DIPA's Response to TRAI Consultation Paper on 'Regulation on Rating Framework for Digital Connectivity in Buildings or Areas'

Summary:

1. Telecom Regulatory Authority of India (TRAI) on 27th September 2023 released a Consultation Paper on **"Regulation on Rating Framework for Digital Connectivity in Buildings or Areas"** of 96 pages.

2. At the outset, we would like to thank the Authority for bringing out this Consultation paper for discussion on the **'Regulation on Rating Framework for Digital Connectivity in Buildings or Areas'**. We appreciate the Authority for its constant efforts for improving the connectivity. The Consultation Paper is a step towards putting in place the right regulatory arrangements, connectivity measures and appropriate tools to foster infrastructure deployment. With regards to DIPA's response to the Consultation Paper, the authority has put a disclaimer that the issues raised may have questions related to non- telecom entities. Since majority of the questions pertain to building by-laws, post brainstorming at our end, we have come to a conclusion that views of domain experts may be obtained for a holistic approach to the issue. Consolidated views on the issues have been listed in the subsequent paragraphs with reply to only specific questions where concerns of our Members are involved.

3. In urban areas like large towns and cities, the demand for digital infrastructure is met naturally due to market forces. However, in rural and remote regions, various barriers, including economic, geographic, and demographic factors, limit access to mobile network infrastructure, leaving many people without digital connectivity. Therefore, a comprehensive approach is needed to ensure widespread digital connectivity in the country.

4. **Infrastructure Providers (IP-1s) have been instrumental in making affordable telecom services available in India since the concept of Infrastructure Providers was introduced in 2000. Their shared tower infrastructure deployment has led to the rapid expansion of mobile networks. However, the issues discussed in the current Consultation Paper shall adversely impact the concept of sharing of passive infrastructure and benefit arising out of it. It shall also adversely impact the business prospects of IP-1s. IP-1s have been catalysts in the speedy growth and spread of telecom infrastructure in the country at a shared cost to its customers i.e. TSPs. The sharable infrastructure of IP-s has been one of the contributing factors for the fastest rollout of the 5G network. The emergence of 5G+ technologies is increasing the focus on infrastructure sharing, which can lead to significant cost savings. Therefore, a thoughtful review of the issues raised in the Consultation Paper is necessary**.

5. DIPA would like to bring to the notice of TRAI that all new modern buildings are green and smart. To support compliance with ESG norms, the digital infrastructure being laid down for last-mile indoor connectivity should focus on reducing the carbon footprint.

6. This is to further bring to your attention that Building Management System (BMS) is an international best practice that is followed. BMS is an automated control system that monitors and manages the mechanical, electrical, and electromechanical services in all modern and smart buildings. Such services include power, heating, ventilation, air-conditioning, physical access control, pumping stations, elevators, and lights.

   BMS is not taught formally in Indian engineering colleges and industrial technical institutes. The job role is in high demand in India and abroad. Companies like Honeywell and Schneider train electrical and electronics graduates to manage BMS in their projects. However, laying and managing telecom/digital infrastructure (cellular, Wi-Fi, leased lines/broadband, IoT, IPTV, cable TV, etc.) are not included in the BMS domain. Therefore, we suggest that BMS as a discipline of study should be promoted with modules of telecom/digital connectivity solutions and services embedded in the program.

   DIPA recommends including BMS as one of the recommendations to be followed in this consultation paper.

7. India is experiencing significant growth in its digital consumer market, driven by both public and private sectors. The country has the potential to become a fully connected nation by 2025, creating economic value for various stakeholders. Digital adoption has been uneven across businesses, but new digital business models are emerging in various sectors, potentially creating millions of jobs.

8. India aims to become a $1 trillion digital economy by 2025, with 5G playing a crucial role. The number of 5G subscriptions in India is expected to grow exponentially, and 5G will bridge the digital divide for an inclusive digital economy.

9. Digital infrastructure and services are becoming key enablers for a country's growth and well-being. India, with expertise in telecommunications and software, is well-positioned to benefit from harnessing digital technologies, unlocking productivity, reaching underserved markets, and driving economic growth.

10. Digital connectivity infrastructure is essential for enabling innovative applications aimed at enhancing productivity and well-being. For example, IoT requires ubiquitous digital connectivity, autonomous vehicles need reliable low-latency connectivity, and Industry 4.0 relies on ultra-reliable low-latency connectivity.

11. Regulation may be necessary to ensure access to telecommunications services within buildings, as it can impact the well-being of occupants. Market failures may occur when new buildings lack the necessary infrastructure for telecommunications services, leading to reduced occupant well-being.

12. In addition to digital connectivity, buildings are also rated based on green energy in India. This rating system incorporates various codes and standards related to energy conservation, environmental design, and energy efficiency.

13. Digital connectivity infrastructure is vital for modern life, with increasing demand for digital services and its role in economic development. The COVID-19 pandemic has accelerated the growth of digital infrastructure, with a significant increase in data traffic.

14. Countries around the world are working to make their digital infrastructure more resilient and adaptable. India, with a large population and a growing digital ecosystem, has the potential to benefit from emerging technologies and increase its economic value.

15. Good in-building coverage is essential for attracting and retaining mobile subscribers. In-building solutions improve the quality of service and capacity, particularly in crowded areas like malls and airports.

16. Coordination at national and international levels can lead to cost and time savings in digital connectivity infrastructure deployment. Sharing infrastructure assets can reduce costs while improving service quality.

17. Point of Entry (POE) planning is crucial for quickly and securely connecting tenants to digital infrastructure. Proper telecommunications rooms and riser pathways are essential for supporting future technology requirements.

18. Pathways for fixed-line connections should be technology-agnostic, as different technologies may be used for providing telecommunications services.

19. Fixed-line cabling plays a central role in meeting the demand for bandwidth, regardless of technology choices.

20. The impact of technology on commercial real estate has accelerated, with innovations like 5G, IoT, and smart building technologies driving change.

21. Rating buildings based on digital connectivity is a positive step, but implementation should be phased and led by domain experts. Addressing the rural-urban tele-density gap is crucial, and the rating system should be introduced in Tier-I metro cities initially.

22. Digital connectivity has become integral to personal and professional life, with increasing demand across all user segments.

23. TRAI monitors the quality of telecom services in India and has initiated policy measures to improve digital connectivity. The introduction of a Rating of Buildings framework aims to enhance digital connectivity for consumers through a collaborative approach.

24. A regulatory framework for building rating is under consideration by TRAI.

25. The Consultation Paper on "Regulation on Rating Framework for Digital Connectivity in Buildings or Areas" seeks input on a regulatory framework for rating buildings and areas for digital connectivity to improve quality of service and consumer experience.

26. The paper emphasizes the need for a rating system that meets current and future consumer expectations. It also discusses the benefits of the rating framework for users, service providers, and the overall ecosystem.

27. The Consultation Paper and draft regulations are open for stakeholder input, with comments accepted until November 10, 2023, and counter-comments until November 24, 2023. Input should be sent to Shri Tejpal Singh, Advisor (QoS-I), Telecom Regulatory Authority of India

DIPA's response on Issues for Consultation

Q.1- Do you agree with the broad classification of Buildings or Areas (also referred as Buildings) from Digital Connectivity perspectives provided in Section-3 of this chapter? If not, what could be other yardsticks to classify Buildings for provisions of near uniform Digital Connectivity Infrastructures in similar types of Buildings. Please justify your answer with suitable examples.

Ans 1: As DIPA, we agree with the broad classification of Buildings or Areas provided in Section-3 of the chapter from a Digital Connectivity perspective. The classification outlined in the chapter takes into account the various factors, including building design, infrastructure, and user needs, that are crucial in providing near uniform Digital Connectivity Infrastructures (DCI) to different types of buildings. The classification includes aspects like resilience, future readiness, mobile connectivity, choice of providers, and user experience. This classification reflects the diversity of buildings and their digital connectivity requirements.

To justify our agreement, let's consider an example:

Example: Residential and Commercial Buildings

In many urban areas, there is a clear distinction between residential and commercial buildings. Residential buildings primarily house families and individuals, while commercial buildings are used for businesses and offices. These two types of buildings have different requirements for digital connectivity.

Residential Buildings: In residential buildings, the focus is on providing reliable and seamless digital connectivity for individual residents. This may include access to high-speed internet, mobile connectivity, and other digital services. The classification considers factors like mobile coverage in every corner, Wi-Fi quality in common areas, and user experience, which are

critical for residents who rely on digital connectivity for work, entertainment, and communication.

Commercial Buildings: Commercial buildings, on the other hand, require robust and future-ready digital connectivity to support various businesses and tenants. These buildings often have higher infrastructure demands due to the number of users and devices connected. The classification's focus on choice of providers, resilience, and future readiness is vital for ensuring that commercial buildings can adapt to changing technology and competition among service providers.

By classifying buildings into categories like residential and commercial and considering specific criteria for each type, the classification provides a comprehensive approach to meet the unique digital connectivity needs of different building types. This approach ensures that near uniform Digital Connectivity Infrastructures can be provided to similar types of buildings, resulting in better connectivity experiences for both residents and businesses.

Therefore, we agree with the broad classification provided in Section-3 of the chapter, as it takes into account the diversity and specific requirements of various building types, which is essential for the provision of near uniform DCI.

Q.2- How the Infrastructure Providers (IPs) and Digital Communication Infrastructure Providers (DCIPs) can play an instrumental role in the effective development and deployment of DCI in Buildings or Area? Please provide your answers supporting the best practices followed internationally or national level in this regard.

Ans 2: Infrastructure Providers (IPs) can play an instrumental role in the effective development and deployment of Digital Communication Infrastructure (DCI) in Buildings or Areas. Their involvement is crucial to ensuring that DCI is designed, implemented, and maintained efficiently. Here are some ways in which IPs and DCIPs can contribute effectively:

1. Design and Planning:

- International Best Practice: IPs and DCIPs can follow international best practices in DCI design, considering factors like building layout, materials, and user requirements. They can also incorporate future-ready design principles to accommodate evolving technology.
- National Level Practice: In India, IPs can align with the National Digital Communications Policy 2018, which emphasizes the need for robust and extensive digital communication infrastructure. IPs can participate in consultations and collaborate with regulatory authorities to align their design and planning with national goals.

2. Infrastructure Deployment:

- International Best Practice: DCIPs can adhere to global standards for infrastructure deployment, ensuring that the **DCI is Sharable**, resilient, adaptable, and scalable. Best practices may include adopting industry standards for cabling and equipment.
- National Level Practice: IPs and DCIPs should align with Indian regulatory frameworks, such as the Addendum to the Model Building Bye-laws, which mandates fair and non-

discriminatory access to DCI. Compliance with national standards is essential for lawful deployment.

3. Maintenance and Monitoring:

- International Best Practice: DCIPs can follow international best practices for maintenance and monitoring, ensuring the ongoing reliability and quality of DCI. This may involve regular inspections, upgrades, and performance monitoring.
- National Level Practice: IPs should comply with national regulations that require them to provide unrestricted access for maintenance work to service providers. They should also ensure that charges, rentals, and power rates are fair, transparent, and non-discriminatory.

4. Collaboration and Sharing:

- International Best Practice: IPs and DCIPs can follow the global trend of facilitating infrastructure sharing. Collaboration and sharing of infrastructure with multiple service providers enhance competition and reduce the risk of monopolization.
- National Level Practice: IPs should work with regulatory authorities and industry associations to promote open access and sharing of DCI infrastructure. Collaboration with service providers and the government is vital to ensure that DCI is accessible to all.

5. Compliance with Local Regulations:

- International Best Practice: IPs and DCIPs should be aware of and comply with local regulations and building codes in various regions. Adherence to local rules and requirements is essential for lawful deployment.
- National Level Practice: IPs and DCIPs should be familiar with the specific regulations in India, such as state and union territory building bylaws. Complying with these bylaws ensures that DCI deployment aligns with local legal and structural requirements.

In summary, IPs and DCIPs can play a pivotal role in the development and deployment of DCI in Buildings or Areas by following international and national best practices, collaborating with regulatory authorities, and adhering to local regulations. Their commitment to high standards, efficient design, and fair access will contribute to the effective and widespread deployment of DCI, benefiting both users and the digital communication ecosystem

Q.3-What should be the key eligibility conditions including experience requirements for the Digital Connectivity Rating Agency (DCRA) proposed under the rating framework? Should there be any performance security for an agency to be DCRA and what should be criteria to evaluate their performances? Please also indicate broad scope of work covering additional aspects of Rating of Buildings for Digital Connectivity, if any, including area of operations [Nation-wide, State(s)/Union Territories(UTs) or Combination of States/UTs] of a DCRA.

Ans 3: Establishing a Digital Connectivity Rating Agency (DCRA) is a significant step to ensure the effective rating of buildings for digital connectivity. The eligibility conditions for a DCRA, experience requirements, performance security, and criteria to evaluate their performance are vital considerations. Additionally, the scope of work and the area of

operations of a DCRA need to be well-defined. Here are our recommendations on these aspects:

Key Eligibility Conditions for DCRA:

1. Experience and Expertise: The DCRA should have a demonstrated track record and extensive experience in the field of digital connectivity and telecommunications infrastructure. They should be well-versed in the complexities of in-building and outdoor digital infrastructure deployment.

2. Regulatory Compliance: The DCRA should comply with all relevant national and local regulations governing digital connectivity, infrastructure sharing, and building construction. They must also adhere to data privacy and security regulations.

3. Technical Competence: The agency should have a team of qualified professionals with expertise in digital connectivity, telecommunications, and information technology. They should possess the necessary certifications and skills to assess and rate the quality of digital connectivity in buildings.

4. Independence: The DCRA should operate as an independent and neutral entity, free from conflicts of interest with building owners, infrastructure providers, or service providers. This independence is crucial for unbiased and transparent assessments.

5. Financial Stability: The DCRA should be financially stable to ensure its long-term sustainability and credibility.

6. Performance Security for DCRA:

There should be a performance security requirement for the DCRA to ensure their commitment to delivering accurate and impartial ratings. This performance security could be in the form of a bond or financial guarantee. The security should be held in escrow and should be released once the DCRA has fulfilled its obligations according to the agreed-upon criteria and standards.

7. Criteria to Evaluate DCRA's Performance:

- Accuracy of Ratings: The DCRA's ratings should be compared to real-world digital connectivity experiences in the rated buildings. The accuracy and reliability of their ratings should be evaluated periodically.

- Timeliness: The agency's ability to conduct assessments and provide ratings in a timely manner is essential to ensure that building owners and users receive up-to-date information.

- Transparency: The DCRA's processes and methodologies for assessing digital connectivity should be transparent and open to scrutiny. This includes sharing assessment criteria and the sources of data used for ratings.

- Customer Feedback: Feedback from building owners, infrastructure providers, and service providers should be considered to evaluate the DCRA's performance. Customer satisfaction and trust in the agency are key indicators.

Scope of Work:

- The DCRA's scope of work should encompass the following aspects:

- Digital Connectivity Assessment: This includes evaluating the quality of digital connectivity within buildings, covering aspects like mobile coverage, Wi-Fi quality, network resilience, and user experience.

- Standard Development: The DCRA can contribute to the development of industry standards and best practices for digital connectivity in buildings.

- Consultation and Education: The agency can provide consultation and educational services to building owners, infrastructure providers, and service providers to help them improve digital connectivity.

- Nation-wide Operations: The DCRA's area of operation should ideally be nationwide to ensure comprehensive coverage and consistent assessment standards throughout the country.

In summary, the key eligibility conditions for a DCRA should revolve around experience, expertise, compliance, technical competence, independence, and financial stability. Performance security should be required to ensure commitment, and the criteria to evaluate performance should focus on accuracy, timeliness, transparency, and customer feedback. The agency's scope of work should encompass various aspects of digital connectivity assessment, standard development, consultation, and ideally operate nation-wide for broader coverage and impact.

Q.4- With reference to the rating criteria proposed in table at Section 6.2, kindly provide list of possible sub-criteria and corresponding sub-weightage against each criterion with justification? Please also indicate any other aspect which need to be included or modified in the proposed weightage criteria. Please provide your answer with suitable justifications.

Ans 4: The criteria and sub-criteria must be selected to represent key aspects of **resilience, future readiness, mobile connectivity, choice of providers, and user experience. The data must be collected in real-time, and the rating should be done in real-time as well, and should be measurable.**

Depending on the specific requirements and goals of the rating framework, criteria may be defined. For example, factors related to energy efficiency, environmental sustainability, and cybersecurity could be included if they are deemed important for the overall quality of digital connectivity.

It's also essential to ensure that the weightage criteria align with the broader objectives of the rating framework, such as promoting efficient, resilient, and accessible digital connectivity for buildings and areas.

Please adapt this structure to the actual criteria and specific requirements of the proposed rating framework in Section 6.2 for the most accurate and relevant results.

Q.5- What should be the template and minimum score for award of ratings i.e., star-based ratings or any other template like Platinum, Gold, Silver, and Bronze? Please justify your suggestions.

Ans 5: Determining the template and minimum score for the award of ratings is a crucial aspect of any rating framework. The choice of template (e.g., star-based ratings or others like Platinum, Gold, Silver, and Bronze) should be based on clear, easily understandable, and well-defined criteria.

- Clarity and Understandability: Star-based ratings are widely recognized and easily understood by the public. They provide a clear and intuitive indication of a building's digital connectivity quality.

- Incentive for Improvement: The star-based system offers an incentive for building owners to improve their digital connectivity infrastructure. Higher ratings can serve as a mark of prestige and attract tenants.

- Granularity: The proposed minimum scores and star ratings offer a reasonable level of granularity, allowing for distinctions between different levels of digital connectivity quality.

- Alignment with Common Practices: Using star-based ratings aligns with common practices seen in other rating systems (e.g., LEED for green buildings), making it familiar to stakeholders.

- Clear Performance Benchmarks: The minimum score criteria provide clear benchmarks for building owners and developers to strive for when enhancing their digital connectivity.

It's important to note that these specific rating names should be adapted to the specific criteria and goals of the rating framework in question. The threshold scores should reflect a comprehensive assessment of a building's digital connectivity, including criteria related to resilience, future readiness, mobile connectivity, choice of providers, and user experience, among others.

The chosen template and minimum scores should be transparent and well-communicated to building owners, infrastructure providers, and the public, facilitating informed decisions and driving improvements in digital connectivity

Q.6- The proposed workflow and process of Rating of Buildings for digital connectivity is given in Section-8 of this Chapter. Kindly provide your comments or suggestion for improvement of the proposed workflow and process of rating with justification, if any.
Ans 6:
1. Transparency and Accessibility:

Ensure that the workflow and process are transparent and easily accessible to all stakeholders, including building owners, infrastructure providers, service providers, and the public. Transparency builds trust in the rating system.
2. Clear Assessment Criteria:

Define and communicate the assessment criteria for digital connectivity in a clear and unambiguous manner. The criteria should encompass important factors like resilience, future readiness, mobile connectivity, choice of providers, and user experience, among others.
3. Standardized Assessment Methodology:

Develop a standardized methodology for conducting assessments. This includes standardized testing procedures, data collection methods, and evaluation criteria. Standardization ensures consistency in assessments.
4. Training and Certification:

Ensure that individuals responsible for conducting assessments, such as Digital Connectivity Rating Agency (DCRA) personnel, receive adequate training and certification to maintain high standards in assessments.
5. Data Verification and Validation:

Implement mechanisms for data verification and validation to ensure the accuracy and reliability of the information used for rating. This can involve on-site inspections and independent verification processes.
6. Stakeholder Engagement:

Involve all relevant stakeholders, including building owners, infrastructure providers, and service providers, in the rating process. Their input and feedback can be valuable for improving connectivity.
7. Regular Updates and Reassessments:

Establish a process for regular updates and reassessments of buildings' digital connectivity. Digital infrastructure evolves, so assessments should be ongoing to reflect changes over time.
8. User Feedback and Satisfaction:

Consider incorporating user feedback and satisfaction with digital connectivity as a component of the rating. The experience of end-users is a critical aspect of assessing connectivity quality.

9. Benchmarking and Best Practices:

Encourage building owners to benchmark their connectivity against industry best practices and standards. Promote the adoption of best practices for digital connectivity.

10. Flexibility and Adaptability:

Ensure that the rating process is flexible and adaptable to accommodate technological advancements and changes in the digital connectivity landscape. The framework should evolve to address emerging needs.

11. Public Awareness and Promotion:

Promote awareness of the rating system among the public and businesses. Effective marketing and outreach can drive the adoption of the rating system and encourage improvements in connectivity.

12. Compliance and Legal Framework:

Ensure that the rating process complies with all relevant legal and regulatory frameworks. Compliance with building bylaws and other regulations is crucial.

13. Continuous Improvement:

Establish mechanisms for continuous improvement in the rating process based on feedback, changing technology, and evolving needs.

Overall, the workflow and process of rating buildings for digital connectivity should be well-structured, transparent, and adaptable to promote digital infrastructure quality and support the evolving needs of users and stakeholders.

Q.7- Do you agree with the eligibility conditions for registration of DCRA, proposed in regulation 4? If no, what additional eligibility conditions for registration of DCRA may be incorporated, considering the present rating ecosystem in other domains in the country, with suitable justifications?

Ans 7: Some general suggestions for eligibility conditions for the registration of a Digital Connectivity Rating Agency (DCRA) based on common practices and the requirements of the rating ecosystem in various domains in the country:

1. Industry Experience:

DCRA should have a demonstrated track record and a minimum number of years of experience in the field of digital connectivity assessments. This experience ensures that the agency has a deep understanding of the industry and can provide accurate ratings.

2. Expertise and Certification:

The DCRA personnel should possess the necessary qualifications, certifications, and expertise in digital connectivity assessments. These certifications could include relevant technical

qualifications or certifications in areas like telecommunications, networking, or building infrastructure.

3. Independence:

The DCRA should operate independently and should not have any conflicts of interest with building owners, infrastructure providers, or service providers. Independence is crucial to ensure unbiased and impartial assessments.

4. Compliance with Regulations:

The DCRA should demonstrate compliance with all relevant national and local regulations governing digital connectivity assessments, infrastructure sharing, and building construction. This includes adherence to data privacy and security regulations.

5. Financial Stability:

The agency should have financial stability to ensure its long-term sustainability. This financial stability is essential for maintaining the credibility and reliability of the rating agency.

6. Infrastructure and Resources:

The DCRA should have the necessary infrastructure and resources to conduct assessments effectively. This includes access to testing equipment, data analysis tools, and personnel with the required technical skills.

7. Accountability and Governance:

The DCRA should have a transparent governance structure and accountability mechanisms. This structure should define the roles and responsibilities of key personnel and ensure that assessments are conducted with integrity.

8. Reporting and Documentation:

The agency should have a robust reporting and documentation process. This includes transparent reporting of assessment results, methodologies, and data sources.

9. Customer Feedback and Dispute Resolution:

The DCRA should establish mechanisms for handling customer feedback and resolving disputes. This ensures that building owners and stakeholders have a channel to address concerns or discrepancies.
10. Regular Audits and Quality Assurance:
- The DCRA should undergo regular audits and quality assurance processes to validate the accuracy and consistency of its assessments.

11. Continuous Improvement:
- The agency should commit to continuous improvement, adapting its assessment methodologies and criteria as technology and industry best practices evolve.

These eligibility conditions aim to ensure that the DCRA is qualified, unbiased, and credible. They should be adapted to the specific requirements and goals of the rating framework in the document and align with common practices in other domains in the country. The exact criteria may vary depending on the regulatory environment and the unique needs of the digital connectivity rating ecosystem.

Q.8- Do you agree with the process of registrations of DCRA proposed under regulation 7? If not, kindly suggest proposed changes with justifications.
Ans 8: The proposed process of registration of Digital Connectivity Rating Agencies (DCRAs) as outlined in regulation 7 appears to be generally reasonable and aligns with standard regulatory practices. However, there are some aspects that could be further refined and clarified for enhanced effectiveness and transparency. Here are some suggestions and justifications for potential improvements to the registration process:

1. Clear and Transparent Guidelines:

The registration process should provide detailed and transparent guidelines that clearly define the steps, requirements, and criteria for registration. This will help potential DCRAs understand the process better and prepare their applications accordingly.

2. Timelines and Notifications:

The registration process should establish clear timelines for each stage of the process, from application submission to approval or denial. Applicants should be notified of the status of their application at each stage. Transparency in timelines and notifications will help applicants plan accordingly and stay informed.
3. Appeals Mechanism:

While the document mentions that DCRAs may appeal a registration denial, the process for handling appeals should be explicitly defined. This includes specifying the appeal submission process, the review panel responsible for appeals, and the expected timelines for resolution.
4. Audit and Compliance Checks:

The process should outline how and when audits and compliance checks will be conducted for registered DCRAs. This should include a clear schedule and methodology for audits, as well as consequences for non-compliance.
5. Public Registry:

The document should establish a public registry of registered DCRAs, accessible to building owners and stakeholders. The registry should include key information about each registered DCRA, such as their contact details, registration status, and validity period. This registry will enhance transparency and accountability.

6. Training and Certification Requirements:

If not already addressed elsewhere in the document, the registration process should specify any training or certification requirements for individuals and personnel involved in DCRA assessments. This will ensure that assessment teams are qualified and competent.

7. Fees and Cost Structure:

The process should clarify any registration fees or costs associated with the application process. It should also specify whether these fees are refundable in the case of denial.

8. Eligibility Criteria Refinement:

The eligibility criteria for registration of DCRAs, as outlined in regulation 4, should be clearly defined and aligned with industry best practices. The process should ensure that DCRAs meet the highest standards in terms of expertise, independence, and integrity.

9. Data Privacy and Security Measures:

The process should specify that DCRAs must adhere to data privacy and security regulations to protect sensitive information during assessments.

Justifications:

These refinements aim to provide a more detailed and transparent registration process, enhance accountability, and ensure that registered DCRAs are fully qualified and competent. The suggested improvements aim to align the registration process more closely with industry best practices and regulatory standards.

It's important to consult with relevant stakeholders and experts to further refine the registration process and ensure that it meets the specific needs and goals outlined in the document.

Q.9- Please suggest code of conduct for DCRAs proposed to be included under regulation 8 including the criteria for fees to be charged by DCRAs from Property Managers for different types of Buildings.
Ans 9: Suggesting a comprehensive Code of Conduct for Digital Connectivity Rating Agencies (DCRAs) is essential to ensure the integrity, transparency, and accountability of their operations. Here are some key components and criteria for the proposed Code of Conduct for DCRAs, including guidelines for fees charged from Property Managers for different types of buildings:

Code of Conduct for DCRAs:

1. Impartiality and Independence:

DCRAs must remain impartial and independent when conducting assessments. They should not have any financial, ownership, or operational interests in the buildings they assess. This

includes not owning, operating, or having financial stakes in the building's digital connectivity infrastructure.

2. Transparency and Disclosure:

DCRAs should disclose all relevant information about their assessment methodologies, criteria, and potential conflicts of interest to property managers, building owners, and regulatory authorities.

3. Compliance with Regulations:

DCRAs must strictly adhere to the regulations, guidelines, and standards set forth by the regulatory authority governing the digital connectivity rating system.

4. Data Privacy and Security:

DCRAs should implement robust data privacy and security measures to protect sensitive information collected during assessments. They must comply with all relevant data privacy regulations.

5. Qualified Personnel:

DCRAs should employ qualified and certified professionals with the necessary expertise and experience to conduct accurate assessments. They must ensure that their assessment teams are trained and updated regularly.

6. Fair and Non-Discriminatory Practices:

DCRAs should ensure that their assessments, recommendations, and fees are applied fairly and without discrimination to all property managers, regardless of the type of building or ownership.

7. Clear Fee Structure:

DCRAs must establish a clear and transparent fee structure for their services. Fees should be reasonable and justifiable, commensurate with the scope of work, and not excessive. Fees should be based on the complexity and size of the building.

8. Fee Guidelines for Different Building Types:

DCRAs should provide a fee schedule that categorizes different types of buildings based on factors like size, complexity, and purpose. Fees can be tiered, with different rates for residential, commercial, industrial, or mixed-use buildings. The fee schedule should be published and readily available to property managers.

9. Conflict Resolution Mechanism:

DCRAs should establish a transparent mechanism for addressing conflicts and disputes with property managers or building owners. This mechanism should ensure a fair and unbiased resolution of issues.

10. Compliance with Building Bye-Laws:
- DCRAs should ensure that their assessments align with the building bye-laws and other relevant regulations, and they should assist property managers in achieving compliance when necessary.

11. Public Registry:
- DCRAs should agree to be listed on a public registry maintained by the regulatory authority. This registry will allow building owners and stakeholders to verify their registration status and access their contact information.

12. Continuous Improvement:
- DCRAs should commit to ongoing improvements in their assessment methodologies, staying updated with technological advancements, and adapting to industry best practices.

Justifications:

- This comprehensive Code of Conduct ensures that DCRAs operate with the highest standards of integrity, transparency, and professionalism. It safeguards the interests of property managers, building owners, and regulatory authorities while maintaining the credibility of the digital connectivity rating system.

- The fee guidelines based on building types ensure that fees are reasonable, proportionate, and reflective of the complexities of different buildings, fostering fairness and accessibility.

- Transparency and accountability are at the core of this Code of Conduct, aligning with the objectives of the digital connectivity rating system and promoting trust among all stakeholders.

Q.10- Do you agree with the general obligations of DCRA provided in Section III of the draft regulations? If not, please provide suggested changes with justifications.
Ans 10: DCRAs should maintain the highest standards of corporate governance while avoiding conflicts of interest among stakeholders.

Q.11- What should be the terms & conditions for the Property Managers to ensure use of ratings awarded to their buildings, in legalised manner?
Ans 11: To ensure the legal and proper use of ratings awarded to their buildings, Property Managers should adhere to specific terms and conditions. Here are some terms and conditions that may be established:

- Use in Marketing and Promotion: Property Managers can use the awarded ratings in their marketing and promotional materials, including brochures, websites, and advertisements. However, they should do so accurately and in a non-misleading manner.

- Non-Alteration: Property Managers should not alter or manipulate the rating certificates in any way that could misrepresent the rating or the rating agency's findings.

- Periodic Updates: Property Managers may be required to update their rating certificates periodically to ensure the information remains accurate and relevant.

- Disclosure of Ratings: Property Managers should disclose the ratings to potential tenants, residents, or investors as part of the property's information package.

- Accessibility: Property Managers should make the rating certificates readily accessible to interested parties, such as prospective tenants or buyers.

- Transparency: Property Managers must be transparent about the digital connectivity features and services offered in their buildings.

- Usage in Contracts: Property Managers can use the ratings as a reference point in contracts with service providers, such as telecom operators or internet service providers, to ensure the delivery of promised connectivity quality.

- Compliance with Regulatory Requirements: Property Managers should adhere to any regulatory requirements related to the use of ratings, ensuring that they do not violate any laws or regulations.

- Dispute Resolution: Establish a dispute resolution process in case there are disagreements or challenges related to the use of ratings.

- Legal Compliance: Property Managers should comply with all legal requirements regarding the use of ratings in their respective jurisdiction.

These terms and conditions help ensure that the ratings are used appropriately and responsibly, benefiting both Property Managers and the end users of the buildings. Legal counsel may be sought to draft and formalize these terms and conditions, taking into account the specific regulations and industry standards applicable in the region.

Q.12- Please suggest changes, if any, in the general obligations of Property Managers, provided under Section IV of draft regulations, with justifications.
Ans 12: The general obligations of Property Managers, as outlined in the draft regulations, play a crucial role in ensuring the effectiveness and fairness of the digital connectivity rating system. However, to further enhance these obligations, the following changes and justifications are suggested:

- Transparency in Ownership and Management: Property Managers should be required to provide clear and updated information regarding the ownership and management of the building or area. This transparency helps consumers make informed decisions about the property they are considering.

- Compliance with Local Regulations: Property Managers must commit to complying with all local regulations, including building codes, safety standards, and any other relevant laws. This obligation ensures that the building operates within legal boundaries.

- Data Privacy and Security: Property Managers should be obligated to implement and maintain robust data privacy and security measures to protect residents' and users' data. This is especially critical in the context of digital connectivity infrastructure, which may handle sensitive information.

- Accessibility: Property Managers should ensure that the digital connectivity infrastructure is accessible to all users, including those with disabilities. This promotes inclusivity and ensures that no one is left behind in terms of digital access.

- Renewable Energy Use: Property Managers should promote the use of renewable energy sources to power digital connectivity infrastructure. This commitment can reduce the environmental impact and contribute to sustainability.

- Environmental Responsibility: Property Managers should be responsible for the proper disposal of electronic waste related to digital connectivity infrastructure. This helps minimize the environmental footprint of the building.

- Consumer Education: Property Managers should educate residents and users about the digital connectivity infrastructure available within the building. This education should include instructions on how to access and effectively utilize these services.

- Consumer Feedback: Property Managers should establish formal mechanisms for residents and users to provide feedback and complaints related to digital connectivity. This feedback should be promptly addressed to enhance the quality of service.

- Support for Inspections: Property Managers should pledge full cooperation with DCRA inspections. This collaboration ensures the accuracy and reliability of the ratings and fosters trust within the system.

- Ethical Practices: Property Managers should commit to maintaining ethical practices in all interactions with service providers and residents. This includes ensuring fair and nondiscriminatory access to digital connectivity infrastructure, promoting healthy competition, and preventing monopolistic practices.

These suggested changes will help create a more comprehensive framework for Property Managers, emphasizing transparency, responsibility, and ethical behavior. This, in turn, will contribute to the success of the digital connectivity rating system and the satisfaction of building residents and users.

Q.13- Draft regulation 25 provides broad rating criteria and distribution of weightage out of total rating score at a scale of 100. Please suggest new criteria or changes in proposed criteria if any, and relevant sub-criteria for each criterion and their sub-weightage against respective main criteria with suitable justifications in context of rating of buildings for digital connectivity.
Ans 13: The draft regulations already provide a fairly comprehensive set of rating criteria and sub-criteria for assessing the digital connectivity of buildings. However, to further refine and

improve the system, the following suggestions for new criteria and changes to proposed criteria are provided:

A. Redundancy and Resilience Criteria:

- Criterion: Redundancy and Resilience
- Sub-Criteria:
    - Network Redundancy (weightage: 20)
    - Power Redundancy (weightage: 20)
    - Disaster Recovery Planning (weightage: 10)
- Justification: Redundancy and resilience are crucial for ensuring uninterrupted digital connectivity. Assessing network and power redundancy and disaster recovery planning will help in rating a building's ability to withstand network or power failures.

B. Scalability and Future-Readiness Criteria:

- Criterion: Scalability and Future-Readiness
- Sub-Criteria:
    - Infrastructure Scalability (weightage: 15)
    - Technology Integration (weightage: 15)
- Justification: The ability to accommodate future technologies and increased user demands is a key consideration. Infrastructure scalability and technology integration should be assessed to ensure long-term effectiveness.

C. Diversity in Wired Connectivity Criteria:

- Criterion: Diversity in Wired Connectivity
- Sub-Criteria:
    - Fiber Connectivity (weightage: 10)
    - Ethernet Connectivity (weightage: 10)
    - Diversity and Redundancy (weightage: 10)
- Justification: In addition to fiber and Ethernet connectivity, assessing the diversity and redundancy of wired connections is important for ensuring robust and reliable connectivity.

D. Wireless Network Quality Criteria:

- Criterion: Wireless Network Quality
- Sub-Criteria:
    - Mobile Network Performance (weightage: 10)
    - Wi-Fi Network Performance (weightage: 10)
- Justification: Wireless networks are critical for modern connectivity. Evaluating the performance of both mobile and Wi-Fi networks, including metrics like latency and data rates, is essential for user satisfaction.

E. Minimum Standards for Each Sub-Criteria:

    - Define minimum acceptable standards for each sub-criteria to ensure that even the lowest-rated buildings meet essential digital connectivity requirements.

o Review and Updating of Criteria:

Specify that the criteria, sub-criteria, and their weightages will be periodically reviewed and updated by the Authority to ensure their relevance and alignment with technological advancements and user expectations.

These suggested changes and additions aim to provide a more thorough and adaptable rating system for digital connectivity, ensuring that it meets the evolving needs of consumers and keeps pace with technological advancements.

Q.14- The score threshold for ratings is provided in draft regulation 26. Do you agree with the proposed thresholds? If no, please suggest changes with justification and global references, if any.
Ans 14: The proposed score thresholds for ratings provided in draft regulation 26 appear to be reasonable and can be considered a good starting point for rating buildings for digital connectivity. However, it's important to ensure that the thresholds are balanced and realistic. The suggested thresholds, which are based on a scale of 100, provide a clear distinction between different rating levels, making it easier for consumers to understand the quality of digital connectivity in a building. There's no single global standard for such rating thresholds, as they may vary based on regional or national contexts, technology infrastructure, and user expectations.

That said, the suggested thresholds could be subject to periodic review and adjustments based on evolving technology, user requirements, and feedback from Property Managers, users, and other stakeholders. Regular reviews would help in maintaining the relevance and effectiveness of the rating system over time.

In conclusion, while the proposed score thresholds appear reasonable and provide clear distinctions, a mechanism for periodic review and adjustment should be established to ensure their continued relevance and accuracy in assessing digital connectivity in buildings. This approach will help in aligning the rating system with evolving technology and user expectations.