descending order and 120*0.9=108th value of download speed shall be taken as average download speed.

c. **Supporting documents:** Speed test results with timestamps.

iii. **Compliance checklist:** The DCRAs shall prepare and maintain the compliance summary in the following format:

S. No.	Item description	Compliance (Yes/ No)	Record maintenance requirement (Upload/ DCRA level)
1.	Speed test results with timestamps		Record and Upload
2.	Speed samples mapped on the Layout maps (floors/ areas)		Record and Upload

Table 5.40: Compliance checklist

iv. **Scoring criteria:** The DCRA shall award score against this sub-criterion as follows:

S. No.	Score	Compliance Requirement
1.	5	If download speed of any two wireline network is more than 500 Mbps as calculated above [section 5.6.5 ii. b.]
2.	4	If the download speed of any two wireline network is more than 250 Mbps as calculated above [section 5.6.5 ii. b.]
3.	3	If the download speed of any two wireline network is more than 100 Mbps as calculated above [section 5.6.5 ii. b.]
4.	2	If the download speed of any two wireline network is more than 50 Mbps as calculated above [section 5.6.5 ii. b.]

Table 5.41: Scoring criteria

5.7. User Experience

(Weightage – 10)

User experience assesses user feedback on digital connectivity, including network reliability, speed, latency, and ease of access. It considers factors like seamless browsing, streaming quality, and minimal disruptions. A positive experience indicates robust connectivity, while frequent issues highlight areas for improvement.

5.7.1. Sub-Criteria: User feedback on digital connectivity experience (Weightage – 10)

i. **Objective:** The objective of this sub-criterion is to collect and analyze user feedback regarding their experience with mobile, wireline, and Wi-Fi services in a property. User insights help assess the real-world performance of the digital connectivity infrastructure, identify gaps in service quality and drive improvements to enhance the overall connectivity experience.

ii. **Assessment Methodology:**

a. Conduct structured surveys capturing user satisfaction on voice call quality, voice call accessibility, voice call retainability, data speed (wireline and wireless), latency, service uptime and coverage.

b. The feedback should be collected from a minimum of 10% of the users of the property if the total users are less than 1000. In case total users are more than 1000, then feedback may be collected from a minimum of 100 users. The sampled users shall, to the extent feasible, be distributed across the service providers and zones/ sections available within the property. Each user shall be mapped to a distinct functional area (such as terminal, platform, concourse, waiting area, seating area, corridor, station section, route stretch, or other equivalent location, as applicable) within the property. For large functional areas, multiple users may be sampled to ensure adequate representation and coverage across different portions of the area, provided that no two sampled users are selected from the same immediate vicinity. The users in survey should be distributed across gender and broad adult age groups.

iii. **Supporting documents:**

1. User feedback form (please refer to Appendix section for the indicative feedback form).

iv. **Compliance checklist:** The DCRAs shall prepare and maintain the compliance summary in the following format:

S. No.	Item description	Compliance (Yes/ No)	Record maintenance requirement (Upload/ DCRA level)
1.	User feedback form		Record and Upload

Table 5.42: Compliance checklist

v. **Scoring criteria:** The DCRA shall award score against this sub-criterion as follows:

S. No.	Score	Compliance Requirement
1.	10	If 80% of users provide overall positive experience for digital connectivity in the property
2.	8	If 70% of users provide overall positive experience for digital connectivity in the property
3.	6	If 60% of users provide overall positive experience for digital connectivity in the property
4.	4	If 50% of users provide overall positive experience for digital connectivity in the property
5.	2	If 40% of users provide overall positive experience for digital connectivity in the property

Table 5.43: Scoring criteria

Note: Overall positive experience refers to the user feedback provided in the form prescribed under Appendix 11.4 of this Manual. In this context, if a user has rated the Overall Experience as 4 or higher, the experience shall be considered as positive.

5.8. Summary of Rating Score

After assessing and scoring against each criterion and sub-criteria as per assessment methodology, the DCRA shall prepare the summary of rating score in following format for final updating in the rating platform for generating the rating certificate. It is to be noted that the scores against each sub-criteria will be awarded strictly as per the scoring criteria given above.

Criteria No. [a]	Criteria [b]	Weightage [c]	Sub-Criteria [d]	Sub Criteria Weightage [e]	Score awarded by DCRA [f]
5.1	Provision in power infrastructure for ensuring reliable digital connectivity	10	5.1.1 Redundancy of power source	2	
			5.1.2 UPS power backup for DCI	4	
			5.1.3 Power continuity monitoring	2	
			5.1.4 Building Management System	2	
5.2	Digital Connectivity Infrastructure Resilience	10	5.2.1 Availability of alternate entry paths for digital connectivity infrastructure	3	
			5.2.2 Non-flooding measures for DCI installation	3	
			5.2.3 Implementation of redundancy in	4	

Criteria No.	Criteria [a]	Weightage [b]	Sub-Criteria [c]	Sub Criteria Weightage [d]	Score awarded by DCRA [e]
			power source and DCI paths		
5.3	Future Readiness of Digital Connectivity Infrastructure	10	5.3.1 Availability of the latest generation of mobile connectivity	4	
			5.3.2 Support for future bands	3	
			5.3.3 Upgradability of wireline DCI	3	
5.4	Provision of Wired Connectivity infrastructure	20	5.4.1 Backhaul fibre/ wireless connectivity (service provider to property)	10	
			5.4.2 Fibre connectivity till user premises	5	
			5.4.3 Fibre connectivity in each room or office or commercial space	5	
5.5		15	5.5.1 Number of wireline Internet Service providers	7.5	

Criteria No.	Criteria [a]	Weightage [b]	Sub-Criteria [c]	Sub Criteria Weightage [d]	Score awarded by DCRA [e]
			having integration with Digital Connectivity Infrastructure		
	Availability of Service Providers		5.5.2 Number of Mobile Service providers having coverage or integration with Digital Connectivity Infrastructure	7.5	
5.6	Service Performance	25	5.6.1 Mobile network coverage and performance in public areas of property	6	
			5.6.2 Secure public Wi-Fi network coverage and performance in public areas of property	4	
			5.6.3 Mobile network coverage and performance in non-public areas	5	

Criteria No.	Criteria [a]	Weightage [b]	Sub-Criteria [c]	Sub Criteria Weightage [d]	Score awarded by DCRA [e]
			5.6.4 Secure public Wi-Fi network coverage and performance in non-public areas	5	
			5.6.5 Average download speed of different wireline network(s) in respective highest speed plan	5	
5.7	User Experience	10	5.7.1 User feedback on digital connectivity experience	10	

Table 5.44: Summary of Rating Score

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6. Award of Rating and Renewal

The Digital Connectivity Rating is a standardized measure used to evaluate the quality, reliability, and readiness of a property's digital infrastructure and on ground service performance. The rating process assesses multiple factors, including infrastructure, regulatory compliance, service performance, and user experience.

Once the assessment is completed, a final rating is assigned, helping property owners, tenants, and service providers make informed decisions regarding digital connectivity in that location. The rating also plays a crucial role in attracting potential businesses and residents who prioritize seamless digital connectivity.

Additionally, this rating is subject to renewal at periodic intervals, ensuring that properties maintain or improve their connectivity standards over time.

6.1. Classification of Ratings

Following the detailed assessment process outlined in Chapter 4 and 5 of this manual, a cumulative score is assigned to each property. Based on this score, a corresponding Digital Connectivity Rating from 1 star to 5 star is awarded, which serves as an indicator of the property's readiness to support high-speed and reliable digital services.

S. No.	Score Range	Digital Connectivity Rating to be awarded
1.	>=25-32	★
2.	>32-40	★½
3.	>40-48	★★
4.	>48-56	★★½
5.	>56-64	★★★
6.	>64-72	★★★½
7.	>72-80	★★★★

S. No.	Score Range	Digital Connectivity Rating to be awarded
8.	>80-88	★★★★½
9.	More than 88	★★★★★

Table 6.1: Rating Scorecard

6.2. Validity Period of Ratings

The validity period refers to the duration for which a property's Digital Connectivity Rating remains effective before requiring reassessment and renewal.

The difference in validity periods between categories is likely based on factors such as:

i. **Infrastructure Stability:** Well-equipped properties with robust digital infrastructure may have longer validity periods.

ii. **Usage and Demand:** Properties with higher connectivity demands may require more frequent reassessments.

iii. **Regulatory Compliance:** Changes in technology standards and regulations may impact validity duration.

The validity period for Category 'A' Category and 'B' properties shall be as prescribed by the Authority from time to time.[3]

6.3. Reassessment Process

To ensure the continued accuracy and relevance of digital connectivity ratings, rating platform provides a structured mechanism for property managers to apply for re-rating within the validity period of the existing digital connectivity rating certificate (Regulation 29).

This process enables properties to reflect infrastructure upgrades, technological advancements, and regulatory compliance improvements, ensuring that the rating remains aligned with the latest connectivity standards.

[3] Vide Order F. No. AU-4/2/2(2)/2024-QoS dated 1st October 2025, the Authority prescribed the validity period of Digital Connectivity Ratings as five years from the date of issuance of the Rating Certificate, subject to the provisions of Regulations 28 and 29 of the Amended Rating of Properties for Digital Connectivity Regulations, 2024.

6.3.1. Eligibility Criteria for Re-rating

A property shall be eligible for re-rating under the following circumstances:

i. **Full upgrade of Digital connectivity infrastructure (DCI):** If a property has undergone a comprehensive enhancement of its telecom infrastructure, the property manager may seek re-rating to reflect the improvements. Such upgrades may include:

   a. Expansion of fiber optic networks.

   b. Installation of in-building solutions to improve indoor coverage.

   c. Enhancement of power backup systems for digital infrastructure to ensure. seamless connectivity.

   d. Integration of smart network management systems.

ii. **Technological upgradation leading to demand for Re-rating by end users:** If there has been a significant upgrade in the technology deployed at the property and end users or tenants demand a reassessment, a re-rating may be considered. Examples of such technological advancements include:

   a. Deployment of 5G, Wi-Fi or high-speed fiber networks to enhance connectivity.

   b. Significant improvements in broadband speed, latency, and network resilience.

   c. Implementation of next-generation digital services, such as IoT-enabled automation.

   d. Increased demand for an upgraded rating due to expanding digital service requirements from occupants, enterprises or businesses operating within the property.

iii. **Other changes affecting the rating as per regulatory criteria** If any modifications or improvements impact the property's compliance with DCRA rating parameters, a re-rating application may be submitted. Such changes may include:

   a. Increase in the number of telecom service providers offering wired or wireless services at the property

b. Upgraded compliance with Model Building Bye-Laws (MBBL) and National Building Construction Standards (NBCS) for digital infrastructure

c. Expansion of telecom facilities to previously underserved areas within the property, ensuring enhanced access

d. Improvement in service reliability, redundancy, and fault tolerance mechanisms

6.4. Renewal Process

To ensure the continuity of a property's digital connectivity rating, DCRA mandates that property managers apply for renewal of their rating before its expiry.

The renewal process ensures that properties continue to meet the regulatory, technical, and service performance standards required for maintaining their digital connectivity classification (Regulation 19). The property manager may apply for renewal of ratings well in advance for continuity of rating for the property.

6.4.1. Application Timeline and Submission

A property manager who intends to renew the digital connectivity rating certificate for a property under their ownership, control, or management must submit a renewal application on the rating platform at least 120 days prior to the expiry of the existing rating. This advance submission ensures sufficient time for assessment, verification, and issuance of the renewed certificate without any lapse in rating status.

The renewal application may include:

i. Any changes or upgrades made to the digital connectivity infrastructure since the last assessment.

ii. A self-declaration of continued compliance with the applicable Model Building Bye-Laws (MBBL), National Building Construction Standards (NBCS), and DCRA guidelines.

iii. Payment of the renewal processing fee as per the prescribed schedule.

The application for renewal shall be made through the rating platform.

6.4.2. Assessment and Verification Process

Upon receiving the renewal request, DCRA will undertake a comprehensive reassessment to verify that the property still meets the required connectivity standards. The assessment

process shall be similar to that followed for award of ratings first time and may *inter-alia* include:

i. **Review of documentation**: Validation of submitted records, compliance reports, and service provider agreements.

ii. **Infrastructure inspection**: A physical or digital audit of the property's telecom infrastructure, ensuring continued adherence to the original rating criteria.

iii. **Performance evaluation**: Assessment of service reliability, network availability, user feedback, and any upgrades implemented since the last rating period.

iv. **Regulatory compliance check**: Verification of compliance with MBBL, NBCS, and other applicable digital infrastructure standards.

If the property meets or exceeds the required standards, the Digital Connectivity Rating Certificate will be renewed for the next validity period.

6.4.3. Renewal Outcome and Rating Status

The property will receive a renewed rating certificate, valid for the next certification cycle, with updated documentation reflecting the latest assessment.

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7. Reporting and Feedback Mechanism

A well-defined stakeholder reporting, and feedback mechanism is essential for maintaining transparency, accountability, and continuous improvement in the digital connectivity rating process for properties. This mechanism ensures that all stakeholders, including property managers, service providers, infrastructure providers, and end users have a structured platform to report issues against the rated, provide feedback, and suggest improvements to the property manager related to digital connectivity within rated properties.

7.1. Monitoring and Reporting Mechanism

DCRA is responsible for overseeing feedback and complaints related to the ratings awarded to properties throughout the rating certificate's validity as per following provisions of regulation 11.

i. *"Every DCRA shall monitor feedback or complaints received from service providers or end users during the validity of the rating certificate of the properties, as received through the rating platform, concerning the ratings awarded by DCRA.*

ii. *Every DCRA shall examine feedback or complaints received under sub-regulation (1) and evaluate the need for either review of rating awarded or corrective actions required by the property manager and take follow up action with the property manager, if required, for resolving such identified issues."*

7.2. Mechanism for Stakeholder Feedback

A standardized feedback mechanism will be provided in the rating platform to enable feedback-based oversight on the status of digital connectivity in rated properties during validity of ratings. The mechanism shall facilitate structured interaction among stakeholders, Property Managers, and Digital Connectivity Rating Agencies (DCRAs) for identification and resolution of issues relating to digital connectivity infrastructure and service performance in rated properties.

The high-level approach for feedback lifecycle will include:

i. Submission of Feedback by Stakeholders:

a. Feedback relating to digital connectivity in rated properties may be submitted by stakeholders including end users, occupants, tenants, residents, service providers, or any other concerned stakeholders through the rating platform.

b. Stakeholders may submit feedback either through a registered account on the rating platform or through such simplified submission mechanism as may be provided on the platform.

c. The stakeholder shall select the concerned rated property on the rating platform and provide details of the feedback along with supporting information or documentary evidence, wherever available. Supporting evidence may include but shall not be limited to screenshots of speed test results, network coverage details, photographs, call drop details, latency or service performance measurements or any other relevant supporting material.

d. The rating platform may require suitable validation of stakeholder identity, mobile number, email address, or other details for submission of feedback and prevention of misuse of the platform.

ii. Feedback Categories:

Feedback may broadly relate to the following categories:

a. **Connectivity Performance:** Issues relating to poor mobile coverage, low internet speeds, call drops, latency, poor Wi-Fi performance, or degradation in service quality.

b. **Infrastructure Gaps:** Deficiencies relating to Digital Connectivity Infrastructure (DCI), access pathways, telecom rooms, power backup, IBS deployment, or other infrastructure-related issues.

c. **Service Availability:** Non-availability or deterioration in availability of wireline or mobile service providers in the property.

d. **General Suggestions:** Suggestions relating to improvement in digital connectivity, user experience, or operational aspects or any other aspect of the framework.

iii. Acknowledgement and Initial Review by DCRA:

a. All feedback submitted through the rating platform shall be made available to the concerned DCRA associated with the rated property.

b. The DCRA shall acknowledge or respond to the feedback through the rating platform within two weeks of receipt.

c. The acknowledgement or response by the DCRA may include confirmation of receipt and review of feedback or request for additional information, if required or intimation that the matter is under examination or intimation regarding coordination with the concerned Property Manager or any preliminary observations of the DCRA.

d. The DCRA shall examine the nature and severity of the issues reported and evaluate whether corrective action, further review, or reassessment of rating awarded to the property as per the provisions of the regulations.

iv. Periodic Analysis and Follow-up by DCRA

a. The DCRA shall periodically review and analyze feedback received for each rated property.

b. The DCRA shall undertake such reviews at least on a quarterly basis for every rated property. In addition, the DCRA may undertake monthly or more frequent reviews depending upon the volume of feedback received, severity of issues reported, recurrence of similar feedback or any direction issued by the Authority.

c. Based on such reviews, the DCRA shall identify recurring or significant digital connectivity issues, evaluate whether corrective action by the Property Manager is required, assess whether review of rating may be necessary under the regulations and communicate observations and recommendations to the concerned Property Manager through the rating platform.

d. While sharing feedback analysis with the Property Manager, the DCRA shall avoid disclosure of personal details or identity of stakeholders, except where disclosure is required for resolution of the specific feedback.

e. The DCRA shall upload a summary report covering analysis of feedback, observations, and recommended corrective actions against the property on the rating platform.

v. Corrective Action by Property Manager

a. The Property Manager shall review the observations, recommendations, or corrective actions communicated by the DCRA and take appropriate remedial measures in a time-bound manner.

b. The Property Manager shall upload details of action taken and supporting documents or evidence, wherever applicable, on the rating platform for review by the DCRA.

c. The DCRA shall examine the response and supporting submissions of the Property Manager and may seek further clarification, additional corrective action, or closure of observations, as considered necessary, through the rating platform.

vi. Review of Ratings

a. In accordance with the regulations, the DCRA may review the rating awarded to a property based on stakeholder feedback.

b. Where the DCRA identifies significant deterioration in digital connectivity infrastructure or service performance affecting the awarded rating, the DCRA may initiate review of the rating through the rating platform.

c. Before modifying any rating, the DCRA shall, through the rating platform, communicate identified deficiencies, defects, observations, or feedback to the concerned Property Manager and provide an opportunity to resolve the same within the timeline specified by the Authority.

d. The revised rating, if any, along with supporting observations and evaluation summary, and reasons for modification of rating, shall be updated on the rating platform.

7.3. Addressing Non-Compliance

Any instance of non-compliance by the property manager or DCRA shall be dealt in accordance with the provisions of the regulations.

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8. Appeal Process

To uphold transparency, fairness, and accountability, the rating framework provides a structured appeal process for property managers who wish to challenge their assigned rating. This chapter details the procedures, timelines, and regulatory provisions governing appeals, ensuring they are handled promptly and impartially.

The appeal process, under regulation 27, offers property managers a formal mechanism to request a review of their rating if they believe the assessment does not accurately represent the digital connectivity infrastructure of their property.

8.1. Filing of Appeal by Property Manager

Property managers who are dissatisfied with the Digital Connectivity Rating assigned to their property by DCRA may file an appeal through the rating platform. The appeal process ensures a fair opportunity for property managers to challenge their rating based on valid concerns and supporting evidence. The appeal must be submitted within 30 days of the date of issuance of the rating certificate as per the sub-clause (1) of regulation 27.

The appeal justification may include the following:

i. Justification for the appeal, citing specific criteria and sub-criteria that require reconsideration.

ii. Supporting documentation, technical reports, or third-party assessments validating the concerns raised.

iii. Any additional evidence demonstrating improvements in digital connectivity infrastructure that may not have been considered during the initial rating assessment.

8.2. Review of Appeal by DCRA

Once an appeal is submitted, the Digital Connectivity Rating Agency (DCRA) concerned will conduct a review of the rating assessment against indicated criteria or sub-criteria under appeal. DCRA shall evaluate the grounds of appeal, verify the submitted evidence, and, if necessary, conduct a re-evaluation of the property's connectivity infrastructure for respective parameter(s) as may be required.

A final decision on the appeal will be made within 60 days of receipt of the appeal, following the process outlined by the Authority.

If the review finds merit in the appeal, DCRA may:

i. Revise the rating based on newly presented evidence.

ii. Uphold the original rating if no discrepancies or new qualifying factors are identified.

iii. Recommend corrective actions to the property manager for potential re-rating in the future.

8.3. Escalation of Appeal to the Authority

If the property manager is still not satisfied with the decision of the DCRA, they may escalate the appeal to the Telecom Regulatory Authority.

i. The escalation must be filed within 30 days from the date of DCRA's appeal decision.

ii. The appeal must be submitted in the prescribed format and include all necessary documentation clearly indicating the point of appeal against the DCRA decision.

iii. A specified fee, as determined by the Authority, must accompany the appeal submission.

iv. No appeal shall be entertained by the Authority after expiry of the period as provided under the regulations.

8.4. Examination of Appeal by Authority

Upon receiving an escalated appeal, the Telecom Regulatory Authority will conduct an independent review to ensure that the final decision is fair and justified.

i. **Independent Case Assessment:** The Authority may, directly or through another DCRA, evaluate the case based on submitted evidence and regulatory provisions.

ii. **Expert Panel Review:** The Authority may appoint a specialized panel of experts to conduct a detailed examination and provide recommendations.

The Authority shall ensure that all relevant technical, regulatory, and procedural aspects are evaluated before making a final decision.

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9. Review and Updates of Rating Manual

To ensure that the Digital Connectivity Rating Manual remains relevant, accurate, and aligned with industry advancements, a structured review and update process will be undertaken at regular intervals. This process will account for technological evolution, regulatory changes, stakeholder feedback, and performance insights, ensuring that the rating framework remains effective in assessing and improving digital connectivity in properties.

9.1. Process for Periodic Updates

To maintain the relevance, accuracy, and effectiveness of the rating manual for digital connectivity inside properties, periodic updates will be conducted through a structured and inclusive approach.

The process begins with stakeholder feedback collection, where inputs from key entities such as property managers, DCRAs, service providers, infrastructure providers, and technical experts are gathered. This helps identify gaps, challenges, and areas for improvement in existing rating criteria.

Based on insights from stakeholder feedback and benchmarking, a draft revision of the manual will be developed, incorporating necessary modifications and refinements. This draft will then undergo validation through expert reviews, where subject matter specialists will assess the proposed changes to ensure technical accuracy, regulatory compliance, and feasibility of implementation.

This structured process guarantees that the rating manual remains adaptive, future-ready, and reflective of the latest industry advancements, thereby promoting high-quality, resilient, and future-proof digital connectivity infrastructure in properties.

10. Best Practices for Digital Connectivity in Properties

To ensure high-quality, resilient, and future-ready digital connectivity in properties, a structured set of guidelines and best practices help to minimize cost, improve aesthetics, and improve user experience. These best practices are indicative in nature to help property managers, infrastructure providers, and service providers in designing and implementing digital connectivity solutions that meet current and future technological requirements while ensuring seamless user experience.

10.1. Best Practices for Digital Connectivity

To ensure high-quality digital connectivity in properties, the following best practices should be adopted:

i. **Digital Connectivity Infrastructure Planning**

Digital connectivity infrastructure should be planned right from the building design stage like plan for water, fire system and electricity. Incorporating digital connectivity infrastructure during the initial design phase of a property is critical for seamless deployment of broadband and wireless technologies while reducing considerable cost compared to retrofitting of DCI.

Key considerations include:

a. **Conduit and Cable Pathways:** Ensuring dedicated and well-structured pathways for fiber optic and ethernet cables, avoiding bottlenecks and future installation challenges.

b. **Dedicated Telecom Spaces:** Allocating sufficient space for telecom rooms/ telecom areas, network equipment and distribution points within the building.

c. **Regulatory Compliance:** Aligning digital connectivity infrastructure with Model Building Bye-Laws (MBBL), National Building Construction Standards (NBCS), and telecom regulations to avoid future rework or legal issues.

d. **Collaboration with Service Providers:** Engaging with service providers and DCI design experts early in the project to ensure optimal network design.

The National Building Construction Standards may be referred to for further details which provides detailed guidelines for planning digital connectivity/ ICT infrastructure in the buildings.

ii. **High Speed Internet Readiness:**

To meet the increasing demand for high-speed, low-latency internet, properties should:

a. Deploy **fiber optic backbone connectivity** as the primary infrastructure for internet distribution. Fiber-optic networks offer higher bandwidth capacity, faster speeds, and lower latency compared to traditional copper-based networks.

b. Ensure **multiple fiber entry points** in the property to enable connectivity from different ISPs, increasing network resilience and competition-driven pricing benefits for end-users.

c. Provision **scalable bandwidth options** to accommodate future demands, ensuring seamless support for 5G, IoT, AI applications, and cloud services.

d. Implement **structured cabling systems** (Category 6/6A and fiber optic cabling) for internal network distribution, ensuring high-speed connectivity across all areas of the property.

iii. **Wireless Network Optimization**

Wireless connectivity plays a pivotal role in digital infrastructure and optimized in-building solutions are essential for ensuring uninterrupted coverage and high-speed connectivity. Key strategies include:

a. **Distributed antenna systems (DAS):** Deploying DAS solutions to enhance cellular coverage in large properties, high-rise apartments, and commercial spaces, eliminating dead zones.

b. **Small cells deployment:** Installing small cell technology in dense urban environments to boost wireless network capacity, particularly for 4G and 5G networks.

c. **Wi-Fi offloading and optimization:** Implementing high-density Wi-Fi solutions to offload mobile data traffic, ensuring optimal indoor coverage and performance.

d. **Intelligent network management:** Leveraging AI-driven self-optimizing networks (SON) to dynamically adjust power levels, frequencies, and coverage areas for enhanced user experience.

iv. **Redundancy and Resilience**

To prevent service disruptions and downtime, properties must integrate robust redundancy and resilience measures in their digital connectivity infrastructure. These include:

a. **Multiple ISP Connections:** Establishing connectivity from two or more internet service providers to ensure a failover in case of a primary network outage.

b. **Backup Power Supply:** Ensuring continuous operation of network equipment through uninterrupted power supply (UPS)/ battery backups, and generators.

c. **Alternate Routing Paths:** Designing redundant cable pathways to prevent single points of failure, ensuring continuous connectivity even in case of fiber cuts or infrastructure damage.

d. **Disaster Recovery Plans:** Implementing automated failover mechanisms to restore network swiftly after failures.

v. **Smart Building Integration**

Smart buildings integrate IoT-enabled sensors, automation, and AI-driven management systems to enhance connectivity performance, energy efficiency, and security. Key aspects include:

a. **Smart network monitoring**: Using AI-powered network analytics to detect anomalies, optimize bandwidth allocation, and proactively resolve connectivity issues.

b. **Energy efficient networking**: Utilizing power-saving features in network devices and employing smart energy management systems to reduce operational costs and environmental impact.

c. **Integration with Smart Building Management Systems (BMS)**: Enabling real-time control of network operations through a centralized BMS for efficient fault detection and system management.

vi. **Future Proofing**

Properties must be designed with future-ready digital connectivity infrastructure to support emerging technologies and next-generation network advancements. Future-proofing measures include:

a. **5G ready infrastructure**: Deploying fiber-based backhaul and small cell solutions to accommodate 5G deployment within buildings.

b. **Edge computing integration**: Ensuring support for edge data centers within properties to minimize latency and improve data processing for smart applications, AR/VR, and AI-driven analytics.

c. **IPv6 adoption**: Implementing IPv6-compliant networks to accommodate the growing number of connected devices and ensure future scalability.

10.2. Integration of Connectivity Infrastructure in Design and Construction

To achieve seamless integration of digital connectivity infrastructure in building design and construction, following may be considered:

i. **Pre-wiring for connectivity:** Include dedicated ducts and cable trays for fiber, ethernet, and power cables.

ii. **Structured cabling standards:** Adopt structured cabling solutions in compliance with national standards of BIS, TEC, etc.

iii. **Equipment rooms and space allocation:** Allocate space for telecom equipment, server rooms, and network operation centers within the building.

iv. **Network equipment:** Plan sufficient network equipment in common areas, lobbies, workspaces, and residences to ensure seamless connectivity based on expected footfall and traffic.

10.3. Collaboration with stakeholders

Property managers should collaborate with concerned stakeholders right from planning stage to build resilient and future ready DCI in the properties and facilitate RoW permissions for telecom, internet service providers and digital connectivity infrastructure providers to

deploy fiber and wireless solutions efficiently. Collaboration with end users and understanding their needs is the best way to plan and deliver digital connectivity infrastructure which meets the expectations.

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11. Appendix

11.1. Frequently Asked Questions (FAQ)

i. What is the purpose of Digital Connectivity Rating for properties?

The Digital Connectivity Rating is an initiative by the Telecom Regulatory Authority of India (TRAI) to assess and benchmark the quality of digital connectivity within properties. The primary objective is to encourage property managers to build digitally connected and future ready smart properties and assess whether properties are equipped with robust digital infrastructure, enhancing user experience for tenants, residents, and businesses.

ii. What is the regulatory framework for the rating system?

Digital Connectivity Rating is governed by the provisions in Rating of Properties for Digital Connectivity Regulations, 2024, as amended from time to time, and further follow-up orders or guidelines issued by TRAI.

iii. What parameters are assessed in the rating process?

The rating system evaluates properties based on the rating criteria provided in the regulations. Some of the key aspects assessed under the framework include:

a. **Availability of Connectivity Options**: Access to mobile networks (2G/ 3G/ 4G/ 5G), Wi-Fi, fiber broadband, and private networks.

b. **Indoor Coverage Quality**: Signal strength and coverage within the building, including basements, elevators, and floors.

c. **Digital Infrastructure Readiness**: Deployment of in-building solutions (IBS), distributed antenna systems (DAS), small cells and optical fiber backbones.

d. **Network and power Redundancy**: Availability of backup connectivity and power sources to ensure uninterrupted services.

e. **Future-Readiness**: Scalability and ease of integration with advanced technologies, including 5G and IoT solutions.

iv. Who benefits from this rating system?

a. **Property Managers:** Gain recognition and competitive advantage by providing high-quality digital infrastructure.

b. **Consumers**: Enjoy uninterrupted connectivity for work, entertainment, and communication.

c. **Service Providers**: Identify opportunities for infrastructure upgrades and improved service delivery.

d. **Government Authorities and Regulators**: Promote digital connectivity infrastructure and ensure consumer trust and protection. The improved digital connectivity further drives digital economy and business opportunities in the country.

v. Is the Digital Connectivity Rating mandatory under TRAI regulations?

Currently, the rating system is voluntary. However, TRAI strongly encourages participation by property developers and property owners, and service providers to plan digital connectivity in the real estate sector from its inception and get it rated under TRAI rating framework.

vi. What types of properties are covered under the rating framework?

The rating framework applies to all property types, including:

a. Residential complexes

b. Office spaces and commercial properties

c. Malls and retail outlets

d. Educational institutions

e. Healthcare facilities

f. Airports

g. Metro rail

h. Stadiums and open spaces

vii. What is the objective of classification of Properties for Rating?

The objective of classification or grouping of properties is solely for the purpose of applying the rating criteria which are relevant to assess the digital connectivity in the respective category or group of properties.

viii. What challenges might property managers face in achieving higher ratings?

Property managers may encounter the following challenges:

a. Limited infrastructure for in-building solutions such as DAS or fiber backbone.

b. High costs are associated with upgrading outdated systems.

c. Difficulty in integrating services from multiple telecom service providers.

TRAI encourages collaborations between property managers and telecom providers to overcome these barriers.

ix. Are there incentives for properties that achieve higher ratings?

While there are no mandatory financial incentives outlined by TRAI, properties with higher ratings benefit from enhanced marketability, tenant satisfaction, and alignment with smart city goals. Property managers may also see more demand for digital connected properties.

x. How can property manager apply for the Digital Connectivity Rating?

On applications can be submitted through the process specified in TRAI's guidelines. Typically, this involves:

a. One time registration on rating platform

b. Apply for rating of property and provide relevant details

c. Choose the DCRA of your choice

d. Submit the application

e. The rating process starts.

xi. Where can I find TRAI's official guidelines for the rating system?

TRAI's regulation and orders/ guidelines for the Digital Connectivity Rating framework are available on its official website i.e. www.trai.gov.in.

xii. How does this initiative align with India's telecom policy?

The rating system aligns with the objectives of the National Digital Communications Policy (NDCP), 2018, which emphasizes:

a. Enhancing broadband penetration

b. Promoting ICT readiness across sectors

c. Ensuring affordable and reliable digital connectivity

By setting a rating framework for digital connectivity inside properties where more data is used than at street or open areas, TRAI contributes broader goals of creating a digitally inclusive society.

xiii. How does the rating process promote innovation in building design?

By encouraging the integration of future-ready digital infrastructure, TRAI's rating system motivates property managers to adopt innovative solutions, such as:

a. Smart building technologies

b. Energy-efficient network equipment

c. Seamless integration of IoT devices and 5G networks

This fosters a more competitive and technology-driven property development.

xiv. What are the key provisions that the DCRA must evaluate to assess compliance with the applicable Model Building Bye-Laws (MBBL) and National Building Construction Standards (NBCS)?

The DCRA needs to evaluate whether the property's Digital Connectivity Infrastructure (DCI) has been provided in the property as per the requirement of the latest applicable National Building Construction Standards (NBCS) issued by Bureau of Indian Standards (BIS) and Model Building Bye-Laws (MBBL) issued by Ministry of Housing and Urban Affairs, Government of India (MoHUA).

As per Regulation 24, for the purposes of rating for digital connectivity, MBBL (Model Building Bye-Laws) issued by MoHUA shall be referred in cases where Building Bye-Laws of Cities/ State or Union Territory do not have provisions for digital connectivity infrastructure.

For clarity and uniformity in assessment, refer section 11.8 of this manual for Checklist for compliance with MBBL and NBCS. The DCRA shall undertake evaluation in accordance with the items and compliance impact specified in the said Checklist, as updated from time to time.

xv. After a property is rated, how is it ensured that its performance remains consistent with the rating awarded?

The rating platform will have provisions to collect feedback, with supporting evidence, from concerned stakeholders about maintenance or DCI performance issues, if any.

Based on the feedback received, DCRA can review the property's rating and update it, if necessary, as per provision of regulation 28. Before any change to the rating, the property manager will be given 90 days to resolve the issues or address the deficiencies communicated through the platform.

xvi. How will the continuity of digital connectivity be ensured in the property in case there is a change in property ownership or property manager?

The regulation 22 states that in case of change of property manager or property ownership, the property manager shall ensure smooth transfer of digital connectivity infrastructure to the new property manager for continuity of digital connectivity till the validity of the rating certificate awarded in respect of the property, and may include suitable provisions in the agreement to ensure compliance of the provisions of the regulations and terms and conditions of the rating certificate, post transfer of the property. The failure of the property manager to intimate the change of property manager or ownership to the Authority shall be considered as contravention of the regulations.

xvii. If a property undergoes expansion, how is the existing rating received for the property treated and what steps can the property manager take to cover the expansion?

In the event of a property expansion, the existing rating remains valid only for the portion originally assessed.

However, the property managers are encouraged to apply for a re-rating for entire property or new rating for the expanded property area. (Refer regulation 29)

xviii. What is the purpose of introducing a multi-stage evaluation process for properties under construction?

The multi-stage evaluation process for properties under construction is intended to enable progressive assessment of Digital Connectivity Infrastructure (DCI) during the design stage, implementation stage, and post-operationalisation stage of the property

lifecycle. This allows Property Managers to plan and implement DCI in alignment with the requirements of the regulations and enables early identification and rectification of gaps during construction itself. Under this process, the DCRA issues a 'Designed For' certificate based on evaluation of approved DCI design documents and declaration submitted by the Property Manager. Then the DCRA issues an 'Installation Completed For' certificate upon completion of construction and implementation of DCI including installation of IBS. The 'Final' Digital Connectivity Rating is awarded only after digital connectivity services become operational and final evaluation is completed. The intermediate certificates are intended to reflect the status of DCI planning and implementation and shall not be treated as Digital Connectivity Ratings.

xix. Can the 'Designed For' certificate be used in marketing or promotional materials?

Yes. The Property Manager may use the 'Designed For' certificate in marketing or promotional materials during the construction phase, provided that the certificate is clearly represented as a design-stage evaluation certificate, it is not presented as a Digital Connectivity Rating, it does not imply that the property has already obtained a final rating, and it does not mislead prospective buyers, tenants, or users regarding the actual operational status of digital connectivity services in the property. Any representation of the certificate shall clearly indicate that the final Digital Connectivity Rating will be determined only after completion of construction, operationalisation of digital connectivity services, and final evaluation by the DCRA.

xx. Can the 'Installation Completed For' certificate be used in marketing or public disclosures?

Yes. The Property Manager may disclose or use the 'Installation Completed For' certificate after completion of construction and implementation of Digital Connectivity Infrastructure (DCI), provided that the certificate is clearly represented as an implementation-stage evaluation certificate and not as a final Digital Connectivity Rating. The certificate only confirms that the DCI implementation has been evaluated by the DCRA following completion of construction and installation of IBS. The final Digital Connectivity Rating shall be awarded only after digital connectivity services become operational and final evaluation is completed.

xxi. Will the 'Designed For' certificate and 'Installation Completed For' certificate be publicly visible on the rating platform?

Yes. The status of issuance of the 'Designed For' certificate and the 'Installation Completed For' certificate shall be displayed on the rating platform for transparency and public information. It shall also be clearly indicated that these certificates are based on design-stage and implementation-stage evaluations respectively and do not constitute a final Digital Connectivity Rating.

xxii. Can the target level of digital connectivity declared by the Property Manager guarantee the final Digital Connectivity Rating?

No. Any target level of digital connectivity declared by the Property Manager during the application stage represents only the intended level of Digital Connectivity Infrastructure (DCI) preparedness and implementation. The final Digital Connectivity Rating shall be determined solely on the basis of evaluation conducted by the DCRA. Also, issuance of a 'Designed For' certificate or an 'Installation Completed For' certificate does not guarantee the award of any specific final rating.

xxiii. What is the objective of introducing the Optional Digital Connectivity Audit?

The objective of introducing the Optional Digital Connectivity Audit is to provide Property Managers with an opportunity to assess the present level of Digital Connectivity Infrastructure (DCI) in their property for internal evaluation and improvement purposes, without immediately applying for a Digital Connectivity Rating under the Regulations. This mechanism is intended to encourage proactive enhancement of digital connectivity and wider adoption of best practices, while preserving the integrity of the formal rating framework.

xxiv. Is the Optional Digital Connectivity Audit mandatory before applying for a Digital Connectivity Rating?

No. Participation in an Optional Digital Connectivity Audit is entirely voluntary. It is not a prerequisite for applying for a Digital Connectivity Rating and shall have no bearing on the outcome of any rating assessment conducted under the Regulations.

xxv. Does the Optional Digital Connectivity Audit result in a rating or certificate under the Regulation?

No. The Optional Digital Connectivity Audit does not constitute a Digital Connectivity Rating, provisional rating, interim rating, or certification under the Regulations. It is conducted outside the formal rating framework and is intended solely for internal use by the Property Manager.

xxvi. What is the role of the Rating platform in the Optional Digital Connectivity Audit?

The Rating Platform facilitates only the initiation of the audit request and enables status tracking for transparency in timelines. The platform does not evaluate, validate, review, or endorse the audit findings. The audit engagement, scope, timelines, and fee structure are mutually agreed between the Property Manager and the selected DCRA.

xxvii. Can the indicative score or indicative star level mentioned in the audit report be used for marketing or public communication?

No. Any indicative score or indicative star level provided in the audit report is non-binding and intended solely for internal reference. It shall not be represented as a Digital Connectivity Rating under the Regulations and shall not be used in marketing, promotional materials, or public communication as an official rating.

11.2. List of Applicable Standards and References

i. TRAI Regulation on Rating of Properties for Digital Connectivity, 2024, as amended from time to time.

ii. National Building Construction Standards (NBCS), 2026 as amended from time to time.

iii. Model Building Bye-Laws (MBBL), 2016 as amended from time to time.

11.3. Documents Checklist

Master checklist of supporting documents from property manager to be recorded and uploaded by Digital Connectivity Rating Agency (DCRA) as applicable depending upon the category of property i.e. Category 'A' or Category 'B' is as follows:

S. No.	Criteria	Sub Criteria	Supporting document evidence	Record maintenance requirement (Upload/ DCRA level)
1.	Compliance to Applicable Model Building Bye Laws (MBBL) and National Building Construction Standards (NBCS) for Digital Connectivity	Approved Digital Connectivity Infrastructure (DCI) design	Approved DCI design documents by competent authority	Record and Upload
2.			Design drawings certified by competent authority	Record
3.			Design compliance with MBBL and NBCS standards	Record and Upload
4.		DCI implementation as per approved DCI design	As-build DCI is as per approved design	Record and Upload
5.			Photographs of DCI	Record and Upload
6.			Site inspection reports for DCI with design comparisons	Record and Upload
7.			Testing and Commissioning certificates for DCI as applicable	Record
8.	Provision in Civil Infrastructure, over and above MBBL and NBCS requirements, for Ensuring	Provision for expansion of telecom rooms and cable pathways	Building layout plans for DCI or ICT infrastructure duly marked and signed by DCRA and property manager	Record and Upload
9.			Expansion feasibility reports – DCI or ICT infrastructure pathways and telecom rooms/ telecom areas	Record and Upload
10.		Provision for expansion of	Updated network diagrams	Record and Upload

S. No.	Criteria	Sub Criteria	Supporting document evidence	Record maintenance requirement (Upload/ DCRA level)
11.	Robust Digital Connectivity	mobile and wireline connectivity	Future expansion plans	Record and Upload
12.		Ease of access of DCI installed for repair or maintenance	Site photos showing maintenance pathways	Record and Upload
13.			Maintenance checklists	Record
14.	Provision in Power Infrastructure, over and above MBBL or NBCS requirements, for Ensuring Reliable Digital Connectivity	Redundancy of power source	Power layout diagrams	Record and Upload
15.			Load switchover testing reports	Record and Upload
16.		UPS power backup for DCI	Electrical system line diagram including redundant input sources and UPS system(s)	Record and Upload
17.			Whether all key DCI systems affecting service availability are on UPS?	Record
18.			Whether UPS system has redundancy?	Record
19.			UPS switch over successfully tested during sample testing?	Record

S. No.	Criteria	Sub Criteria	Supporting document evidence	Record maintenance requirement (Upload/ DCRA level)
20.			Whether duration of UPS backup matches with available test reports with full DCI load?	Record and Upload
21.		Power continuity monitoring	Monitoring system high level diagram	Record and Upload
22.			Capture monitoring system dashboard screenshot	Record and Upload
23.		Building Management System	BMS or equivalent centralized monitoring system architecture diagrams	Record and Upload
24.			Test report on DCI power systems, fire alarms and HVAC integration with BMS or equivalent centralized monitoring system	Record and Upload
25.			Sample test report on detection and notification of main power supply failure and takeover by generator/ UPS for DCI	Record and Upload
26.	Digital Connectivity Infrastructure Resilience	Availability of alternate entry paths for digital connectivity infrastructure	Ducts layout diagrams from different external entry points for fiber/ DCI	Record and Upload
27.			Pathway layout diagrams from ducts to telecom room(s)/ telecom area(s) for fiber/ DCI	Record and Upload

S. No.	Criteria	Sub Criteria	Supporting document evidence	Record maintenance requirement (Upload/ DCRA level)
28.		Non-flooding measures for DCI installation	Site photos of whether DCI/ telecom room(s)/ telecom area(s) are above ground floor as per design and implementation?	Record and Upload
29.			Site photos of whether key power systems like UPS/ Generators for DCI are installed on ground or higher floor with non-flooding consideration?	Record and Upload
30.			Site photos of whether drainage system is implemented as per design layout?	Record and Upload
31.		Implementation of redundancy in power source and DCI paths	Whether DCI is supported with redundant power sources (Generator/ UPS)?	Record
32.			Whether power system network layout for DCI is implemented with path diversity?	Record and Upload
33.			Whether sample test reports demonstrate testing of redundancy?	Record and Upload

S. No.	Criteria	Sub Criteria	Supporting document evidence	Record maintenance requirement (Upload/ DCRA level)
34.			Whether path diversity for fiber and other cables (DTH/ ethernet as applicable) across the building blocks, basements and towers from telecom/ digital connectivity infrastructure room(s)/ telecom area(s) is implemented?	Record and Upload
35.	Future Readiness of Digital Connectivity Infrastructure	Availability of the latest generation of mobile connectivity	Whether the equipment installed supports the latest generation of mobile connectivity?	Record
36.			Photographs of installed latest generation mobile connectivity equipment	Record and Upload
37.		Support for future bands	Bill of Material (BoM) installed at building along with datasheets for relevant equipment	Record
38.			Whether DCI supports future bands for mobile or Wi-Fi network as applicable as per datasheets?	Record and Upload
39.		Upgradability of wireline DCI	Upgradability of existing wireline DCI equipment's (switches/ routers/	Record

S. No.	Criteria	Sub Criteria	Supporting document evidence	Record maintenance requirement (Upload/ DCRA level)
			splitters/ PON etc.) and relevant cables	
40.			Whether the bandwidth supported through optical fiber with speed 1 Gbps or higher?	Record and Upload
41.	Provision of Wired Connectivity Infrastructure	Backhaul fiber/ wireless connectivity (service provider to property)	Backhaul connectivity testing results	Record
42.			Photographs of wireless or fiber termination point at main telecom room/ telecom area/ receiving equipment	Record and Upload
43.		Fiber connectivity till user premises	Fiber layout diagrams up to user premises	Record and Upload
44.			Sample fiber test reports confirming connectivity to each user premise	Record and Upload
45.		Fiber connectivity in each room or office or commercial space	Network layout diagram for user units showing fiber terminations	Record
46.			Sample test reports for fiber terminations testing	Record and Upload

S. No.	Criteria	Sub Criteria	Supporting document evidence	Record maintenance requirement (Upload/ DCRA level)
47.	Availability of Service Providers	Number of wireline Internet Service providers having integration with Digital Connectivity Infrastructure	Telecom/ Internet Service Provider (ISP) Agreements	Record
48.			Network integration certificates/ test reports	Record
49.			Service subscription status	Record and Upload
50.		Number of Mobile Service providers having coverage or integration with Digital Connectivity Infrastructure	Walk/ drive test results and/or RF coverage map in the property	Record and Upload
51.			Network performance test results from multiple operators	Record
52.			Agreements signed with Telecom Service Providers (without commercial details)	Record
53.	Service Performance	Mobile network coverage and performance in public areas of property	Walk/ drive test results and/or RF coverage map of public areas	Record and Upload
54.			Speed test logs, call setup time, call setup success rate and call drop rate	Record and Upload

S. No.	Criteria	Sub Criteria	Supporting document evidence	Record maintenance requirement (Upload/ DCRA level)
55.			Speed and coverage samples mapped on the Layout maps (floors/ areas)	Record and Upload
56.		Secure public Wi-Fi network coverage and performance in public areas of property	Wi-Fi speed test results	Record and Upload
57.			Wi-Fi security audit reports	Record
58.			Speed samples mapped on the Layout maps (floors/ areas)	Record and Upload
59.		Mobile network coverage and performance in non-public areas	Walk/ drive test results and/or RF coverage map of the area under test	Record and Upload
60.			Speed test logs, call setup time, call setup success rate and call drop rate	Record and Upload
61.			Speed and coverage samples mapped on the Layout maps (floors/ areas)	Record and Upload
62.		Secure public Wi-Fi network coverage and performance in non-public areas	Wi-Fi security certifications	Record
63.			Wi-Fi speed test results	Record and Upload
64.			Speed samples mapped on the Layout maps (floors/ areas)	Record and Upload

S. No.	Criteria	Sub Criteria	Supporting document evidence	Record maintenance requirement (Upload/ DCRA level)
65.		Average download speed of different wireline network(s) in respective highest speed plan	Speed test results with timestamps	Record and Upload
66.			Speed samples mapped on the Layout maps (floors/ areas)	Record and Upload
67.	User Experience	User feedback on digital connectivity experience	User feedback form	Record and Upload

11.4. User Feedback Form

This form is to evaluate the feedback of end user/ consumer on digital connectivity experience in the property. Your feedback will help in assessing the level of digital connectivity inside the property for award of Star rating under TRAI regulations.

(a) Name of property: _____, (b) URIN (As per rating platform):_____

(c) Type of property: ☐ Residential ☐ Commercial ☐ Government Properties ☐ Shopping mall ☐ Stadium ☐ Hospitality ☐ Transport corridor ☐ Other – Please specify:

(To be filled by DCRA)

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*Kindly provide your feedback on the scale of 1-5 by writing relevant number in the box against respective questions. Score **1 (poor)** being the lowest, **2 (average)**, **3 (good)**, **4 (very good)** and **5 (Excellent)** being the highest.*

	Provide rating between 1 to 5
1. Mobile Service Performance	
i. How would you rate your mobile voice call experience?	☐
ii. Are you satisfied with mobile internet performance?	☐
2. Broadband Service Performance	
i. How would you rate the ease of provisioning of new broadband connections?	☐
ii. How satisfied are you with the speed of the internet connection?	☐
iii. How will you rate the resolution mechanism?	☐
3. Mobile Network Coverage	
i. How would you rate the wireless network coverage in indoor spaces?	☐
ii. How would you rate the wireless network coverage in outdoor areas?	☐
4. Overall Experience	
i. How would you rate the overall digital connectivity at this property?	☐

5. Your Service Provider(s):

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6. Suggestions for Improvement

Signature of the end user/ consumer Signature of DCRA representative

Name :

Mobile No. :

Email-ID :

Unit No. / Flat No. / Shop No. / Functional Area Details:

11.5. Template for declaration of maximum chargeable fee by DCRA (As per regulation)

The below table covers the template for declaration of maximum chargeable fee by Digital Connectivity Rating Agency (DCRA) as per the Section I - "Code of Conduct for DCRAs" clause (vii) "Clear fee structure" in the regulation:

S. No.	Classification	Category or Group	Type of Property	Property Area in sq.ft./ length in km	Maximum chargeable fee by DCRA for rating process of constructed properties (in ₹ / sq.ft.)	Maximum chargeable fee by DCRA for rating process of properties under construction (in ₹ / sq.ft.)	Maximum chargeable fee by DCRA for Optional Digital Connectivity Audit (in ₹ / sq.ft.)
1.	Residential	A	Apartments, independent houses, gated communities or societies, etc.	50,000 - 100,000 sq.ft.			
				>100,000 - 500,000 sq.ft.			
				>500,000 - 1000,000 sq.ft.			
				>1000,000 sq.ft.			

S. No.	Classification	Category or Group	Type of Property	Property Area in sq.ft./ length in km	Maximum chargeable fee by DCRA for rating process of constructed properties (in ₹ / sq.ft.)	Maximum chargeable fee by DCRA for rating process of properties under construction (in ₹ / sq.ft.)	Maximum chargeable fee by DCRA for Optional Digital Connectivity Audit (in ₹ / sq.ft.)
2.	Government Properties	A	All properties of the Central Government, the State Government, Courts, Public Sector Undertakings, Local Bodies, Heritage Sites, etc.	50,000 - 100,000 sq.ft.			
				>100,000 - 500,000 sq.ft.			
				>500,000 - 1000,000 sq.ft.			
				>1000,000 sq.ft.			
3.	Commercial and other	A	Commercial office complex,	50,000 - 100,000 sq.ft.			

S. No.	Classification	Category or Group	Type of Property	Property Area in sq.ft./ length in km	Maximum chargeable fee by DCRA for rating process of constructed properties (in ₹ / sq.ft.)	Maximum chargeable fee by DCRA for rating process of properties under construction (in ₹ / sq.ft.)	Maximum chargeable fee by DCRA for Optional Digital Connectivity Audit (in ₹ / sq.ft.)
	Establishments		shopping malls, industrial estates, SEZs, convention centres, Hospitals, Hotels, Educational Institutions, etc.	>100,000 - 500,000 sq.ft.			
				>500,000 - 1000,000 sq.ft.			
				>1000,000 sq.ft.			
4.	Other private or public areas	B	Airport, Bus Station, Railway Station, multi-	50,000 - 100,000 sq.ft.			
				>100,000 - 500,000 sq.ft.			

S. No.	Classification	Category or Group	Type of Property	Property Area in sq.ft./ length in km	Maximum chargeable fee by DCRA for rating process of constructed properties (in ₹ / sq.ft.)	Maximum chargeable fee by DCRA for rating process of properties under construction (in ₹ / sq.ft.)	Maximum chargeable fee by DCRA for Optional Digital Connectivity Audit (in ₹ / sq.ft.)
			modal logistic parks etc.	>500,000 - 1000,000 sq.ft.			
				>1000,000 sq.ft.			
5.	Stadiums or Sport Arenas or spaces of frequent gathering	B	Stadiums or permanent spaces of gathering	50,000 - 100,000 sq.ft.			
				>100,000 - 500,000 sq.ft.			
				>500,000 - 1000,000 sq.ft.			
				>1000,000 sq.ft.			

S. No.	Classification	Category or Group	Type of Property	Property Area in sq.ft./ length in km	Maximum chargeable fee by DCRA for rating process of constructed properties (in ₹ / sq.ft.)	Maximum chargeable fee by DCRA for rating process of properties under construction (in ₹ / sq.ft.)	Maximum chargeable fee by DCRA for Optional Digital Connectivity Audit (in ₹ / sq.ft.)
6.	Transport corridors	B	Expressways, Highways, Railways routes, Metro corridors etc.	100-500 km			
				>500-1000 km			
				>1000 km			

Note: The 'Property Area' includes all areas like ground, basements, and other covered /uncovered floors used by the residents or occupants or visitors.

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11.6. Declaration by Property Manager for Design-Stage Evaluation of Under-Construction Property

For properties under-construction, Property Manager shall submit a declaration specific to under-construction, in the format provided below:

Declaration by Property Manager for Design-Stage Evaluation of Under-Construction Property

1. Declaration of Target Digital Connectivity Rating

I/ We, the undersigned, hereby declare that the DCI design of above-mentioned under-construction property is **targeted to achieve Final Digital Connectivity Rating of _____ Star(s)** under the **Amended Rating of Properties for Digital Connectivity Regulations, 2024**.

I/ We understand that this target rating is **indicative** and that the **final rating shall be awarded solely on the basis of actual assessment** conducted by the concerned Digital Connectivity Rating Agency (DCRA) in accordance with the applicable Regulations and the Rating Manual.

2. Plan for Achieving the Declared Target Rating

I/ We further declare that, in addition to the standard requirements under the ***Application for Rating of Property***, a **Sub-Criteria wise implementation plan** for achieving the declared target rating is being submitted along with this declaration.

The plan is provided in a **structured tabular format**, wherein details are specified against each applicable criterion and sub-criterion under the Digital Connectivity Rating framework, including:

i. the proposed measures, design provisions, or infrastructure planning to achieve compliance; and

ii. the reference to relevant supporting documents.

All supporting documents referenced in the table are attached along with this declaration or uploaded on the Digital Connectivity Rating Platform, as applicable.

3. Sub-Criteria wise Plan and Supporting Documents *(to be filled by Property Manager)***:**

Criteria No.	Criteria	Sub-Criteria	Target Score	Proposed Plan / Design Provision to Achieve Target Score	Reference Supporting Document / Response to Questions
1	Compliance to applicable Model Building Bye Laws (MBBL) and National Building Construction Standards (NBCS) for digital connectivity	1.1 Approved DCI design		1. Provide compliance details based on Checklist for compliance to MBBL and NBCS present in section 11.8 of the Rating Manual and attach with this declaration. 2. Any other details….	1. Approved design documents / building plan / layout plans etc. 2. "Checklist for compliance to MBBL and NBC" 2. Any other relevant document
		1.2 DCI implementation as per approved DCI design			
2	Provision in civil infrastructure, over and above MBBL and NBCS requirements, for ensuring robust digital connectivity	2.1 Provision for expansion of telecom rooms and cable pathways		1. Does your property have provision for expansion of telecom room/ telecom areas, horizontal and vertical pathways in design documents / layout plans as per 4.2.1 of Rating Manual? 2. Any other details…	1. Approved design documents / building plan / layout plans etc. 2. Any other relevant document
		2.2 Provision for expansion of mobile and wireline connectivity		1. Is provision for expansion of mobile and wireline connectivity planned as per 4.2.2 of Rating Manual and present in design documents / layout plans etc.?	1. Approved design documents / building plan / layout plans etc. 2. Any other relevant document

Criteria No.	Criteria	Sub-Criteria	Target Score	Proposed Plan / Design Provision to Achieve Target Score	Reference Supporting Document / Response to Questions
				2. Any other details…	
		2.3 Ease of access of DCI installed for repair or maintenance		1. Is provision for physical accessibility and labelling planned as per 4.2.3 of Rating Manual and present in design documents / layout plans etc.? 2. Any other details…	1. Approved design documents / building plan / layout plans etc. 2. Any other relevant document
3	Provision in power infrastructure, over and above MBBL or NBCS requirements, for ensuring reliable digital connectivity	3.1 Redundancy of power source		1. Is Redundant power source planned for all digital connectivity services as per 4.3.1 of Rating Manual? 2. Any other details…	1. Power layout diagrams. 2. Any other relevant document
		3.2 UPS power backup for DCI		1. Is UPS power backup for important DCI components planned as per 4.3.2 of Rating Manual? 2. Any other details…	1. Electrical system line diagram 2. Any other relevant document

Criteria No.	Criteria	Sub-Criteria	Target Score	Proposed Plan / Design Provision to Achieve Target Score	Reference Supporting Document / Response to Questions
		3.3 Power continuity monitoring		1. Is Power monitoring system being implemented/provisioned as per 4.3.3 of Rating Manual? Will the dashboard in monitoring system cover end-to-end health status monitoring of all power system as per 4.3.3 of Rating Manual? 2. Any other details…	1. Monitoring system high level diagram 2. Any other relevant document
		3.4 Building Management System		1. Is BMS or equivalent centralized monitoring system being implemented/provisioned as per 4.3.4 of Rating Manual? Is BMS or equivalent centralized monitoring system planned to cover power, fire alarm and HVAC for telecom room(s)/ telecom area(s) in the property as per 4.3.4 of Rating Manual? 2. Any other details…	1. BMS system high level diagram 2. Any other relevant document

Criteria No.	Criteria	Sub-Criteria	Target Score	Proposed Plan / Design Provision to Achieve Target Score	Reference Supporting Document / Response to Questions
4	Digital Connectivity Infrastructure Resilience	4.1 Availability of alternate entry paths for digital connectivity infrastructure		1. Is there provision of alternate duct and cable pathway routes till telecom rooms / telecom areas as per 4.4.1 of Rating Manual? 2. Any other details....	1. Ducts and Pathway layout diagram 2. Any other relevant document
		4.2 Non-flooding measures for DCI installation		1. Are non-flooding measures taken as per 4.4.2 of Rating Manual? 2. Any other details....	1. Design and layout documents 2. Any other relevant document
		4.3 Implementation of redundancy in power source and DCI paths		1. Is there provision of redundant paths for power system to DCI and fiber path in the property as per 4.4.3 of Rating Manual? 2. Any other details...	1. Power and cable layout diagrams 2. Any other relevant document
5	Future Readiness of Digital Connectivity Infrastructure	5.1 Availability of the latest generation of mobile connectivity		1. Whether the planned/installed equipment supports the latest generation of mobile connectivity as per 4.5.1 of the Rating Manual? 2. Any other details...	1. List of latest generation mobile connectivity equipment 2. Any other relevant document

Criteria No.	Criteria	Sub-Criteria	Target Score	Proposed Plan / Design Provision to Achieve Target Score	Reference Supporting Document / Response to Questions
		5.2 Support for future bands		1. Is there provision of supporting future bands in infrastructure as per 4.5.2 of Rating Manual? 2. Any other details…	1. BoM or List and datasheets of infrastructure installed /planned 2. Any other relevant document
		5.3 Upgradability of wireline DCI		1. Is there provision for planned fiber-optic network to be scaled and upgraded as per 4.5.3 of Rating Manual? 2. Any other details…	1. Document to demonstrate upgradability of wireline DCI 2. Any other relevant document
6	Provision of Wired Connectivity infrastructure	6.1 Backhaul fiber/ wireless connectivity (service provider to property)		1. For how many different type of service providers (wireline/ wireless) with backhaul as either fiber or wireless have you provisioned connectivity as per 4.6.1 of Rating Manual? 2. How many tie-ups with service providers do you have right now for the property? 3. Any other details…	

Criteria No.	Criteria	Sub-Criteria	Target Score	Proposed Plan / Design Provision to Achieve Target Score	Reference Supporting Document / Response to Questions
		6.2 Fiber connectivity till user premises		1. % of unit within the property planned for fiber connectivity as per 4.6.2 of the Rating Manual? 2. Any other details…	
		6.3 Fiber connectivity in each room or office or commercial space		1. % of unit within the property where fiber connectivity is planned in each room/ office/ commercial space as per 4.6.3 of the Rating Manual? 2. Any other details…	
7	Availability of Service Providers	7.1 Number of wireline Internet Service providers having integration with Digital Connectivity Infrastructure		1. For how many internet service providers have you provisioned capability to integrate with DCI as per 4.7.1 of the Rating Manual? 2. How many tie-ups with service providers do you have right now for the property? 3. Any other details…	

Criteria No.	Criteria	Sub-Criteria	Target Score	Proposed Plan / Design Provision to Achieve Target Score	Reference Supporting Document / Response to Questions
		7.2 Number of Mobile Service providers having coverage or integration with Digital Connectivity Infrastructure		1. For how many service providers is coverage planned for 4G/5G services in the property either through integration with DCI or otherwise as per 4.7.2 of Rating Manual? What is the expected coverage for each service provider? 2. How many tie-ups with service providers do you have right now for the property? 3. Any other details...	
8	Service Performance	8.1 Mobile network coverage and performance in public areas of property		1. For how many service providers is mobile coverage for 4G/5G services planned in public areas (including common area, lifts, and basements) of the property as per 4.8.1 of Rating Manual? 2. What is the expected mobile coverage and minimum download	

Criteria No.	Criteria	Sub-Criteria	Target Score	Proposed Plan / Design Provision to Achieve Target Score	Reference Supporting Document / Response to Questions
				speed for 4G/5G technology of each service provider in these areas as per 4.8.1 of Rating Manual? 3. Any other details…	
		8.2 Secure public Wi-Fi network coverage and performance in public areas of property		1. Is there provision of Wi-Fi coverage in public areas (including lifts and basements) of property as per 4.8.2 of Rating Manual? 2. What is the expected coverage and minimum download speed from Wi-Fi in public areas as per 4.8.2 of Rating Manual? For how many users is it being planned? 3. Any other details…	
		8.3 Mobile network coverage and performance in non-public areas		1. For how many service providers is mobile coverage for 4G/5G services planned in non-public areas of the property as per 4.8.3 of Rating Manual?	

Criteria No.	Criteria	Sub-Criteria	Target Score	Proposed Plan / Design Provision to Achieve Target Score	Reference Supporting Document / Response to Questions
				2. What is the expected mobile coverage and minimum download speed for 4G/5G technology of each service provider in these areas as per 4.8.3 of Rating Manual? 3. Any other details…	
		8.4 Secure public Wi-Fi network coverage and performance in non-public areas		1. Is there provision of Wi-Fi coverage in non-public areas of property as per 4.8.4 of Rating Manual? 2. What is the expected coverage and minimum download speed from Wi-Fi in non-public areas as per 4.8.4 of Rating Manual? For how many users is it being planned? 3. Any other details…	

Criteria No.	Criteria	Sub-Criteria	Target Score	Proposed Plan / Design Provision to Achieve Target Score	Reference Supporting Document / Response to Questions
		8.5 Average download speed of different wireline network(s) in respective highest speed plan		1. Are there provisions for wireline network in the property as per 4.8.5 of Rating Manual? 2. For how many wireline network or service providers have you provisioned capability to provide wireline network in the property and what is the expected download speed of wireline network as per 4.8.5 of Rating Manual? 3. Any other details…	
9	User Experience	9.1 User feedback on digital connectivity experience	To be derived by DCRA proportionally based on total score obtained against other applicable criteria during design-stage evaluation		

Notes:

i. The target scores indicated above are indicative and based on design-stage planning. Issuance of a 'Designed For' certificate or 'Installation Completed For' certificate shall not imply award of any score or Digital Connectivity Rating. Final scores and final Digital Connectivity Rating shall be determined solely on the basis of assessment conducted after completion of construction, implementation of DCI, operationalisation of digital connectivity services, and completion of Due Diligence Stage–II.

ii. Only applicable criteria and sub-criteria shall be filled, as per the classification of the property under **Category 'A' or Category 'B'**. For **Category 'B' properties**, Criteria No. 1 and Criteria No. 2 are not applicable and need not be filled in the above table. For the remaining applicable criteria/sub-criteria of Category 'B' properties, references shall be made to the relevant provisions of Chapter 5 of the rating manual, as applicable. For example, for sub-criteria 3.1 (Redundancy of power source) in the above table for Category 'A', where the table refers to 'Is redundant power source planned for all digital connectivity services as per 4.3.1 of Rating Manual?', the corresponding reference for Category 'B' properties shall be read as 5.1.1 of Chapter 5 of the Rating Manual.

iii. Details provided should be sufficient to demonstrate intent, feasibility, and design-stage compliance, without requiring final as-built evidence.

iv. In respect of those criteria and sub-criteria which involve parameters (such as network speed, coverage, no. of service providers etc.) that cannot be physically verified during the under-construction stage, the assessment shall be based on the structured responses provided in this declaration and the supporting documentary evidence submitted by the Property Manager. Such assessment shall be indicative in nature and intended solely for the purpose of design-stage evaluation and issuance of the 'Designed For' certificate.

v. Reference documents may include approved design documents, building plans, architectural drawings, layout plans, digital connectivity infrastructure designs, schematics, or other relevant technical documents related to Digital Connectivity Infrastructure.

I/ We hereby confirm that information provided in this declaration, the accompanying plan, and supporting documents are **true, correct, and complete** to the best of our knowledge and belief. I/ We shall extend full cooperation to the DCRA during all stages of evaluation and comply with all applicable provisions of the Regulations and the Rating Manual.

(Signature of authorized signatory with seal if applicable)

Date:

Name:_____

Designation:_____

Contact No:_____

E-mail Id:_____

[To be signed by duly authorised person on behalf of organization]

11.7. Indicative Template for Optional Digital Connectivity Audit Report

The following template is illustrative in nature and indicates the minimum details that may be covered in an Optional Digital Connectivity Audit Report. DCRAs and Property Managers may mutually agree to include additional details, as appropriate:

Indicative Template for Optional Digital Connectivity Audit Report

1. Basic Details

(At a minimum, the following details may be included:)

(i) Name of Property

(ii) Property Address

(iii) Category of Property (Category 'A' / Category 'B')

(iv) Name and contact details of Property Manager

(v) Name of DCRA Conducting Audit

(vi) DCRA Registration ID (as per Rating Platform)

(vii) Date(s) of Audit (start and completion)

(viii) Any other relevant identification details

2. Disclaimer

(The report shall clearly indicate the following:)

(i) This Optional Digital Connectivity Audit has been conducted based on mutual engagement between the Property Manager and the DCRA.

(ii) This audit is intended solely for internal evaluation and improvement purposes of the Property Manager. This shall not create any right, expectation, or entitlement with respect to award of a Digital Connectivity Rating.

(iii) Participation in such optional audit shall not be a prerequisite for applying for a Digital Connectivity Rating and shall not have any bearing on the outcome of a rating assessment undertaken under the Regulations.

(iv) Any indicative score or indicative star level, if mentioned, shall be clearly marked as non-binding and for internal reference only.

3. Summary of Audit (Including Indicative Positioning, if Mutually Agreed)

(The report may include:)

(i) Table of criteria and sub-criteria along with indicative scores (if calculated)

(ii) Overall indicative total score and indicative star level (clearly marked as non-binding)

(iii) Potential improvement scenario after implementation of recommended actions

4. Sub-Criteria-wise Detailed Assessment

(For each applicable sub-criterion, the following minimum information may be covered. Emphasis may be placed on sub-criteria where gaps are observed.)

For each applicable sub-criterion:

(i) Sub-Criterion Name / Code

(ii) Present Status of Digital Connectivity

(iii) Evidence Provided and/or Verified

(iv) Gap Identified (if any)

(v) Recommended Action for Property Manager and scope of improvement

(vi) Priority or impact level (if indicated)

(vii) Any additional information considered relevant by the DCRA

5. Declaration by DCRA

(An appropriate declaration may be included covering, inter alia, the following:)

(i) This Optional Digital Connectivity Audit has been conducted in good faith based on the information, documentation, and access provided by the Property Manager.

(ii) This report shall not be construed as a Digital Connectivity Rating under the Regulations and shall not create any entitlement or expectation with respect to award of a Digital Connectivity Rating.

(iii) This report reflects the status of Digital Connectivity Infrastructure as assessed on [DD/MM/YYYY]. Any improvement or deterioration in digital connectivity infrastructure occurring after this date are not covered in this report and may alter the observations, findings, or indicative positioning contained herein.

6. Signature along with DCRA Details

(i) Authorized Signatory of DCRA:_____

(ii) Name:_____

(iii) Designation:_____

(iv) DCRA Registration ID (as per Rating Platform):_____

(v) Date:_____

11.8. Checklist to assess compliance to MBBL and NBCS under Amended Rating of Properties for Digital Connectivity Regulations, 2024

S. No.	Checklist Items	Reference from NBCS / MBBL	Compliance Impact	Compliance (Yes / No)	Remark / Observation
Telecommunication Spaces					
1	Are telecom spaces accessible but secured (controlled access, locks, partitions)?	(Clause 3.1.1a) NBCS Part D Section 6	**Minor**		
2	Are telecom spaces free from noise-generating equipment?	(Clause 3.1.1b) NBCS Part D Section 6	**Minor**		
3	Is proper documentation and signage maintained for telecom rooms?	(Clause 3.1.1c) NBCS Part D Section 6	**Minor**		
4	Minimum ceiling height of 2.4 m (preferably 3 m) provided?	(Clause 3.1.1e) NBCS Part D Section 6	**Minor**		
5	Are telecom spaces free from dust and static electricity risks (e.g., no active printers inside, dust-minimizing	(Clause 3.1.1g) NBCS Part D Section 6	**Minor**		

S. No.	Checklist Items	Reference from NBCS / MBBL	Compliance Impact	Compliance (Yes / No)	Remark / Observation
	finishes on floors, walls, and ceilings)?				
6	Are telecom spaces located above flood-prone areas, away from restrooms/kitchens, and protected from liquid-carrying pipes or AC leaks (with monitoring systems if unavoidable)?	(Clause 3.1.1j) NBCS Part D Section 6	**Major**		
7	Are racks and active equipment in telecom spaces elevated above potential flood levels?	(Clause 3.1.1j) NBCS Part D Section 6	**Major**		
8	Is telecom space lighting adequate (switches at entrance, lighting not obstructed, powered by both	(Clause 3.1.1k) NBCS Part D Section 6	**Minor**		

S. No.	Checklist Items	Reference from NBCS / MBBL	Compliance Impact	Compliance (Yes / No)	Remark / Observation
	normal and UPS circuits)?				
9	Are rooms centrally located, vertically aligned, and dedicated only to telecom use?	(Clause 3.1.1m) NBCS Part D Section 6	**Major**		
10	Is proper environmental control (HVAC, humidity, positive pressure) provided with monitoring alarms?	(Clause 3.1.1n) NBCS Part D Section 6	**Minor**		
11	Is fire detection/ alarm & suppression system installed?	(Clause 3.1.1p) NBCS Part D Section 6	**Minor**		
12	Is proper bonding & grounding of all equipment done?	(Clause 3.1.1q) NBCS Part D Section 6	**Major**		
Equipment Room (ER) & Telecom Room (TR)					
13	Is the Equipment Room (ER) provided with minimum 14 m^2,	(Clause 3.1.2.2a) NBCS Part D Section 6	**Minor**		

S. No.	Checklist Items	Reference from NBCS / MBBL	Compliance Impact	Compliance (Yes / No)	Remark / Observation
	with additional capacity considered for IBS/DAS and future expansion?				
14	Future expansion & maintainability considered in design (cable trays, large conduits)?	(Clause 3.1.2.2c 2) NBCS Part D Section 6	**Major**		
15	Minimum one TR (telecom room)/TE (telecom enclosure) present per floor?	(Clause 3.1.3.1, 3.1.3.2) NBCS Part D Section 6	**Minor**		
16	Does Entrance Facilities (EF) have enough space for existing TSPs?	(Clause 3.1.4) NBCS Part D Section 6	**Major**		
Cabling & Pathways					
17	Are common telecom ducts / pathways present that connect from building entry point to telecom rooms and risers?	(Clause 5,6) Addendum to MBBL-2016, Provision of In-building Solutions (Digital	**Major**		

S. No.	Checklist Items	Reference from NBCS / MBBL	Compliance Impact	Compliance (Yes / No)	Remark / Observation
		Connectivity Infrastructure)			
18	Is enough space available in ducts, pathways, etc, for laying additional conduits/trays, keeping in view the present and future demands?	(Clause 3.2.3) NBCS Part D Section 6 (Clause 5,6) Addendum to MBBL-2016, Provision of In-building Solutions (Digital Connectivity Infrastructure)	**Major**		
19	Are telecom cables separated from power cables and EMI/RFI sources?	(Clause 3.1.1d) NBCS Part D Section 6	**Minor**		
20	Are there at least 3 × 100 mm conduits between floors (TR to TR, Entrance Facilities to TR/TE)?	(Clause 3.3.3d) NBCS Part D Section 6	**Minor**		

S. No.	Checklist Items	Reference from NBCS / MBBL	Compliance Impact	Compliance (Yes / No)	Remark / Observation
21	For installations like antenna, powering the roof top/tower top equipment, is access provided through suitable number of conduits to the area marked on rooftop for such installations?	(Clause 3.3.3 e) NBCS Part D Section 6	**Minor**		
22	Is the connectivity from the roof seepage and rodent proof?	(Clause 3.3.3 e) NBCS Part D Section 6	**Minor**		
23	Fire-resistant material applied at all shaft penetrations?	(Clause 3.3.3g) NBCS Part D Section 6	**Minor**		
24	Backbone cable pathways are not located in elevator shafts?	(Clause 3.3.3h) NBCS Part D Section 6	**Minor**		
25	Are cables properly supported (not over pipes/ceilings without tray)?	(Clause 4.2.1.1f) NBCS Part D Section 6	**Minor**		

S. No.	Checklist Items	Reference from NBCS / MBBL	Compliance Impact	Compliance (Yes / No)	Remark / Observation
26	Are telecom boxes located in easements, parking or landscaping (not blocking pedestrians/cycle tracks)? If boxes are on pedestrian paths, is at least 2 m clear space available for movement?	(Clause 6. Para 3, Bullet 2) Addendum to MBBL-2016, Provision of In-building Solutions (Digital Connectivity Infrastructure)	**Minor**		

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भादूविप्रा
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