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CONSUMER SERVICE RATING OF DISCOMs (CSRD)

Report | FY 2020-21






CONSUMER SERVICE RATING OF DISCOMs (CSRD)

FY 2020-2021

आर. के. सिंह
R. K. SINGH

सत्यमेव जयते

विद्युत मंत्री एवं
नवीन और नवीकरणीय ऊर्जा मंत्री
भारत सरकार

Minister of Power and
Minister of New & Renewable Energy
Government of India

The Power Sector in India has been transformed in the recent years - transitioning from power deficit to power surplus, the whole nation connected to one grid and universal access to electricity. The power distribution sector however continues to be the critical link across the value chain despite the various reforms and initiatives introduced by the Government of India. Also for a long time, our focus has centered on addressing the infrastructural, financial, and market-based needs of the sector. Post the successful deployment of Saubhagya Scheme, the priority now is improving the viability of DISCOMs and improving consumer centric services.

As we aim to reach USD 5 Trillion economy by 2025, power sector has a critical role to play in enabling all sectors to contribute in this ambitious goal. A financially sound and operationally strong power sector is vital for achieving the Government of India's mandate of enabling ease of doing business and ease of living. The Power Distribution sector is poised to play a pivotal role in achieving these mandates by improving the service levels to the end consumers and these improved services will act as a key driver for the activities envisaged for achieving the economic growth.

Electricity Rules 2020 is one of the evolving steps taken to enable the transformation from a mere power supplying agency to a holistic consumer focused service provider. In addition to the changes adopted across the regulatory aspect, it gives me immense pleasure to announce the institution of a periodical report on Consumer Services - Rating of DISCOMs (CSRD) that assesses the performance of DISCOMs w.r.t consumer centric services. The report assesses the DISCOMs on the basis of their performance across the identified parameters and highlights the leading DISCOMs and their respective best practices.

This report will be useful to utilities, policymakers, regulators, investors, and other key stakeholders in generating critical insights of the industry. The report will also help in identifying the main areas which the participating utilities will need to target for improvement in quality of their services delivered to the consumers.

(R. K. SINGH)

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कृष्ण पाल गुर्जर
KRISHAN PAL GURJAR

सत्यमेव जयते

आज़ादी का अमृत महोत्सव

केन्द्रीय राज्य मंत्री,
विद्युत और भारी उद्योग मंत्रालय
भारत सरकार, नई दिल्ली
UNION MINISTER OF STATE FOR
POWER & HEAVY INDUSTRIES
GOVERNMENT OF INDIA, NEW DELHI

संदेश

भारतीय विद्युत क्षेत्र में प्रचालनों के प्रबंधन के लिए बड़े पैमाने पर निरंतर बदलाव हुए हैं। सौभाग्य योजना की सफलता के कारण ही भारतीय विद्युत क्षेत्र ने 2018 में 100% विद्युतीकरण के विशाल लक्ष्य को प्राप्त किया था। यह विद्युत क्षेत्र के साथ-साथ हमारे हितधारकों और हम सबकी ऐतिहासिक उपलब्धियों में से एक है। हालांकि, यह सिर्फ एक छोटी सी झलक भर है। अब हम विद्युत तंत्र के प्रमुख अंग यानी उपभोक्ताओं के हितों पर ध्यान केंद्रित कर रहे हैं। ऐतिहासिक रूप से, विद्युत क्षेत्र हमेशा से ही कार्यशील रहा है, पर हमारा लक्ष्य इस कार्यशील विद्युत क्षेत्र को एक समग्र उपभोक्ता केंद्रित सेवा उद्योग में बदलना है।

विद्युत वितरण कंपनियां (डिस्कॉम्स) विद्युत क्षेत्र और उपभोक्ताओं के बीच एकमात्र इंटरफेस होने के कारण परिकल्पित लक्ष्य को प्राप्त करने में महत्त्वपूर्ण भूमिका निभाती हैं। सीजीआरएफ (उपभोक्ता शिकायत निवारण तंत्र) की स्थापना, विद्युत नियमावली 2020 को लागू करना और शिकायत समाधान के लिए कॉल सेंटर की स्थापना जैसी समस्याओं के प्रति बेहतर और समर्पित सेवाओं के माध्यम से ग्राहकों को संतुष्ट करने के लिए पहले से ही कई पहल शुरू की गई हैं। हालांकि, डिस्कॉम्स द्वारा दी जाने वाली उपभोक्ता केंद्रित सेवाओं की कुशलता और प्रभावशीलता को मापने के लिए कुछ समय से एक रेटिंग फ्रेमवर्क की जरूरत को महसूस किया जा रहा था।

मुझे यह जानकर प्रसन्नता हो रही है कि आरईसी लिमिटेड द्वारा "डिस्कॉम उपभोक्ता सेवा रेटिंग" पर इस तरह की पहली रिपोर्ट तैयार की गई है। यह रिपोर्ट मुख्य रूप से प्रमुख प्रचालन और उपभोक्ता-केंद्रित मापदंडों में डिस्कॉम्स के प्रदर्शन को मापने पर केंद्रित है। यह रिपोर्ट राष्ट्रीय स्तर पर एक संक्षिप्त रेटिंग प्रणाली के माध्यम से डिस्कॉम्स के प्रदर्शन को दर्शाती है, जिसमें सभी श्रेणियों और इस क्षेत्र की सर्वोत्तम प्रणालियों में सबसे बेहतर काम करने वाली वितरण कंपनियों को भी दर्शाया जाता है।

मुझे पूरा भरोसा है कि विद्युत क्षेत्र को समझने में इस रिपोर्ट से एक महत्त्वपूर्ण अंतर्दृष्टि मिलेगी तथा इससे अपने प्रदर्शन का विश्लेषण करने और वर्तमान स्थिति को बेहतर बनाने के लिए ध्यान दिए जाने योग्य प्रमुख क्षेत्रों की पहचान करने और रिपोर्ट के अगले संस्करण में अपनी स्थिति को बेहतर बनाने में विद्युत संस्थाओं और प्रमुख हितधारकों को मदद मिलेगी।

(कृष्ण पाल गुर्जर)

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Secretary
Government of India

सत्यमेव जयते

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MESSAGE

The power sector plays a vital role in the economic development of the country. Although the sector has undergone a transformational change in power generation and transmission, there is a need for strengthening consumer services delivery to improve citizens' ease of living. As power distribution companies have to adapt to the fast-changing realities of the sector, it is important to understand the specific nuances of consumer service needs across all DISCOMs to set a performance benchmark and get a holistic picture of the national scenario.

In the last few years, Ministry of Power has been coming out with annual Integrated Rating for evaluating performance of State Power Distribution utilities on a range of parameters covering operational, financial, regulatory and reform parameters. But there was a need to study the consumer service aspects in a focussed manner and to drive a healthy competition amongst DISCOMs for enhancing consumer experience and promoting inter-se learning.

I am extremely happy that the first such report "Consumer Services Rating of DISCOM" for FY 2020- 2021 has been prepared by REC Limited delving into the key parameters such as operational reliability, connection services, Metering/Billing and collection services, fault rectification and grievance redressal. I hope the report will facilitate knowledge sharing and bring forth actionable insights for power sector stakeholders including policymakers and regulators.

I appreciate the efforts made by officers of the Ministry, State Distribution utilities, and REC Limited in coming out with first ever rating of distribution utilities on consumer services and firmly believe that it will be a significant move in the direction of taking electricity consumer services in India to global standards.

(Alok Kumar)

RIGHT TO INFORMATION

स्वच्छ भारत
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विवेक कुमार देवांगन, भा.प्र.से.
अध्यक्ष एवं प्रबंध निदेशक
Vivek Kumar Dewangan, IAS
Chairman & Managing Director

सत्यमेव जयते

आर ई सी REC
असीमित ऊर्जा, अनन्त संभावनाएं
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REC Limited | आर ई सी लिमिटेड
(भारत सरकार का उद्यम) / (A Government of India Enterprise)

India has made huge strides by achieving universal access of electricity. The Government of India (GOI) has introduced several reforms like DDUGJY, IPDS and Saubhagya that aim to strengthen the power sector and improve power delivery to consumers. The Government's focus is now shifting to improving upon various consumer service parameters of distribution companies (DISCOMs) as it has a key role in ensuring quality power to all at an affordable price for facilitating India's socio-economic progress. Thus, it is critical for DISCOMs to have a regular evaluation of their performance and ready-to-use actionable information that can help them make informed decisions. In our continuous endeavour to facilitate the exchange of information, we are pleased to release the "Report on Consumer Services Rating of DISCOM 2020-2021". This report captures key insights on the consumer service experience of 70 participating DISCOMs comprising both state-owned and private-owned.

While a number of parameters have been covered, we aim to expand the ratings in the subsequent editions with a consumer survey to get insights into consumer perception of DISCOMs' service delivery. We hope the report will facilitate a spirit of healthy competition amongst DISCOMs to enhance consumer experience by promoting inter-se learning of best practices being followed.

I take this opportunity to place my appreciation for efforts of REC team and acknowledge the guidance and support provided by the Ministry of Power and distribution utilities in this rating exercise.

(Vivek Kumar Dewangan)

R. LAKSHMANAN, IAS
Executive Director

सत्यमेव जयते

आरईसी REC
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I would like to express my sincere gratitude to Shri R. K. Singh, Hon'ble Minister of Power and New & Renewable Energy, for placing the trust in REC Limited and providing the opportunity to undertake this comprehensive exercise for measuring the level of consumer service with respect to electricity distribution in India.

REC Limited is grateful to Shri Alok Kumar, IAS (Secretary Power, Govt. of India), Shri Vishal Kapoor (Joint Secretary- Distribution) and other ministry officials for their continued support and guidance. Their key inputs and strategic vision helped us strengthen the methodology adopted for the exercise.

I extend special thanks to Shri Sanjay Malhotra, IAS (former Chairman and Managing Director of REC Limited) for his esteemed guidance and mentorship throughout the DISCOM Consumer Service Rating (DCSR) exercise. His valuable insights and feedback aided in generating key insights and fine tuning the ratings, which would help DISCOMs improve upon key parameters to provide superior services to the end consumers.

I am thankful to Shri Vivek Kumar Dewangan, IAS (Chairman and Managing Director, REC Limited) for his continuous support during conclusion of this exercise and facilitating successful publication of the report.

Last but not the least, untiring efforts of all personnel engaged in enabling this exercise are gratefully acknowledged.

(R. Lakshmanan)

REC Limited
(Formerly Rural Electrification Corporation Limited)
A Government of India Enterprise

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RECLimitedIndia RECLimited REC Limited

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Ladakh Power Development Department (LPDD)

MESCOM

MGVCL

Power & Electricity Department, Govt. of Mizoram (MPED)

MPMKVVCL Bhopal Recruitment

MAHAVITARAN
Maharashtra State Electricity Distribution Co. Ltd.

MSPDCL
Manipur State Power Distribution Company Limited

NB
तमसो मा ज्योतिर्गमय

NPCL
NOIDA POWER COMPANY LIMITED

Department of Power, Nagaland (NPD)

Electricity Department மின் துறை
Government of Puducherry (India)

PGVCL

PSPCL

SBPDCL
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WBSEDCL

EXECUTIVE SUMMARY

Government of India (GoI), through Ministry of Power (MoP), has made huge investments over the years through multiple schemes like APDRP, RAPDRP, DDUGJY, IPDS, SAUBHAGYA, UDAY to accord electricity access and attain improvement across key areas of state owned DISCOMs. The implementation of SAUBHAGYA enabled electrification of 2.63 crores households across rural and urban areas in India over a span of 18 months, fulfilling the GoI vision of attaining universal electricity access. The improved electricity access for households has been acknowledged by various independent sources. There are 30.7 crore consumers connected to electricity grid, mandate of serving whom rested upon the state and privately owned DISCOMs.

The offset of each of the reforms, schemes, interventions by central and state governments, brought about an incremental change across the sectors in terms of increased infrastructure density, consumer base, system complexities and service/performance parameters. Despite, numerous interventions, some of the key service parameter like power quality/reliability remains an area of concern.

Electricity right of consumer rules, 2020 introduced by MoP, is a turning point in the sector and thrusts upon bringing about a paradigm shift in bringing Consumers to Centre Stage. Recently, GoI has launched the Revamped Distribution Sector Scheme (RDSS) in 2021 with an objective to reduce impacts on quality, reliability and affordability of power supply by improving key operational parameters such as AT&C losses and ACS-ARR gap. The above stated objective thrusts upon the need to work with states for close monitoring of DISCOMs across critical operational parameters. The need for improved consumer service levels driven by enhanced consumer awareness, thrusts upon need to assess the service levels being accorded by DISCOMs. Accordingly, a Consumer Service Rating DISCOM (CSRD) was conceptualized to carry out a rating exercise of DISCOMs based on various key service parameters which have direct or indirect impact on the existing as well as new potential consumers.

Though, numerous rating exercises for DISCOMs are undertaken with varying coverage of operational and financial parameters, this report specifically highlights the performance of DISCOMs across key performance parameters by gauging the strength of service levels and then rating DISCOMs on predefined scale(s).

Consumer Rules 2020:

"It is the right of consumer to have minimum standards of service for supply of electricity from the distribution licensee."

The CSRD is one of the significant steps taken towards creating a path of accountability for the DISCOMs and awareness amongst consumers on multiple parameters that directly impacts their satisfaction levels. This periodical report aims to put forward a methodology to track the performance of the DISCOMs against identified parameters and inculcate an environment of healthy competition amongst each other.

- 70 DISCOMs
- 30+ crore consumers

OBJECTIVE OF THE STUDY

The CSRD exercise will enable the DISCOMs to introspect their performance across various service parameters, undertake a comparative performance assessment with peer DISCOMs and take corrective measures. This will also enlighten the power users on the levels of service parameters being accorded by their jurisdictional DISCOM. The outcome of this study will be a key decision-making driver in a state-owned utility led nearly monopolistic power sector of India. The study is structured with the following objectives:

- Identify optimum set of key service and performance parameters of DISCOMs
- Track performance of DISCOMs across the identified aspects over a period of time
- Develop a spirit of healthy competition amongst DISCOMs to enhance consumer experience
- Enable the DISCOMs to identify the gap areas and share best practices

In total 70 DISCOMs were approached, out of which there was lack of participation from 4 DISCOMs. Furthermore, due to insufficiency of data, 6 DISCOMs were excluded. Thus, in total 60 DISCOMs were evaluated for the rating exercise. Each DISCOM was assigned scores, based on which grades were assigned. The DISCOMs are graded and segmented across the three broad categories:

1. General
2. Urban
3. Special Category

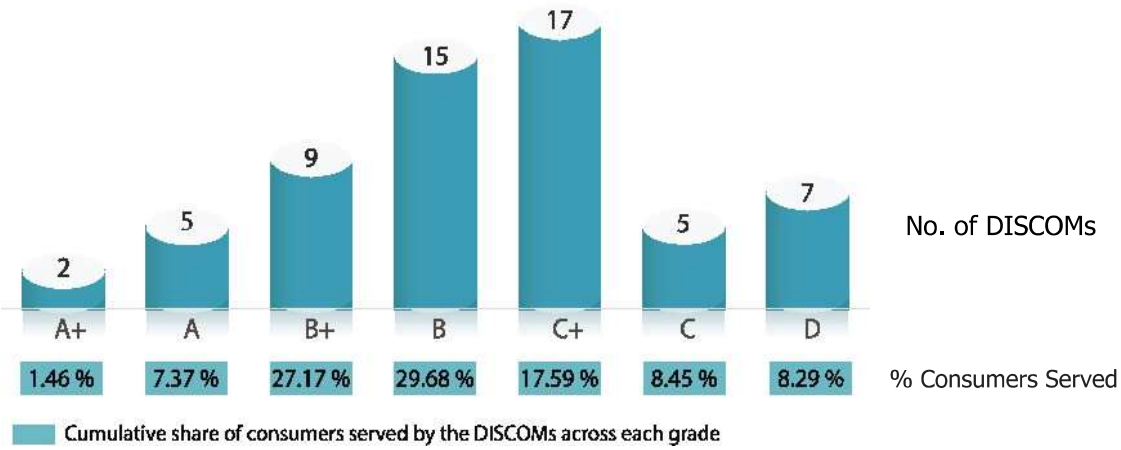
Of the 60 DISCOMs being rated:

- Only 2 DISCOMs are able to secure the highest grade i/e A+
- 7 DISCOMs have secured the lowest least grade i.e., D
- Maximum Nos of DISCOMs (17) have secured C+ grade

Since this rating exercise to assess the consumer services, it is equally important to identify the quantum of consumers susceptibility to an overall service level from their respective DISCOMs. Accordingly, it is observed that:

- 0.4 Crore (1.46%) consumers across 2 DISCOMs are getting services of A+ grade
- 9 Crore (29.68 %) consumers across 15 DISCOMs are getting services of B grade

- 5.3 Crore (17.59%) consumers across 17 DISCOMs are getting services of C+ grade
- 2.52 Crore (8.2%) consumers across 7 DISCOMs are getting services of D grade
- Cumulatively 14.3 Crore (47%) consumers covered across 32 DISCOMs, are getting services of B and C+ grade



DISCOM RATINGS

The data/information was finalized for 60 DISCOMs cumulatively serving 30.56 Cr consumers and accordingly they were considered for marking/rating activity. While some DISCOMs have secured leading positions with higher grades, many have been identified with parameters to improve upon. The table below are grades secured by DISCOMs corresponding to each of the 4 key performance parameters.

Urban DISCOMs

S No	State	DISCOM	Operational Reliability (OR)	Connections and Other Services (CoS)	Metering, Billing and Collections (MBC)	Fault Rectification & Grievance Redressal (FRGR)	Aggregate Grades
1	Delhi	BRPL	A+	A	A+	A	**A+**
2	Delhi	BYPL	A+	A	A+	A	
3	Delhi	TPDDL	A+	A	B+	A+	**A**
4	Uttar Pradesh	KESCo	A	A	B+	B+	
5	Maharashtra	AEML	A+	B+	C	B+	**B+**
6	Maharashtra	TPCL	A+	B	C	A	
7	Chandigarh	CED	A+	D	C	D	**C+**
8	D & N Haveli	DNHPDCL	B+	D	C	D	
9	Maharashtra	BEST	A+	D	D	D	
10	Puducherry	PED	A+	D	D	D	

Special Category DISCOMs

S No	State	DISCOM	Operational Reliability (OR)	Connections and Other Services (CoS)	Metering, Billing and Collections (MBC)	Fault Rectification & Grievance Redressal (FRGR)	Aggregate Grades
1	Uttarakhand	UPCL	A	B+	C+	A	**B+**
2	Himachal Pradesh	HPSEBL	A	D	C+	C	**B**
3	Manipur	MSPDCL	A	C+	D	D	
4	Ladakh	LPDD	A	B	D	D	**C+**
5	Tripura	TSECL	A+	B	D	D	
6	Assam	APDCL	D	B	C+	C	**C**
7	Arunachal Pradesh	APDA	C	D	D	B	**D**
8	Jammu & Kashmir	JPDCL	C	B	D	B	
9	Jammu & Kashmir	KPDCL	D	B	D	B	

General DISCOMs

S No	State	DISCOM	Operational Reliability (OR)	Connections and Other Services (CoS)	Metering, Billing and Collections (MBC)	Fault Rectification & Grievance Redressal (FRGR)	Aggregate Grades
1	Andhra Pradesh	APCPDCL	A+	A	C+	A	**A**
2	Andhra Pradesh	APSPDCL	A+	A	B	A	
3	Telangana	TSSPDCL	A+	A	B+	B+	
4	Andhra Pradesh	APEPDCL	A+	A	B	A	**B+**
5	Kerala	KSEBL	A+	A	C	A+	
6	Maharashtra	MSEDCL	A	D	C+	A	
7	Rajasthan	AVVNL	B+	B+	C+	A	
8	Rajasthan	JVVNL	A	A	B	A+	
9	West Bengal	WBSEDCL	A	A	C+	C	
10	Gujarat	DGVCL	A+	C	D	C	**B**
11	Gujarat	MGVCL	A+	A+	D	D	
12	Gujarat	UGVCL	A+	B	D	D	
13	Haryana	DHBVNL	B+	D	C+	B+	
14	Karnataka	BESCOM	B+	A	C+	C	
15	Karnataka	CESCOM	B	B+	C	B	
16	Madhya Pradesh	MPMKVVCL	A+	B	D	A	
17	Madhya Pradesh	MPPoKVVCL	A	B+	D	C	
18	Madhya Pradesh	MPPsKVVCL	A+	B+	D	A	
19	Rajasthan	JdVVNL	B+	B+	C+	A+	
20	Tamil Nadu	TANGEDCO	A	A	D	A	
21	Telangana	TSNPDCL	A	D	C+	C	
22	Uttar Pradesh	NPCL	B	B+	B+	A	
23	Bihar	NBPDCL	B+	D	D	D	**C+**
24	Bihar	SBPDCL	B+	D	C	D	
25	Chhattisgarh	CSPDCL	A	A	D	C	

S No	State	DISCOM	Operational Reliability (OR)	Connections and Other Services (CoS)	Metering, Billing and Collections (MBC)	Fault Rectification & Grievance Redressal (FRGR)	Aggregate Grades
26	Goa	GED	A	D	D	D	
27	Gujarat	PGVCL	A	D	D	D	
28	Haryana	UHBVNL	C+	A	C	C+	
29	Karnataka	GESCOM	B	B+	C	C+	
30	Odisha	TPCODL	A+	D	D	D	
31	Odisha	TPNODL	B+	B	D	D	
32	Odisha	TPWODL	A+	B	D	D	
33	Punjab	PSPCL	A	D	D	B+	
34	Karnataka	MESCOM	B	D	D	C	**C**
35	Odisha	TPSODL	A	D	D	D	
36	Uttar Pradesh	PsVVNL	D	A	C	B	
37	Uttar Pradesh	PuVVNL	D	D	D	A	
38	Jharkhand	JBVNL	D	B+	D	B	**D**
39	Karnataka	HESCOM	C	D	C	D	
40	Uttar Pradesh	DVVNL	D	D	C	B+	
41	Uttar Pradesh	MVVNL	D	D	C	C	

Note: Serial No.s across the tables above do not represent the overall ranking among the graded DISCOMs

Excluded DISCOMs

S No	State	DISCOM	Reasons for the exclusion of DISCOM	Aggregate Grades
1	West Bengal	CSEC Kolkata	Did not participate	**E**
2	Gujarat	Torrent Dahej	Did not participate	
3	Gujarat	Surat	Did not participate	
4	Gujarat	Ahmedabad	Did not participate	
5	Nagaland	NPD	Insufficient data to rate	
6	Lakshadweep	LED	Insufficient data to rate	
7	Sikkim	SPD	Insufficient data to rate	
8	Meghalaya	MeECL	Insufficient data to rate	
9	Mizoram	MPED	Insufficient data to rate	
10	Andaman and Nicobar Islands	EDAN	Insufficient data to rate	

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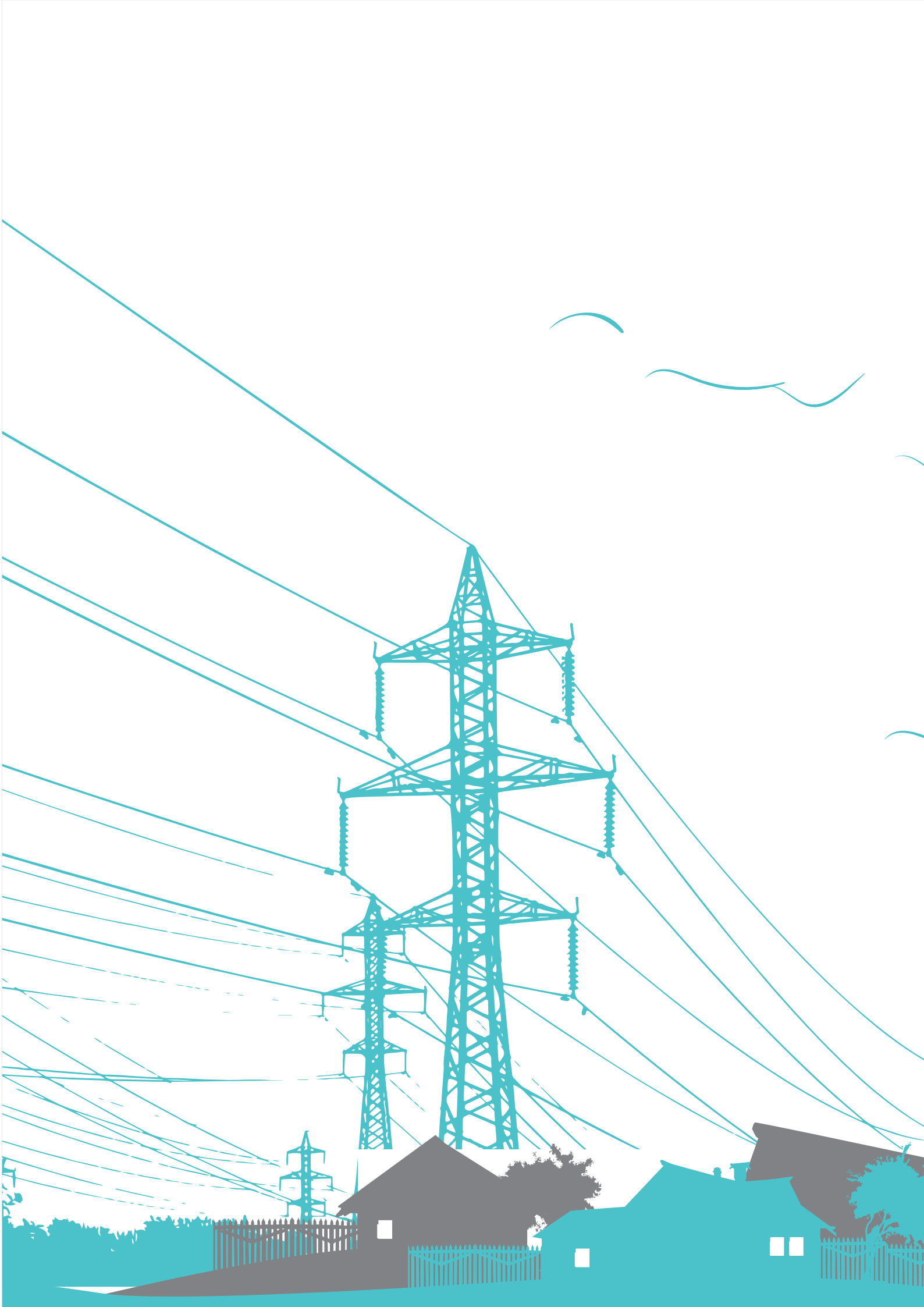
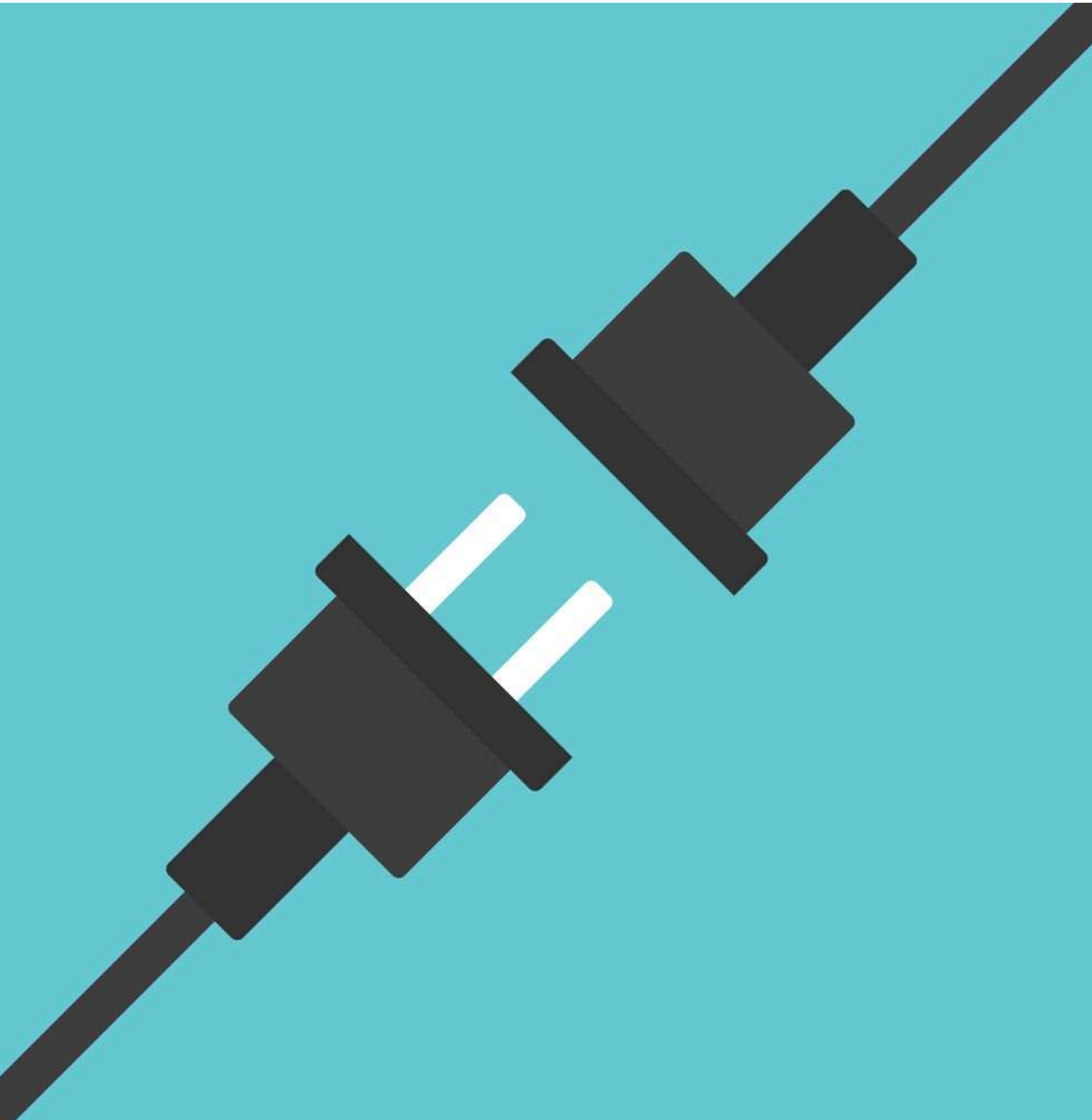


Need for a Comprehensive Rating Exercise



NEED FOR A COMPREHENSIVE RATING EXERCISE

Over the years, DISCOMs have been facing some of the perennial issues like theft, inefficient operations, poor financial conditions, inadequate system maintenance etc. GoI has introduced a slew of reforms/ schemes with an intent to plug these issues and bring about a change in the power distribution sector. These have brought about a transformational change, but the larger objective of ensuring superior services to all the electricity users remains unattended.

The mainstreaming of the power supply to the consumers and the peer performance, enforces DISCOMs to introspect the key services they accord to the consumers. Moreover, this becomes vital as the power system progresses with increased system complexities. Some of the key drivers from DISCOM perspective, that give rise to need for carrying out benchmarking/rating exercises are:

1. Increasing Nos of consumers connected to electricity grid
2. Adherence to Electricity Consumer Rules 2020
3. Penal actions/provisions against non-compliance to performance standards
4. Deteriorating financial positions

The increasing focus on the consumer services, throw a light on need for rating the DISCOMs. Power Finance Corporation (PFC Limited) has been carrying out yearly integrated rating exercises rating DISCOMs on some key operational parameters like AT&C losses, Power Purchase Cost, etc. Also, there are some key independent studies, research done in past to assess the performance of DISCOMs on some select parameters.

Some of the studies have assessed the state of grievance redressal and consumer protection across power sector for various states and power sector utilities. Also, some of the state DISCOMs have conducted study on the effectiveness of consumer grievance redressal mechanism and compliance of standards of performance.

However, the larger aspect of making the DISCOMs realize their performances w.r.t to peers, delving into micro level performance parameters and achieving improved service levels for electricity users remains unaddressed. Accordingly, there is an increasing need to institutionalise a rating/performance assessment exercise considering the micro level consumer service aspects.

10.5%
Consumer growth (2016 -2021)

12%
Increase in total energy demand (2016-21)

~3.9 %
Reduction of Distribution Loss (2016-21)

~4 %
Reduction of PAT (2016-21)

Accordingly, MoP has entrusted REC Limited as designated agency to undertake a comprehensive study to analyse the performance of DISCOMs across the key operational parameters that would subsequently impact the quality of services extended to consumers. This report (CSRD-21) consolidates information across all the identified parameters for an evaluation period of FY 2020-21. Thus, helping the counterparts to identify the existing gaps and improve upon their performance and service quality across the areas of delivery.

The annual ranking report will also be available to the public, creating pathways for greater accountability in the provision of electricity across states. However, an important aspect to be answered objectively is that what is need of Consumer Service Rating of DISCOM (CSRD) report.

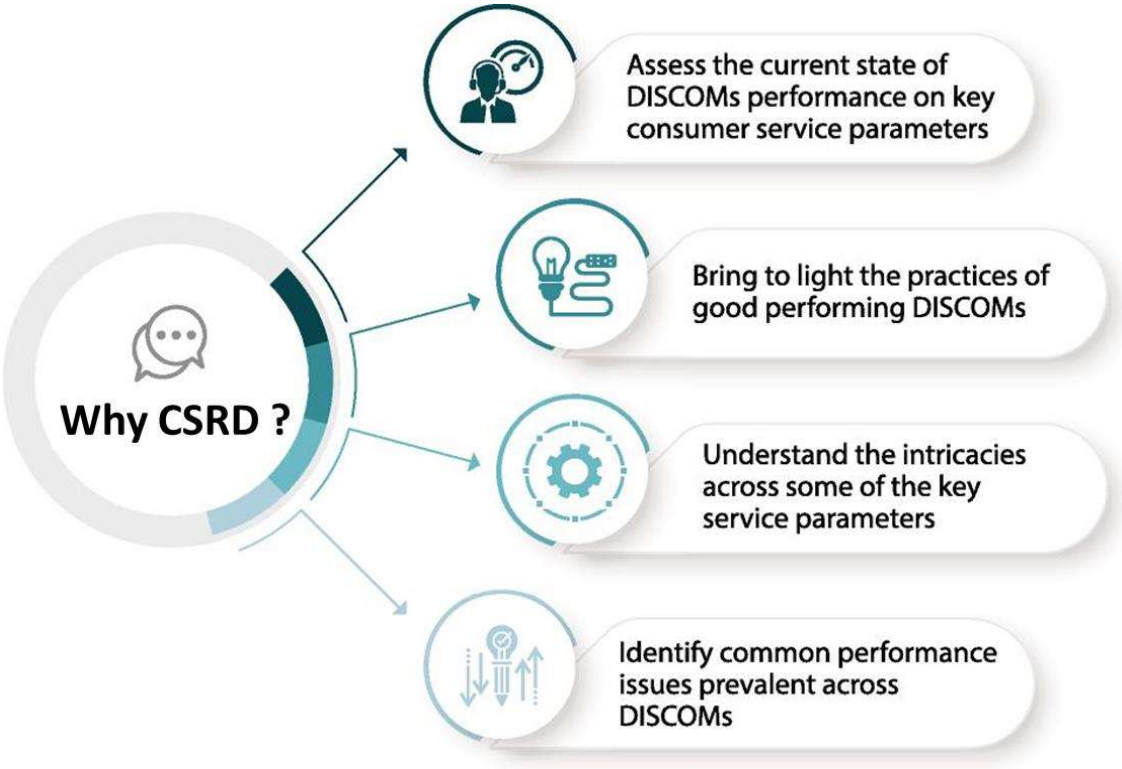


Figure 1 : Key Aspects of CSRD exercise

CSRD AT A GLANCE

Task Force Creation & Industry Experts Involvement

Comprehensive Framework

4 Key Parameters
23 Sub Parameters

750+
Data Points per DISCOM
100+ OR | 270+ CoS | 300+ MBC | 25+ FRGR

7 step approach
4 Stages of Verification

100+
Field Visits

7
Rounds of Workshops and Discussions

19
ROs Involved

70
DISCOMs approached

180
Days exercise

30+ Crore
Consumers

30+ States and Union Territories

Rating of Utilities

RATING OF UTILITIES

The data derived through the predefined methodologies was analysed and synthesized for assessing the performance of DISCOMs in the form of a quantifiable score. The scores were subsequently assigned with grades as per a defined grade scale to form a consolidated grade table. This chapter summarizes the performance of DISCOMs across various service parameters at a broader level.

2.1 DISCOMS PERFORMANCE – OVERVIEW

In total 70 DISCOMs were approached, out of which there was lack of participation from 4 DISCOMs. Furthermore, due to insufficiency of data, 6 DISCOMs were excluded. Thus, in total 60 DISCOMs were evaluated for the rating exercise. As highlighted in previous sections, the requisite data/information could be finalized for 60 DISCOMs cumulatively serving 30.56 Cr consumers and accordingly they were considered for marking/rating activity.

Grade spread of DISCOMs

2 DISCOMs A+	5 DISCOMs A	9 DISCOMs B+	15 DISCOMs B	17 DISCOMs C+	5 DISCOMs C	7 DISCOMs D
Delhi BRPL BYPL	**Andhra Pradesh** APSPDCL APCPDCL **Delhi** TPDDL **Telangana** TSSPDCL **Uttar Pradesh** KESCo	**Andhra Pradesh** APEPDCL **Kerala** KSEBL **Maharashtra** AEML TPCL MSEDCL **Rajasthan** AVVNL JVVNL **Uttarakhand** UPCL **West Bengal** WBSEDCL	**Gujarat** MGVCL DGVCL UGVCL **Haryana** DHBVNL **Himachal Pradesh** HPSEBL **Karnataka** BESCOM CESCOM **Madhya Pradesh** MPPsKVVCL MPMKVVCL MPPoKVVCL **Manipur** MSPDCL **Rajasthan** JdVVNL **Tamil Nadu** TANGEDCO **Telangana** TSNPDCL **Uttar Pradesh** NPCL	**Bihar** SBPDCL NBPDCL **Chandigarh** CED **Chhattisgarh** CSPDCL **Dadra & Nagar Haveli** DNHPDCL **Goa** GED **Gujarat** PGVCL **Haryana** UHBVNL **Karnataka** GESCOM **Ladakh** LPDD **Maharashtra** BEST **Odisha** TPCODL TPNODL TPWODL **Puducherry** PED **Punjab** PSPCL **Tripura** TSECL	**Assam** APDCL **Karnataka** MESCOM **Odisha** TPSODL **Uttar Pradesh** PsVVNL PuVVNL	**Arunachal Pradesh** APDA **Jammu & Kashmir** JPDCL KPDCL **Jharkhand** JBVNL **Karnataka** HESCOM **Uttar Pradesh** DVVNL MVVNL

- 7 DISCOMs scored A+ and A grades – 3 privately owned (BRPL, BYPL, and TPDDL) and 4 state owned (APSPDCL, APCPDCL, TSSPDCL and KESCo)
- Maximum concentration of DISCOMs - 32 Nos (53%) across B and C+ grade
- DISCOMs with B+ and B grade serving - ~57% consumers
- 15 Nos of DISCOMs with B grade serving – 29% consumers

FAST FACTS

OVERALL SCORE

National Average (scores): *60.90*

DISCOMs above national average: *29*

States/UTs in special category: *08*

DISCOMs in Special category states: *09*

Urban DISCOMs: *10*

2.1.1 DISCOMS PERFORMANCE – OVERVIEW

It is vital to assess the discoms performance with an ownership, demographic and geographical perspective, this would enable identification of some key aspects impacting the performance of DISCOMs.

DISCOM ownership perspective								
Grades	A+	A	B+	B	C+	C	D	Total
Private DISCOMs	2	1	2	1	3	1	0	10
State Owned DISCOMs	0	4	7	14	14	4	7	50
Total	**2**	**5**	**9**	**15**	**17**	**5**	**7**	**60**

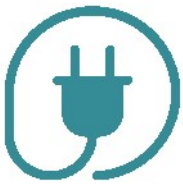
- Majority of state owned DISCOMs (28 of 50) have scored B and C+ grades.

DISCOM Demography Perspective								
Grades	A+	A	B+	B	C+	C	D	Total
100% Urban DISCOMs	2	2	2	0	4	0	0	10
Urban & Rural mix DISCOMs	0	3	7	15	13	5	7	50
Total	**2**	**5**	**9**	**15**	**17**	**5**	**7**	**60**

DISCOM Terrain Status Perspective								
Grades	A+	A	B+	B	C+	C	D	Total
General DISCOMs	2	5	7	14	16	3	4	51
Special category DISCOMs	0	0	1	2	2	1	3	9
Total	**2**	**5**	**8**	**16**	**18**	**4**	**7**	**60**

2.1.2 Sub-parameters coverage across broad parameters

There are 23 pre-identified sub-parameters across the 4 major parameters, which are evaluated individually in subsequent sections.

Operational Reliability	Connections and Other Services	Metering, Billing & Collections	Fault Rectification and Grievance Redressal
			
Number of Sub parameters covered			
Weightage			
45 Marks	10 Marks	35 Marks	10 Marks
1. Hours of Supply 2. Interruption Index 3. DT Failure rate	1. Alignment of Regulations with Industry best practices 2. Presence of pre-determined demand charges for up to 150kW 3. Applications processed through online portal 4. Average deviation from SoP in time taken for providing connections 5. Prosumers	1. Average time (days) taken for replacement of defective meters 2. Bills generated based on actual meter reading 3. Bills generated on the basis of non-manual meter reading 4. Billing frequency for domestic category consumers as per regulations 5. Bills generated for domestic consumers in a year 6. Consumers receiving billing updates on mobile 7. % of prepaid consumers 8. No. of tariff categories 9. % of consumers paying digitally	1. Consumers registered at 24X7 customer care call centre 2. Average Call Waiting Time (in seconds) 3. Consumers receiving outage related updates 4. Deviation from specified time for complaint resolution 5. Grievance redressal mechanism (2 tier) 6. Number of CGRF's per 1 Lakh consumers

2.2 OPERATIONAL RELIABILITY (OR)

This parameter measures the efficiency of the DISCOMs in delivering continuous power to the end consumers. It may be impacted by multiple factors including inadequate and inefficient O&M practices, faulty equipment, improper load management for a prolonged period etc.

The lower operational reliability may have varying impact on the DISCOMs in terms of Reduced customer satisfaction levels, Loss of revenue due to operational disruptions and Increased cost of Operations and Maintenance (O&M).

The key sub-parameters Hours of Supply (HoS), Interruption Index (II), and Distribution Transformer (DT) failure rate, across three categories of consumers (rural, urban and industrial) are considered to overall assess the OR. The data for FY-21 corresponding to each sub-parameter has been collected for analysis.

2.2.1 Analysis of sub-parameters

2.2.1 (a) Hours of Supply (HoS) – Urban

- Leading DISCOMs (24 HoS) are APCPDCL, PED, NPCL, AEML and TPDDL
- All Urban DISCOMs (10 Nos.) have HoS greater than national average
- DISCOMs above national average (23.52 hours)- 17 DISCOMs across 11 states/UTs

FAST FACTS

HoS - Urban

National Maximum:
24 hours

National Average:
23.52 hours

National Minimum:
21.48 hours

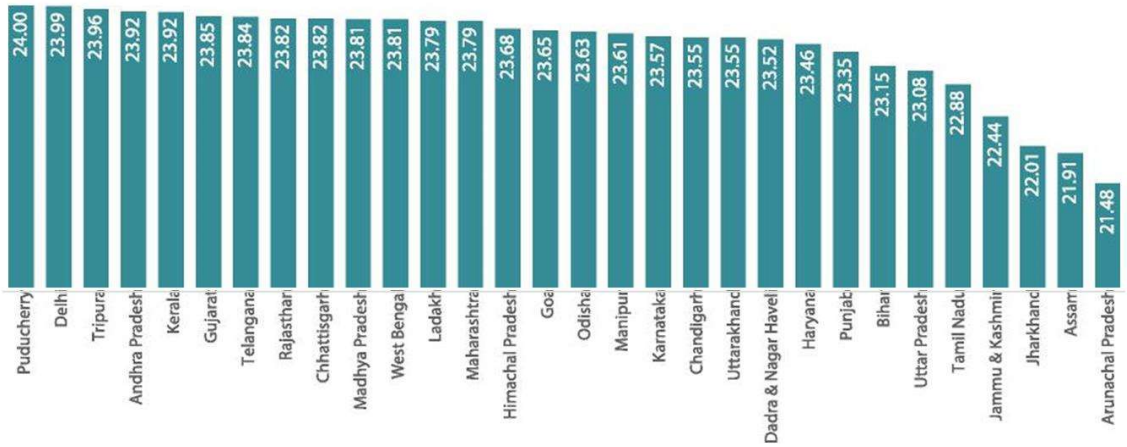


Figure 4 : Performance of DISCOMs - Hours of Supply (Urban)

2.2.1 (b) Hours of Supply (HoS) – Rural

- Leading DISCOMs (23.5 Hrs HoS) are Gujarat (UGVCL, MGVCL & DGVCL), Kerala (KSEBL) and Andhra Pradesh (APSPDCL & APEPDCL)
- DISCOMs below national average HoS – 8 DISCOMs
- Private DISCOMs below National average – Only 1 DISCOM (NPCL)

FAST FACTS

HoS - Rural

National Maximum: *23.88 hours*

National Average: *20.89 hours*

National Minimum: *14.29 hours*

Number of DISCOMs above national average: 36

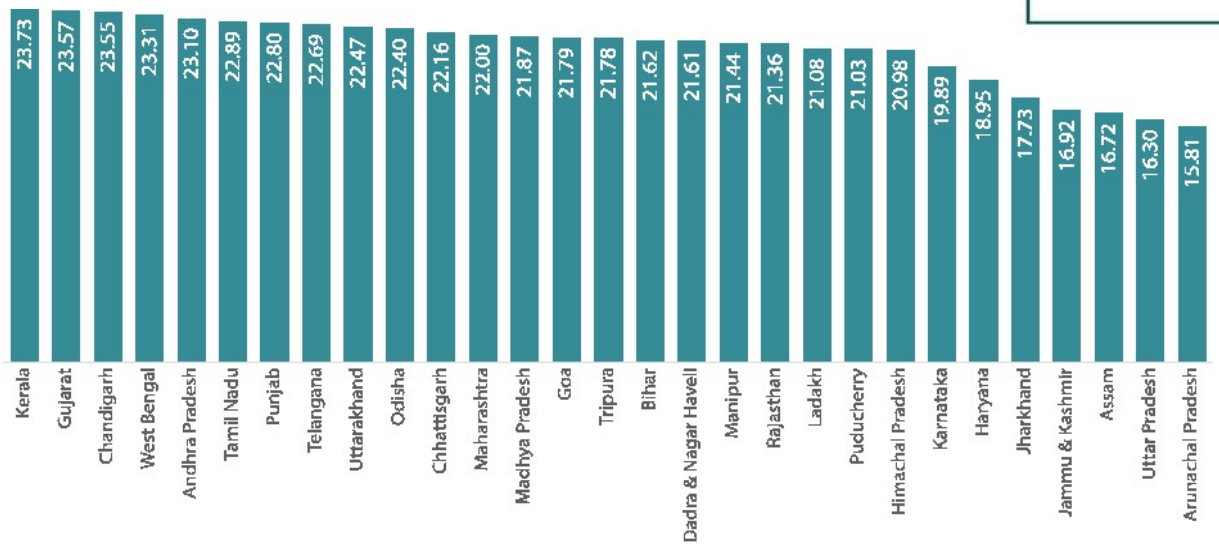


Figure 5: Hours of Supply (Rural)

2.2.1 (c) Distribution Transformer (DT) Failure rate

- Leading DISCOMs in DT failure (less than 1% in FY-21) are BRPL, BYPL, AEML, TCPL, and BEST
- Leading DISCOM in DT failure among Special category states; 1.66% - MSPDCL
- Low DT failure rates (less than 5%) – 4 DISCOMs; MSPDCL APDCL, HPSEBL and APDA
- High DT failure rates – JPDCL (26.05%) and KPDCL (27.14%)

FAST FACTS

DT Failure Rate

National Maximum: *27.14 %*

National Average: *6.93 %*

National Minimum: *0.23 %*

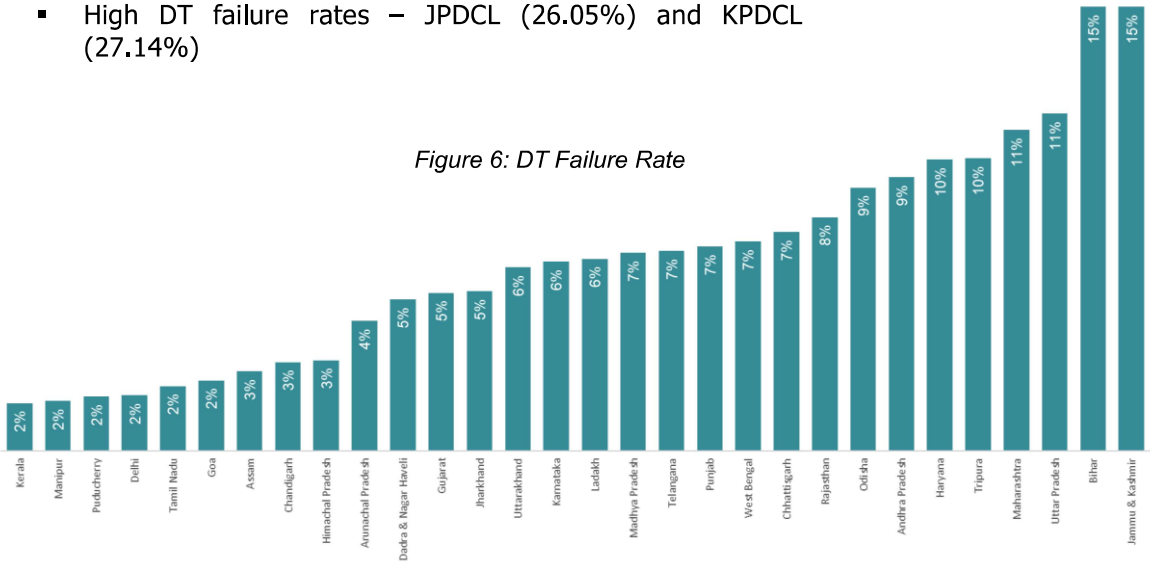


Figure 6: DT Failure Rate

2.3 CONNECTIONS AND OTHER SERVICES

This parameter measures the time, cost, convenience, and effort of the consumer at which a connection is availed from the DISCOMs. It also assesses the extent of technology enablement in application processing and renewable energy adoption among the consumers (prosumers). It aims at bringing uniformity by alignment of timelines in SOP regulations and predetermined demand charges for up to 150kW vis-à-vis industry best practices.

2.3.1 Analysis of sub-parameters

2.3.1 (a) Alignment of regulations with industry best practices (w.r.t. timelines)

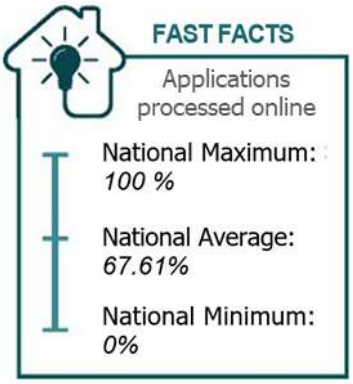
- Best practices are referred to the timelines stated in Electricity (Rights of consumers) rules 2020 covering 7 key aspects across release of connections, testing of meters, issuance of no-dues certificate, provision of payment of claims, feasibility of rooftop solar and connection of rooftop solar after installation (Annexure-F)
- Leaders in aligning to all the industry best practices are UHBVNL and DHBVNL.

2.3.1 (b) Presence of predetermined demand charges (up to 150 kW)

- All the DISCOMs have complied to notification of predetermined demand charges for connections up to 150 kW except 6 DISCOMs; CED, DNHPDCL, MSPDCL, NBPDCL, SBPDCL and JBVNL

2.3.1 (c) Applications processed through online portal

- 100% online application processing - 34 DISCOMs
- DISCOM adhering to hybrid model (manual and online mode) – 22 DISCOMs
- Non-Compliance to online application processing – CED, HPSEBL, JPDCL, and LPDD



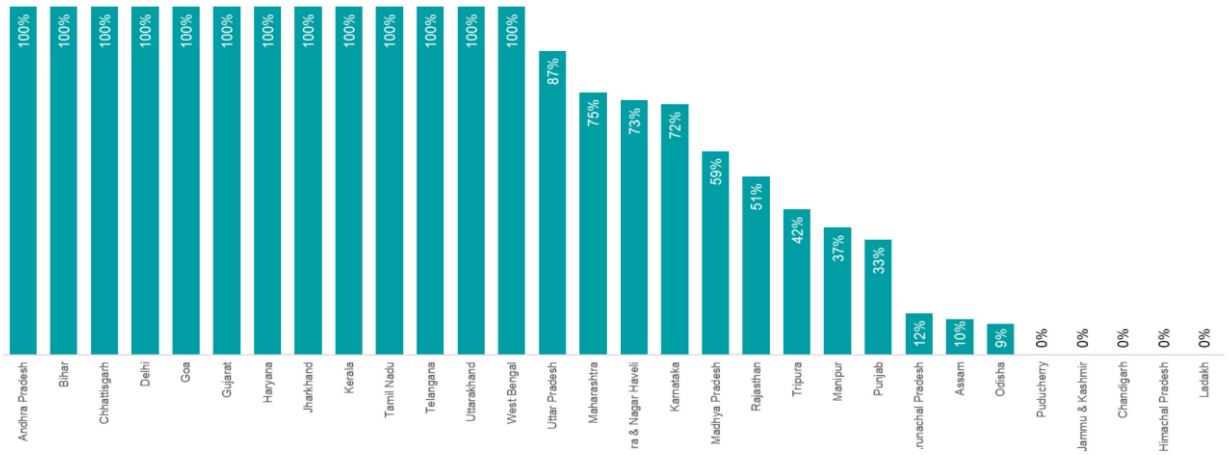


Figure 7: Applications processed through online portal

2.3.1 (d) Average deviation from SOP in time taken for providing connection

- 36 DISCOMs are adhering to state SOP timelines for releasing New Connection
- High deviation w.r.t. SOP timelines - 7 DISCOMs ; MSEDCL, NBPDCL, SBPDCL, PGVCL, DNHPDCL, APDA and CED.

2.3.1 (e) Prosumers (under net metering / gross metering)

States/National Level	Total Prosumers (Nos)
Gujarat	1,86,029
Maharashtra	36,844
Punjab	16,973
Rest of India	98,713
Total	3,38,559

- Leading DISCOMs with prosumers (>1000 /lakh consumers) - 4 DISCOMs; PGVCL, MGVCL, DGVCL and CED
- DISCOM with maximum prosumers – MGVCL (1481 /lakh consumers), ~9 times the national average (153/lakh consumers)

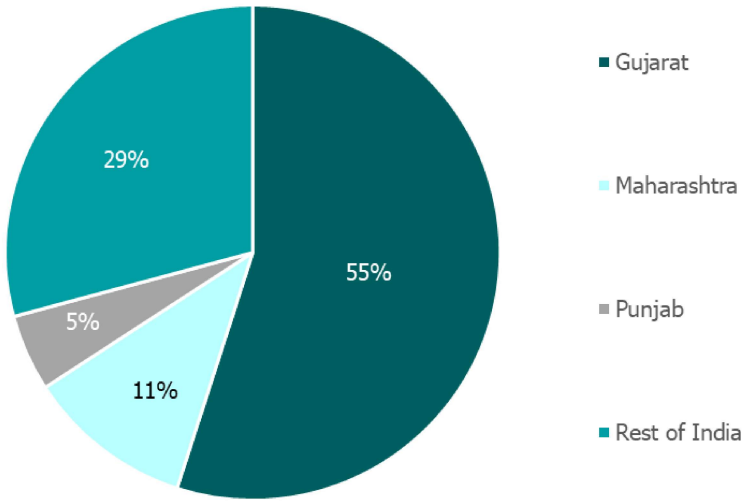


Figure 8: Prosumers under net metering

2.4 METERING, BILLING AND COLLECTIONS (MBC)

This parameter focuses on three critical streams of DISCOM operations – collecting meter data, generating / issue of bills and issuance, and revenue collection process. Herein, DISCOMs are assessed across nine sub-parameters covering some of the crucial aspects such as time taken to replace defective meters, modes of meter reading, billing frequency, quantum of bills generated, consumer engagement, RE and technology integration, and tariff categories.

2.4.1 Analysis of sub-parameters

2.4.1 (a) Average time taken for replacement of defective meters

- Leading DISCOMs (Replacement within 3 days) – BYPL replacing within 24 Hrs and 5 other DISCOMs namely JVVNL, MSPDCL, TPDDL, DGVCL and APDA replace within 3 days.

2.4.1 (b) Bills generated based on actual meter reading

- Leading DISCOMs (>98% of total bills generated) – 7 DISCOMs across 4 states/UTs, BYPL, TPDDL, DGVCL, MGVCL, APSPDCL, APCPDCL and TSSPDCL
- DISCOMs exceeding National average - 12 with actual bill generation > 90 %
- Special category states having proportion of bills generated on actual meter reading less than national average - 4 of 9 DISCOMs; LPDD, HPSEBL, APDCL and UPCL
- DISCOMs with lower % of bills generated on actual reading- 8 DISCOMs: SBPDCL, JBVNL, MPMKVVCL, MPPoKVVCL, MPPsKVVCL, TPWODL, TPNODL, KPDCL.

FAST FACTS

Bills generated on actual meter reading

National Maximum: *100 %*

National Average: *79.21%*

National Minimum: *27.55%*

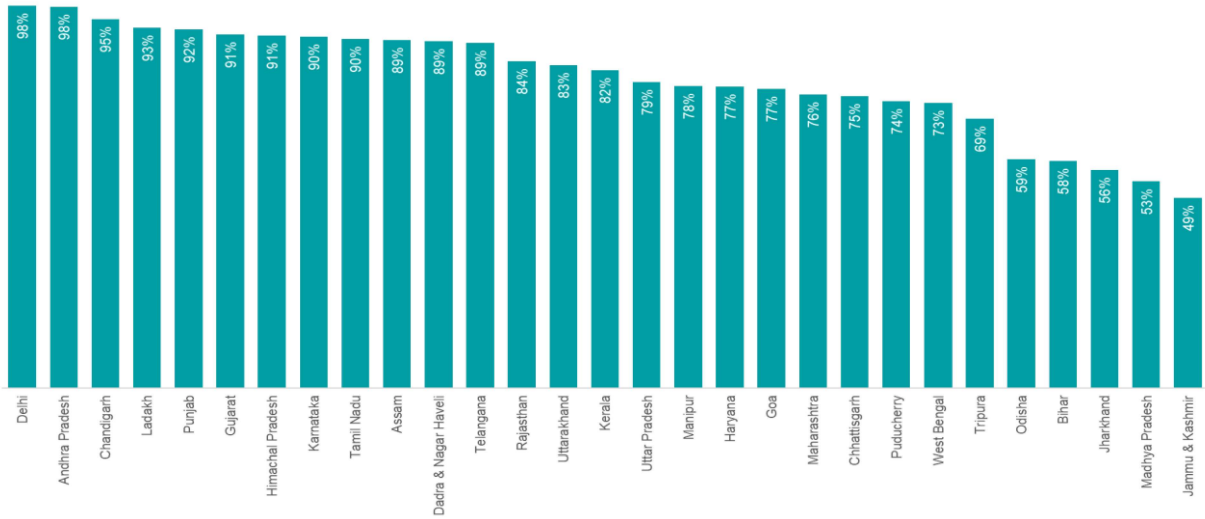


Figure 9: Bills generated based on actual meter reading

2.4.1 (c) Bills generated on the basis of non-manual meter reading

- Leading DISCOMs having proportion of bill generation based on non-manual meter reading greater than > 95% – 4 DISCOMs; BYPL, BRPL, KESCO and ASPDCL
- DISCOMs with no bills generated based on non-manual meter reading mode - 12 DISCOMs namely MSPDCL, APDA, JPDCL, KPDCL, LPDD, CED, GESCOM, HESCOM, MESCOM, TANGEDCO, KSEBL and TPSODL

FAST FACTS

Bills generated on non-manual meter reading

National Maximum: *100 %*

National Average: *18.50%*

National Minimum: 0%

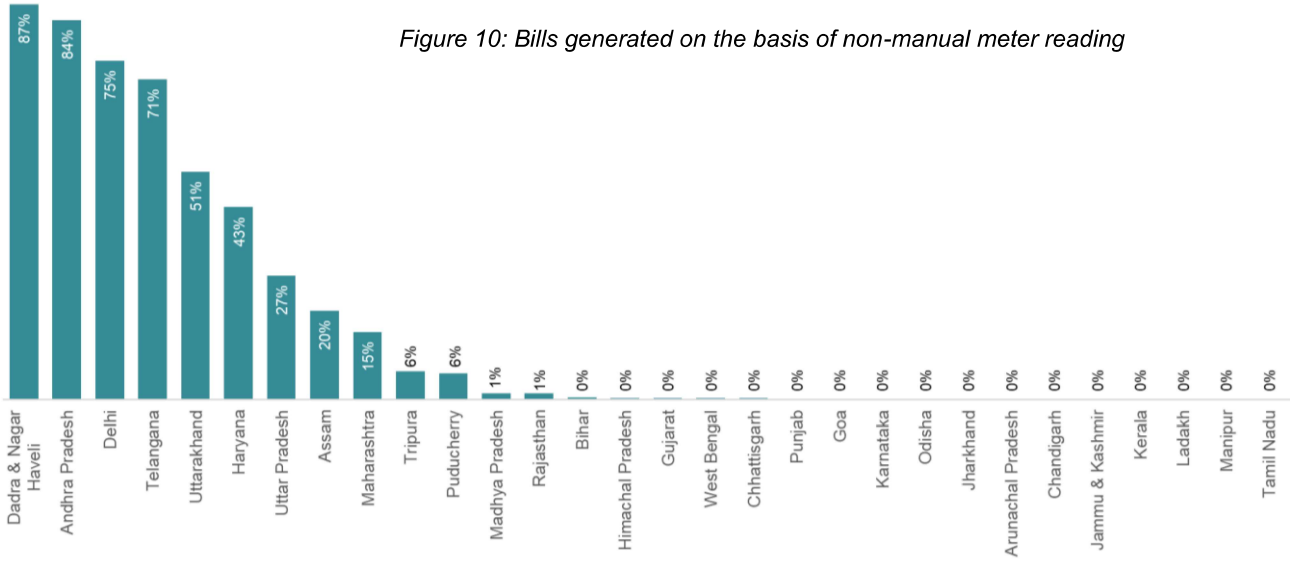


Figure 10: Bills generated on the basis of non-manual meter reading

2.4.1 (d) Consumers receiving billing updates on mobile

- Leading DISCOMs facilitating billing alerts to consumers (100%) – 4 DISCOMs across 4 states/UTs; TPDDL, TPCODL, DHBVNL, and KSEBL
- DISCOMs facilitating billing alerts to consumers with % > national average (69.73%) - 39 DISCOMs across 18 states

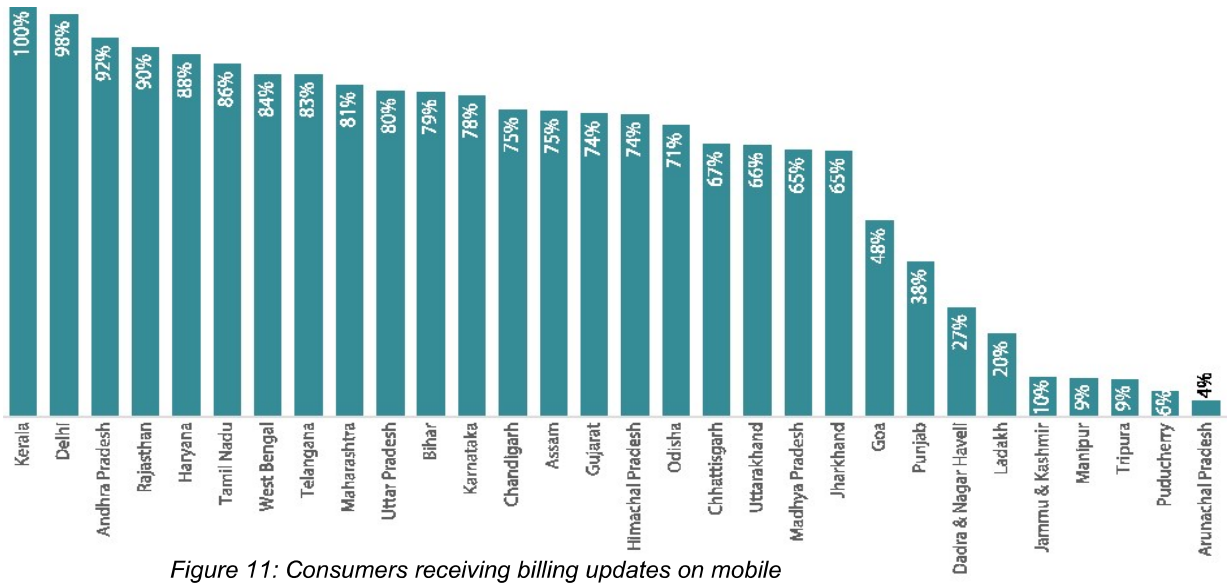


Figure 11: Consumers receiving billing updates on mobile

2.4.1. (e) Prepaid consumers

- Leading DISCOMs with high prepaid consumers – 3 DISCOMs; MSPDCL (66.41%), TSECL (14.33%) and APDA (9.59%)
- DISCOMs with lower prepaid consumers (<5%) – 57 DISCOMs across 27 states/UTs

2.4.1 (f) Number of consumers paying digitally

- Leading DISCOMs (>80% bills paid via online mode) – 2 DISCOMs; BRPL and BYPL
- DISCOMs with proportion of consumers paying digitally greater than national average (27.30%) – 27 DISCOMs across 16 states/UTs

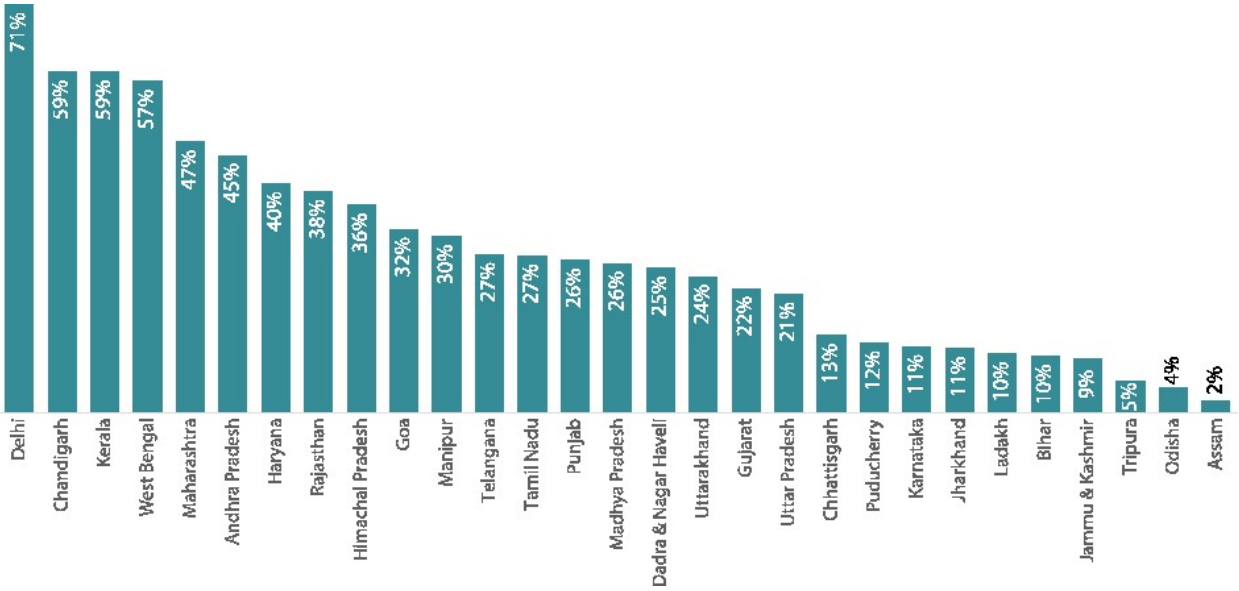
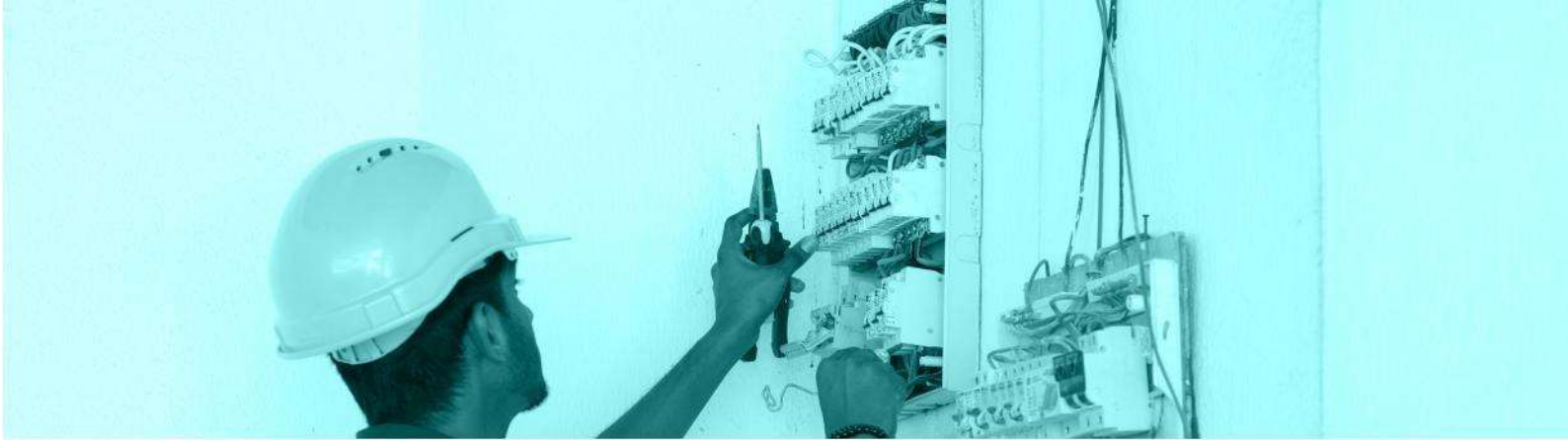


Figure 12: Number of consumers paying digitally



2.5 FAULT RECTIFICATION AND GRIEVANCE REDRESSAL (FRGR)

FRGR includes parameters that ensure adequate recording and timely resolution of consumer complaints across the DISCOM, focus is to ensure consumer connect through the complaint resolution process.

2.5.1 Analysis of sub-parameters

2.5.1 (a) 24x7 customer care call centre

- All the DISCOMs have established 24X7 Customer call centre for registering/resolution of consumer grievances except 2 DISCOMs, namely LPDD and APDCL

2.5.1 (b) Average call waiting time (ACWT) at the call centre

- Leading DISCOMs with ACWT < 5 seconds – 8 DISCOMs across 5 states/UTs; HESCOM, CESCOM, GESCOM, MPPoKVVCL, MPPsKVVCL, CSPDCL, PsVVNL and APDCL
- DISCOMs with ACWT >100 seconds - 5 DISCOMs across 4 states/UTs; SBPDCL, NBPDCL, APDA, DHBVNL and JPDCL
- DISCOMs with ACWT > national average (37.98 seconds) - 34 DISCOMs across 17 states/UTs

2.5.1(c) Consumers receiving outage related updates on mobile

- Leading DISCOMs with 100% compliance to outage alerts on mobile are 5 DISCOMs, namely JVVNL, TPDDL, KSEBL, UHBVNL and DNHPDCL
- DISCOMs with no outage alerts to consumers - 6 DISCOMs across 5 states/UTs; TSECL, JBVNL, KPDCL, JPDCL, APDA and LPDD

2.5.1 (d) Grievance Redressal Mechanism (Two Tier)

- DISCOMs with Two-Tier Grievance Redressal Mechanism (at circle as well as corporate level) – 56 DISCOMs
- DISCOMs with no presence of Two-Tier Grievance Redressal Mechanism – 4 DISCOMs; TSECL, LPDD, GESCOM and MSPDCL

2.5.1 (e) Number of CGRFs per 1 Lakh consumers

- Leading DISCOMs with established CGRFs – 4 DISCOMs; HPSEBL, JVVNL, AVVNL, JdVVNL.
- DISCOMs with no established CGRF – 4 DISCOMs across 4 states/UTs TSECL, LPDD, GESCOM and MSPDCL

Key Findings

KEY FINDINGS

This CSRD exercise brings out the varying performance of DISCOMs across various key and sub-parameters. This will enable establishing a common platform for the DISCOMs to assess their performances and also assess the peer performance.

3.1 DISCOMs and Consumer spread across the grade scale

Further analysing the performance aspects of the states/DISCOMs w.r.t the key performance parameters to bring out actionable insights. Summarising the spread of 60 DISCOMs, across the grade scale indicates the varying performance of the DISCOMs at an overall level.

Grade Scale	A+	A	B+	B	C+	C	D
DISCOM Count	2	5	9	15	17	5	7
Consumer Spread	1.5%	7%	27%	30%	18%	8.5%	8%

- 2 DISCOMs have secured the highest-grade A+ and 7 DISCOMs the lowest i.e D grade
- Maximum Nos of DISCOMs (17) have secured the C+ grade
- 57% of consumers are concentrated across B+ and B grade catered by 24 DISCOMs. This highlights the presence of larger DISCOMs (by volume) across the above stated grades

The detailed sub-parameter level DISCOM and consumer spread across grades are assessed in the forthcoming sections.

3.2 Service to end consumer

It is vital to assess the quantum of consumers spread across these DISCOMs to assess the level of parameter specific services being accorded to them. In all 30.5 crore electricity consumers are being served by the 60 DISCOMs considered for grading.

3.2.1 Operational Reliability (OR)

Grade Scale	A+	A	B+	B	C+	C	D
DISCOM Count	21	16	8	4	1	3	7
Consumer Spread	25%	41%	15%	3%	1%	2%	13%

- Of 30.5 crore consumers, 7.7 crore (25%) are served by 21 DISCOMs with "A+" grade across operational reliability parameter and 4.01 crore (13%) are experiencing "D" grade operational reliability services.
- Considering A+/A graded DISCOMs (for ease of interpretation) as the benchmark performances it is apparent that 66% of the overall consumers faced superior OR services.
- On the contrary, C/D graded DISCOMs under OR, cumulatively service 15% of the overall consumers, indicating a significant consumer base receiving significant inferior OR services.

3.3.2 Connections and Other Services (CoS)

Grade Scale	A+	A	B+	B	C+	C	D
DISCOM Count	1	16	10	9	1	1	22
Consumer Spread	1%	43%	13%	7%	<1%	1%	35%

- Of 30.5 crore consumers, 0.33 crore (1%) are served by 1 DISCOM with "A+" grade and 10.8 crore (35%) are experiencing "D" grade Services under Connections and Other Services parameter
- Considering A+/A graded DISCOMs (for ease of interpretation) as the benchmark performances it is apparent that 44% of the overall consumers faced superior CoS
- C/D graded DISCOMs under CoS, cumulatively service 36% of the overall consumers, indicating a significant consumer base receiving significant inferior CoS services.

3.3.3 Metering, Billing and Collections (MBC)

Grade Scale	A+	A	B+	B	C+	C	D
DISCOM Count	2	-	4	3	11	13	27
Consumer Spread	1%	0%	4%	6%	31%	19%	39%

- Under this parameter 0.44 crore consumer (1.4%) spread across 2 DISCOMs have experienced the "A+" grade services.
- There are a large 5.7 crore consumers (19%) and 11.9 crore consumer (39%) spread across 13 and 27 DISCOMs with "C" and "D" grade services under MBC
- A cumulative 57% consumers experiencing a relative much inferior services under this parameter.

3.3.4 Fault Rectification and Grievance Redressal (FRGR)

Grade Scale	A+	A	B+	B	C+	C	D
DISCOM Count	4	14	6	6	2	10	18
Consumer Spread	8%	35%	10%	5%	2%	24%	15%

- Of 30.5 crore consumers, 2.39 crore (8%) are served by 4 DISCOMs with "A+" grade across FRGR parameter and 4.6 crore (15%) are experiencing "D" grade Services.
- Considering A+/A graded DISCOMs (for ease of interpretation) as the benchmark performances it is apparent that 43% of the overall consumers faced superior FRGR services.
- C/D graded DISCOMs under FRGR, cumulatively service 39% of the overall

consumers, indicating a significant consumer base experiencing inferior FRGR services. It is generally from these consumers experiencing inferior services, that the DISCOMs receive grievances w.r.t the sub parameters of FRGR.

3.3.5 Performance at an overall level

Assessing the performance in terms of similar grades secured by DISCOMs across the 4 broad parameters gives an insight into performance consistency at an overall level.This will specifically help identification of DISCOMs with high or low grades across multiple parameters and more importantly highlights the DISCOMs with multiple lower grades across 4 performance parameters. Apparently, the overall grades of some DISCOMs seem to be impacted with multiple lower or higher grades. Accordingly, more the number of lower grades secured by DISCOMs across the 4 performance parameters, more will be the effort required for them to improve upon.

DISCOM Grades	DISCOM Count (with Similar Gradings)			
	All 4 Parameters	In 3 Parameters	In 2 Parameters	In 1 Parameters
A+	0	0	5	18
A	0	1	11	21
B+	0	0	7	14
B	0	0	3	16
C+	0	0	1	13
C	0	0	3	21
D	0	9	17	13

- Only 3 DISCOMs have secured 2 Nos of A+ grades across the 4 parameters viz BRPL Only 1 DISCOM has secured 3 Nos of A grades amongst the 4 parameters viz TANGEDCO
- Only 5 DISCOMs have secured 2 Nos of A+ grades across the 4 parameters viz BRPL, BYPL, KSEBL, MGVCL and TPDDL
- 9 DISCOMs have secured 3 Nos of D grades across the 4 parameters viz BEST, GED, NBPDCL, PED, PGVCL, PuVVNL, TPCODL, TPSODL and TSECL
- There are no DISCOMs that have secured same grade in all the 4 major parameters.
- The 9 DISCOMs with 3 "D" grades among 4 performance parameters and all the overall grades secured by these DISCOMs is either C or C+. Indicating lower overall rating due to multiple lower grades.

Way Forward

Way Forward

A key outcome of the CSRD exercise is to create a platform for DISCOMs to be able to learn from each other's performance. While some DISCOMs have secured higher grade, most DISCOMs have scope for improvement across multiple parameters. Based on the learnings gathered in this edition (2020-21) of the CSRD study, multiple areas of future interventions are envisaged that can be included in the forthcoming editions.

With the Ministry of Power launching the Revamped Distribution Sector Scheme (RDSS) and the ongoing efforts of REC Limited towards improving reliability and quality of power supply along with ensuring financial viability of DISCOMs, a part of that would be to encourage evaluations to improve operational performances of the DISCOMs. Additionally, reforming Rural Feeder Monitoring System (RFMS) and relaunching as National Feeder Monitoring System (NFMS) would allow more direct visibility for the Centre into the performance of the states.

The aforementioned measures would enable reduction of complexities in the existing process of analysis by capturing multiple aspects of DISCOM data, and increased robustness of the data analysis process through DISCOM integration across the stages of the evaluation process. This report would also be useful to utilities, policymakers, regulators, investors and other key stakeholders in generating critical insights of the industry and aid in identifying the main areas where the participating utilities can target for generous improvement in the quality of their services by developing a spirit of healthy competition amongst DISCOMs. It will ultimately result in enhancing consumer experience by nudging the DISCOMs to assess the gap areas and promote inter-se learning.

Following are the key activities identified envisaged for subsequent rating exercise:

- Comprehensive consumer survey to capture ground-level perception of the services offered by DISCOMs in the area

- Rationalisation of DISCOM specific data gathering process through a system integrated validation mechanism

- The incorporation of the above key areas would subsequently result in reduction of time and efforts elapsed across data authentication and validation.

Approach to CSRD

APPROACH TO CSRD

The CSRD is designed and structured with an objective to comprehensively assess the current performance levels of DISCOMs across some key consumer service parameters. It demanded a methodological approach in identification and selection of performance parameters that inevitably impacting electricity consumers, further impacting their satisfaction levels. In general, all the DISCOMs monitor numerous performance parameters, few of which the consumers perceive to be of paramount in nature.

The overall approach to the rating entailed planning, parameter identification, data collection, assessing, validation and confirmation, involving multistakeholder effort in coming up deriving rating as per predefined grade scale.

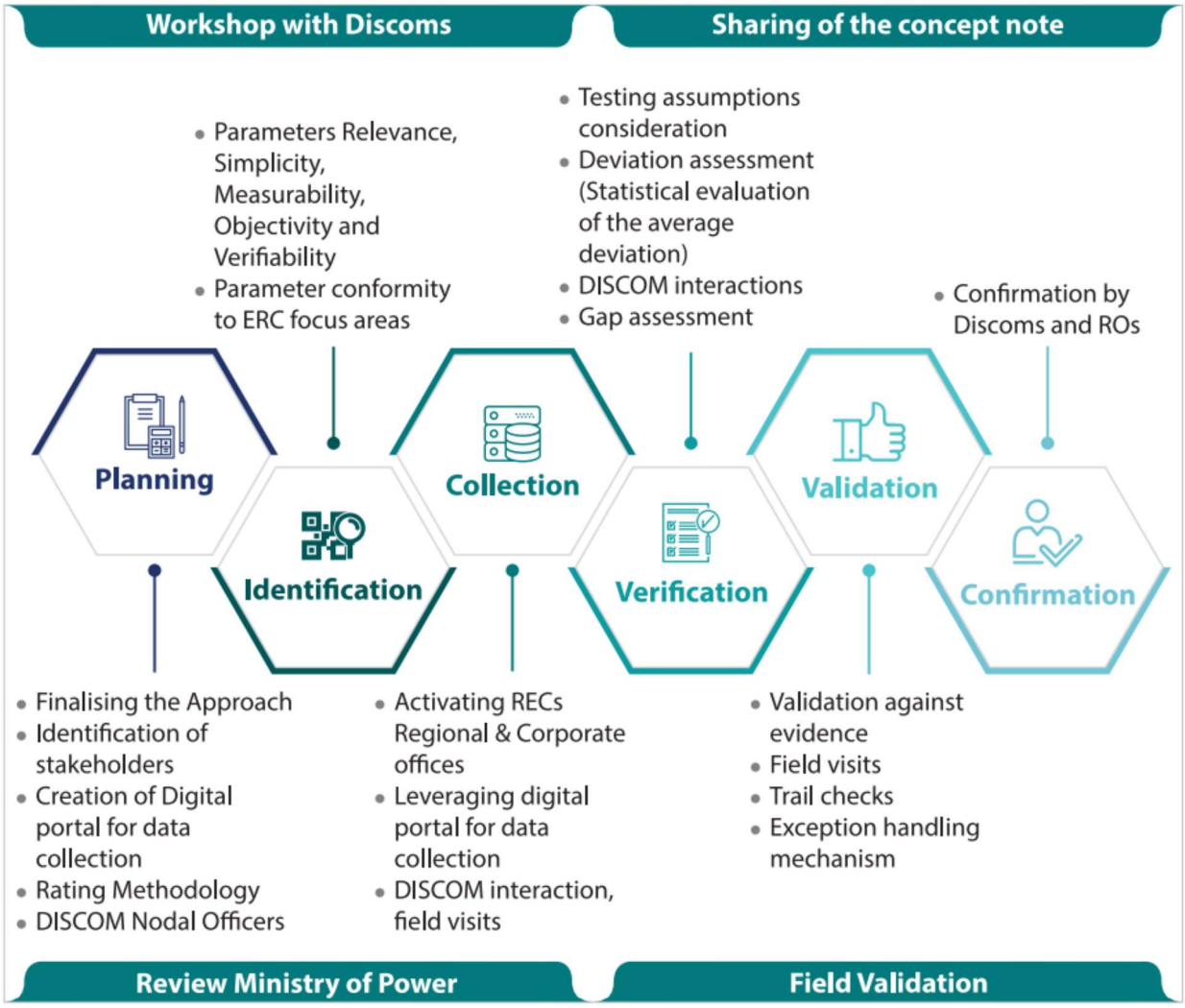
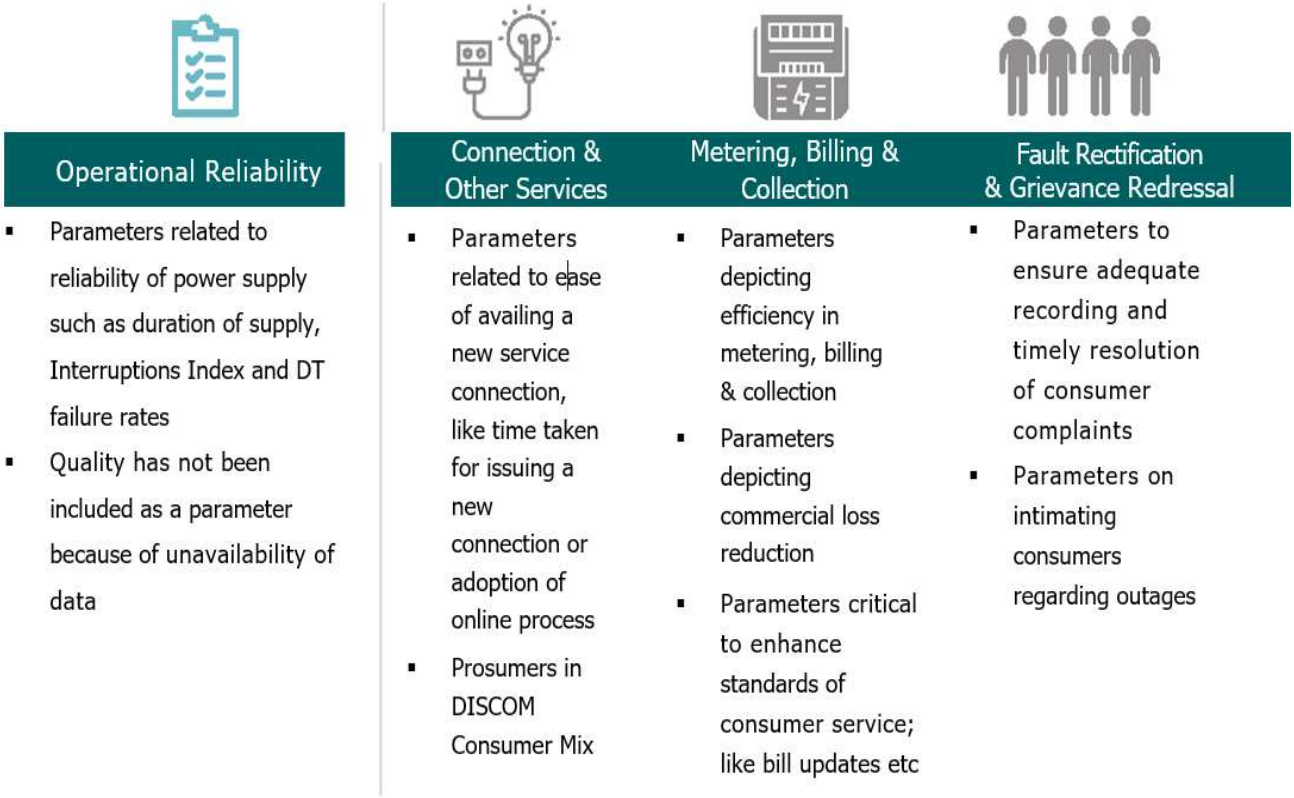


Figure 17: Approach to CSRD

The overall designing of the approach involved detailing the key tasks to be undertaken by various stakeholders in this exercise. Final scoring methodology were approved and notified by MoP on date 16.09.2021, which was adopted for undertaking the CSRD exercise.

Identified parameters:

Broadly 4 key performance parameters pertaining to DISCOM operations are identified, under which numerous sub parameters fall which will be individually assessed and weightages assigned.



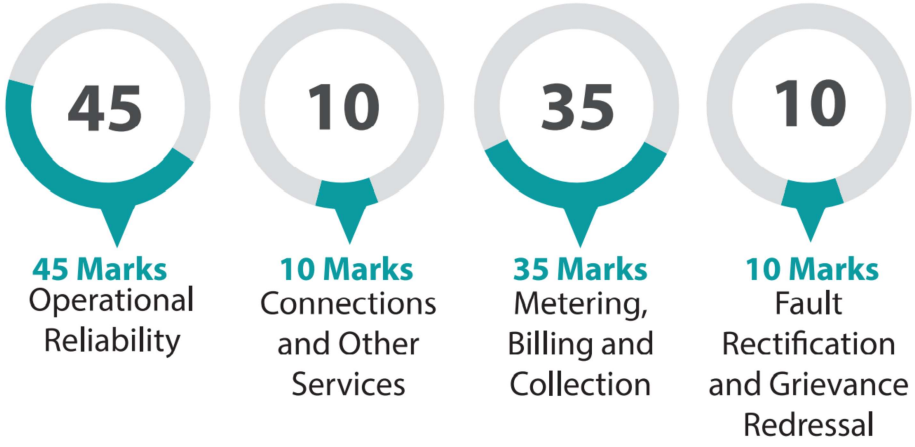
Data Collection Methodology

The data collection templates were finalised post various brainstorming session, DISCOMs feedbacks and suggestions from other stakeholders. The corresponding online templates (Input Format) were created and conveyed initially to DISCOMs of three states namely Gujarat, Maharashtra and Telangana for testing of availability of data. Discrepancies in data submission were observed at this point, which were reviewed and further conveyed to DISCOMs and addressed subsequently.

During the data collection stage all the Regional Offices of REC Limited were activated and requested to follow up with the assigned nodal officers of concerned DISCOMs, to ensure CSRD can be conducted in a time bound & efficient manner, moreover numerous 1-1 interactions, video conferences were carried out with DISCOMs officials to ensure objective set out is achieved.

Marking Methodology:

Post identification and selection of the key performance parameters and sub parameters, the intricacies were in assigning weightage, in order to ensure assigning optimum marks to each parameter based on their respective perceived criticality and impact on consumer perception. Accordingly, a prudent weightage to the 4 major parameters was assigned, the cumulative weightages was to be maximum 100 Marks.



Both absolute and relative marking approach were adopted. Majority of sub-parameters are on an absolute scale, enabling comparison across years. However, wherever the benchmarking data is not available, a relative scale has been used.

Data validation:

The information obtained from the DISCOMs were verified at multiple levels on the basis of (i) random sample checks; (ii) data triangulation & analytics; (iii) evidence documents/ reports submitted by DISCOMs (iv) Filed visits

The evidence gathered from DISCOMs like (i) system generated reports; (ii) regulatory filings - mandatory to submit wherever applicable; (iii) other central and state data repositories/portal with similar data, etc.

A team of REC's Regional Officers (ROs) were informed about the data validation guidelines for the validation of data received from DISCOMs for CSRD exercise. A detailed periodic review of the data validation process was also conducted at CMD level to strengthen the overall exercise.

Key validation activities:

- **Validation against evidence:** After receiving data from DISCOMs, REC Limited verified the collected data against the submitted evidence and cross-verified data by visiting DISCOMs' offices.

- **Validation through field visits:** A sample of sub-divisions was chosen for physical visits by REC Limited officials. The MIS data of DISCOMs' was substantiated against the substation data for randomly selected feeders for validating Hours of Supply and Interruptions Index.

- **Validation through trail check:** REC Limited collected detailed break-up of the aggregate data (particularly for Hours of Supply and Interruptions Index) submitted by DISCOMs on a sample basis and verify its accuracy. For example – for a sample feeders/sub-division the Hours of supply was estimated from the interruptions data noted in ledgers at DISCOMs' substations and was matched with the data submitted by the DISCOMs. Similarly, all other sub--parameter data submissions were traced back to their data sources.

- For reliability and quality of supply related parameters, system-based measurement approach is envisaged. Rural Feeder management systems (RFMS) to also be referred for validating the figures.

- **Finalization of key OR sub parameters:** Given the deviations observed during the verification process across multiple sources within a DISCOM, the final Hours of Supply and Interruption Index values was arrived at with the help of a T-test approach (Detailed in Annexure F).

Grading methodology:

The CSRD is an exercise wherein DISCOMs are rated both on absolute as well as relative scale, accordingly, to achieve a grading of DISCOMs the score range was segregated across 7 segments.

Grades	A+	A	B+	B	C+	C	D
Score Range	>90	80-90	70-80	60-70	50-60	40-50	<40

The above grade scale was designed with an objective of attaining a grade distribution, in order to ensure and bring about adequate distinction among the graded DISCOMs. This would also enable the graded DISCOMs to introspect and adapt practices prevalent across the higher graded peer DISCOMs.

Key challenges envisaged during CSRD exercise were:

As this was envisaged to be an extensive exercise involving multiple stakeholders, numerous challenges were expected as listed below

- Designing inclusive and a comprehensive framework for CSRD and detailing all the dependants of the exercise
- Freezing the rating methodology
- Identification of key relevant parameters among the exhaustive list of performance parameters across the DISCOMs
- Ensuring timely data submissions by DISCOMs on the online portal
- Frequent data updates/corrections/amendments by DISCOMs
- Availability of limited system-based evidence with DISCOMs against the submitted data
- Designing a methodology/assumption to address the gaps in data submitted by DISCOMs
- Timely feedbacks/confirmations from DISCOMs in data gaps and subsequent data

Marking Methodology

S. No.	Parameter	Revised Marks	Type of Marking
1. Operational Reliability (45 Marks)			
1.1	Hours of Supply (Urban, Rural, Industrial)	34	Absolute
1.2	SAIFI (Frequency of Interruptions)	7	Absolute
1.3	DT Failure Rate	4	Absolute
		45 Marks	
2. Connection and Other Services (10 marks)			
2.1	Alignment of regulations with industry best practices w.r.t timelines	0 (-2)	Absolute
2.2	Predetermined demand charges for up to 150kW	0(-1)	Absolute
2.3	Applications processed through online portal	2	Relative (Proportionate)
2.4	Avg. deviation from SoP in time taken for providing connection	7	Absolute
2.5	Prosumers (under net or gross metering)	1	Relative (Proportionate)
		10 Marks	
3. Metering, Billing and Collection (35 marks)			
3.1	Avg time taken for replacing defective meters (U)	1	Relative (Proportionate)
3.2	Avg time taken for replacing defective meters (R)	1	Relative (Proportionate)
3.3	Bills generated based on actual meter reading	4	Absolute
3.4	Bills generated basis non-manual meter reading	7	Relative (Decile)
3.5	Billing freq. for domestic consumers as per reg.	0(-1)	Absolute
3.6	Bills generated for domestic consumers in a year	3	Absolute
3.7	Consumers receiving billing updates on mobile	3	Absolute
3.8	Prepaid consumers	8	Relative (Quartile)
3.9	Tariff categories (incl. sub-categories and slabs)	2	Relative (Proportionate)
3.1	Number of consumers paying digitally	6	Relative (Proportionate)
		35 Marks	
4. Fault Rectification and Grievance Redressal (10 marks)			
4.1	24x7 customer call center (common code '1912')	2	Absolute
4.2	Average call waiting time at the call center	1	Absolute
4.3	Consumers receiving outage updates on mobile	2	Absolute
4.4	Deviation from specified time for complaints resolution through call center	4	Absolute
4.5	Adequacy of Grievance Redressal Mechanism	1	Relative + Absolute
		10 Marks	
Total Marks: 100			

Annexures

ANNEX A: State level aggregate grades and performance outlook

ANNEX B: Performance Across Parameters

(i) Performance across parameters- Operational Reliability

(ii) Performance across parameters- Connections and Other Services

(iii) Performance across parameters- Metering, Billing and Collections

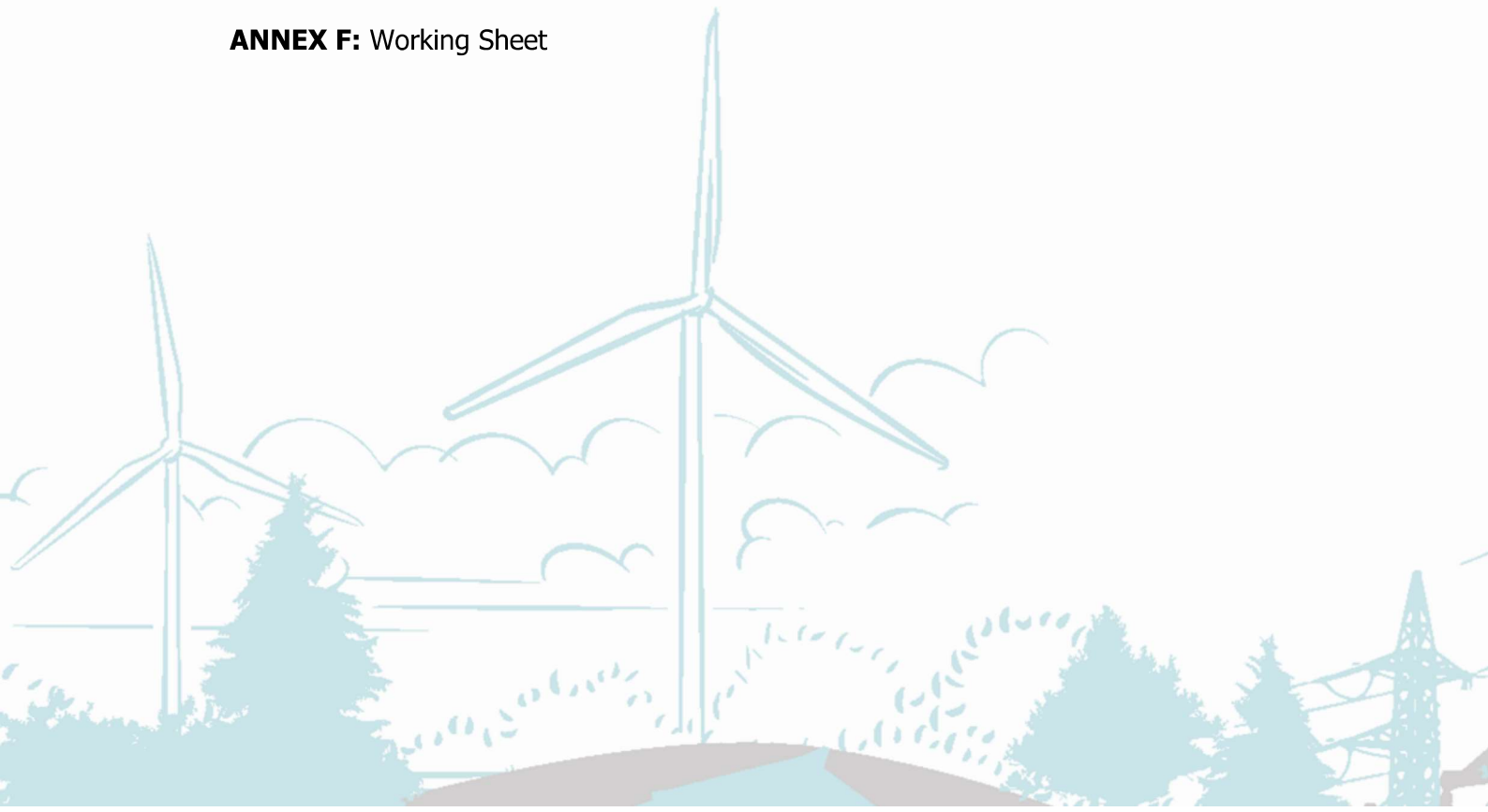
(iv) Performance across parameters- Fault Rectification and Grievance Redressal

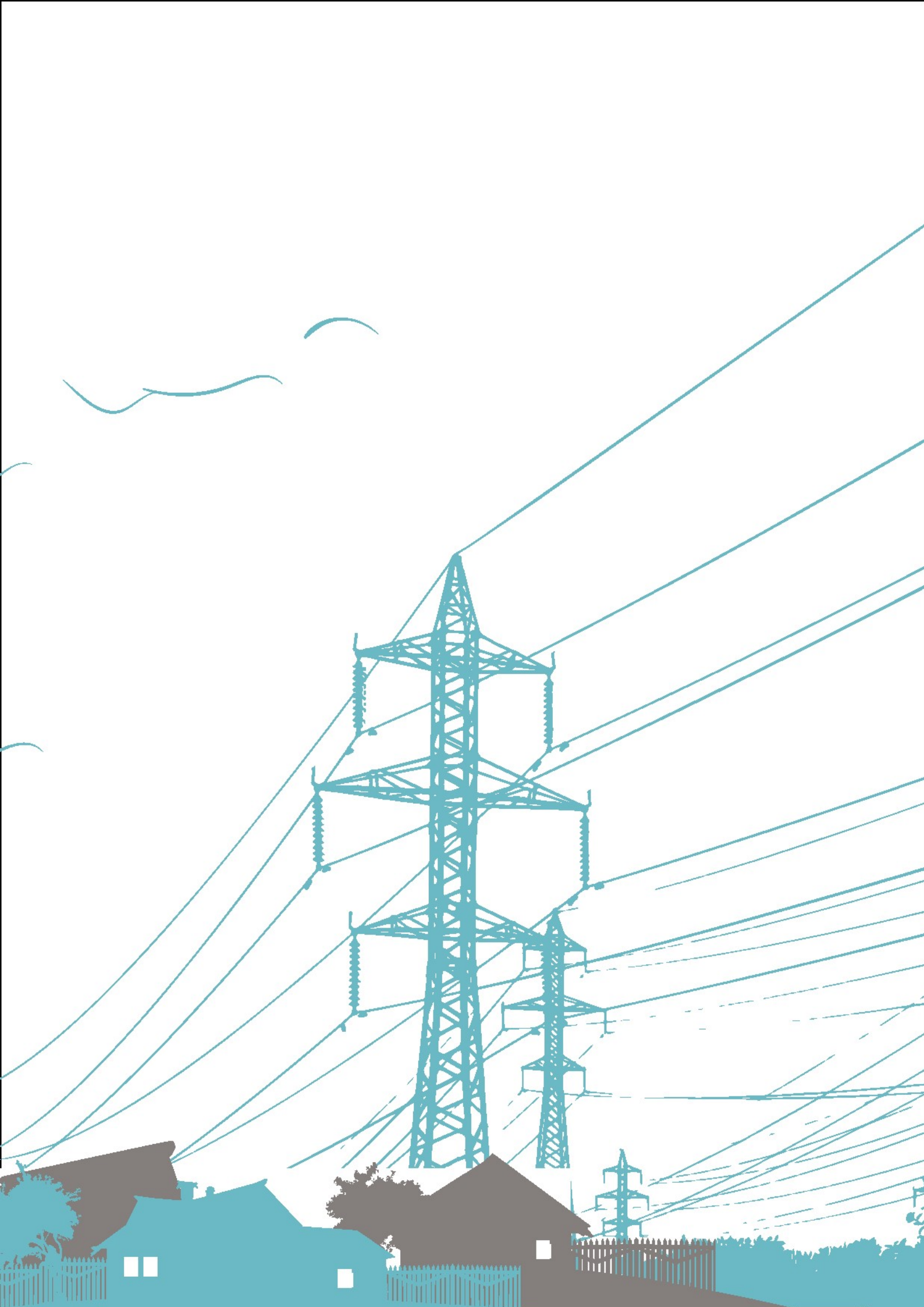
ANNEX C: Category specific consumer coverage

ANNEX D: Framework-Description and Measurement of Parameters

ANNEX E: Framework-Marking Methodology

ANNEX F: Working Sheet





Annexure-A

State level aggregate grades and performance outlook

State	Total DISCOMs	DISCOMs spread across grades						
		A+	**A**	**B+**	**B**	**C+**	**C**	**D**
Andhra Pradesh	3		2	1				
Arunachal Pradesh	1							1
Assam	1						1	
Bihar	2					2		
Chandigarh	1					1		
Chhattisgarh	1					1		
Dadra & Nagar Haveli	1					1		
Delhi	3	2	1					
Goa	1					1		
Gujarat	4				3	1		
Haryana	2				1	1		
Himachal Pradesh	1				1			
Jammu & Kashmir	2							2
Jharkhand	1							1
Karnataka	5				2	1	1	1
Kerala	1			1				
Ladakh	1					1		
Madhya Pradesh	3				3			
Maharashtra	4			3		1		
Manipur	1				1			
Odisha	4					3	1	
Puducherry	1					1		
Punjab	1					1		
Rajasthan	3			2	1			
Tamil Nadu	1				1			
Telangana	2		1		1			
Tripura	1					1		
Uttar Pradesh	6		1		1		2	2
Uttarakhand	1			1				
West Bengal	1			1				
Total	60							

Annexure-B

(i) Performance Across Parameters - Operational Reliability

STATE	DISCOM	OPERATIONAL RELIABILITY						
		Hours of Supply (Hours)			Interruption Index (Total No. of Interruptions in a Year/ Total No. of Feeders)			DT Failure Rate (%)
		Rural	Urban	Industrial	Rural	Urban	Industrial	
Andhra Pradesh	APCPDCL	22.13	24.00	24.00	158.39	42.57	54.88	5.52%
	APEPDCL	23.51	23.93	23.72	279.59	46.56	108.48	6.85%
	APSPDCL	23.66	23.84	23.76	94.21	42.75	8.47	7.50%
Arunachal Pradesh	APDA	15.81	21.48	21.96	117.16	183.21	435.47	4.36%
Assam	APDCL	16.72	21.91	22.93	125.29	274.90	21.39	2.66%
Bihar	NBPDCL	21.81	22.97	22.92	736.99	496.16	277.26	3.88%
Bihar	SBPDCL	21.44	23.32	24.00	730.91	431.47	316.83	2.70%
Chandigarh	CED	23.55	23.55	23.50	58.23	19.38	10.29	2.96%
Chhattisgarh	CSPDCL	22.16	23.82	23.76	315.57	84.68	69.73	7.34%
Dadra & Nagar Haveli	DNHPDCL	21.61	23.52	23.24	73.42	67.77	68.62	5.08%
Delhi	BRPL	-	23.99	23.99	0.00	1.72	1.72	0.33%
	BYPL	-	23.99	23.99	0.00	2.61	2.61	0.76%
	TPDDL	-	24.00	24.00	0.00	4.13	4.13	2.26%
Goa	GED	21.79	23.65	23.37	143.11	86.63	138.00	2.35%
Gujarat	DGVCL	23.64	23.93	23.82	149.83	44.33	20.59	6.08%
	MGVCL	23.74	23.81	23.54	40.72	23.11	18.02	7.24%
	PGVCL	23.04	23.76	23.50	173.87	43.95	38.29	11.50%
	UGVCL	23.88	23.92	23.90	35.00	21.41	20.22	4.95%
Haryana	DHBVNL	20.06	23.49	23.37	296.39	139.22	139.22	8.05%
	UHBVNL	17.84	23.43	21.34	337.26	189.10	33.52	8.88%
Himachal Pradesh	HPSEBL	20.98	23.68	23.88	138.21	35.31	8.63	3.03%
Jammu & Kashmir	JPDCL	17.01	22.81	23.00	79.66	77.92	23.00	26.05%
	KPDCL	16.82	22.06	22.06	589.11	222.49	163.71	27.14%
Jharkhand	JBVNL	17.73	22.01	22.72	643.65	288.12	288.12	5.35%
Karnataka	BESCOM	18.76	23.85	23.59	715.69	132.66	132.66	4.11%
	CESCOM	20.61	23.53	23.19	917.43	345.66	222.45	6.34%
	GESCOM	21.10	23.17	23.22	763.65	567.69	455.96	12.68%
	HESCOM	18.39	23.56	23.11	670.11	275.30	286.37	13.48%
	MESCOM	20.58	23.73	23.51	1116.59	212.97	217.73	12.46%
Kerala	KSEBL	23.73	23.92	23.92	203.80	25.30	25.30	1.59%
Ladakh	LPDD	21.08	23.79	23.79	22.48	20.06	20.06	6.44%

STATE	DISCOM	OPERATIONAL RELIABILITY						
		Hours of Supply (Hours)			Interruption Index (Total No. of Interruptions in a Year/ Total No. of Feeders)			DT Failure Rate (%)
		Rural	Urban	Industrial	Rural	Urban	Industrial	
Madhya Pradesh	MPMKVVCL	21.91	23.81	23.83	103.45	20.21	28.77	6.64%
	MPPoKVVCL	21.70	23.76	23.50	182.07	31.07	25.93	9.12%
	MPPsKVVCL	22.01	23.86	23.87	384.69	47.89	25.20	6.90%
Maharashtra	AEML	-	24.00	24.00	0.00	0.28	0.28	0.23%
	BEST	-	23.99	23.99	0.00	7.91	7.91	0.55%
	MSEDCL	22.00	23.79	23.57	113.24	18.91	9.68	10.77%
	TPCL	-	23.56	23.56	0.00	0.10	0.10	0.3%
Manipur	MSPDCL	21.44	23.61	23.78	37.39	73.24	259.00	1.66%
Odisha	TPCODL	22.43	23.66	23.66	260.15	104.16	104.16	4.81%
	TPNODL	22.24	23.27	23.04	581.53	441.50	144.29	3.43%
	TPSODL	22.54	23.82	23.60	276.60	326.61	326.61	2.56%
	TPWODL	22.38	23.79	23.50	213.79	32.40	98.11	4.92%
Puducherry	PED	21.03	24.00	24.00	135.59	54.76	54.76	1.81%
Punjab	PSPCL	22.80	23.35	23.28	217.16	91.83	35.03	6.85%
Rajasthan	AVVNL	21.57	23.66	23.66	557.17	91.29	56.17	10.07%
	JdVVNL	20.84	23.98	23.89	598.81	40.00	92.57	10.63%
	JVVNL	21.68	23.83	24.00	537.49	181.81	161.05	9.17%
Tamil Nadu	TANGEDCO	22.89	22.88	23.09	82.29	12.97	14.03	2.16%
Telangana	TSNPDCL	22.54	23.73	23.57	172.54	36.96	11.36	10.68%
Telangana	TSSPDCL	22.83	23.96	24.00	177.61	36.79	36.79	10.72%
Tripura	TSECL	21.78	23.96	24.00	132.61	38.33	38.33	9.83%
Uttar Pradesh	DVVNL	16.93	22.11	20.35	525.49	531.22	86.19	12.11%
	KESCo	-	23.62	23.39	0.00	34.84	29.73	7.32%
	MVVNL	16.72	22.84	22.06	657.64	99.32	131.59	13.21%
	NPCL	15.77	24.00	24.00	108.44	33.42	110.13	1.21%
	PsVVNL	14.29	23.14	23.33	686.59	37.78	161.99	10.29%
	PuVVNL	17.79	23.29	23.93	591.42	397.82	2.10	14.48%
Uttarakhand	UPCL	22.47	23.55	23.55	226.34	282.63	282.63	6.16%
West Bengal	WBSEDCL	23.31	23.81	23.19	178.11	114.23	114.23	7.02%
National Average		20.89	23.52	23.43	329.52	127.82	101.34	6.93%

Annexure-B

(ii) Performance Across Parameters - Connections and other services

STATE	DISCOM	CONNECTION AND OTHER SERVICES				
		Alignment of Regulations with industry best practices w.r.t timelines (out of 6)	Presence of pre-determined demand charges for up to 150kW	Applications processed through online portal (submission till approval)	Average deviation from SoP in time taken for providing connection	Prosumers Per Lakh Consumers (under net or gross metering)
Andhra Pradesh	APCPDCL	4	Y	100.00%	-21%	33
	APEPDCL	4	Y	100.00%	-72%	39
	APSPDCL	4	Y	100.00%	-33%	18
Arunachal Pradesh	APDA	0	N	12.03%	100%	0
Assam	APDCL	3	Y	10.31%	-24%	7
Bihar	NBPDCL	3	N	100.00%	100%	18
	SBPDCL	3	N	100.00%	100%	5
Chandigarh	CED	4	N	0.00%	100%	1370
Chhattisgarh	CSPDCL	4	Y	100.00%	-59%	4
Dadra & Nagar Haveli	DNHPDCL	4	N	73.13%	100%	276
Delhi	BRPL	6	Y	100.00%	-39%	95
	BYPL	6	Y	100.00%	-16%	39
	TPDDL	6	Y	100.00%	-23%	67
Goa	GED	4	Y	100.00%	26%	40
Gujarat	DGVCL	5	Y	100.00%	44%	1322
	MGVCL	5	Y	100.00%	-69%	1481
	PGVCL	5	Y	100.00%	100%	1225
	UGVCL	5	Y	100.00%	32%	652
Haryana	DHBVNL	7	Y	100.00%	34%	147
	UHBVNL	7	Y	100.00%	31%	107
Himachal Pradesh	HPSEBL	4	Y	0.00%	72%	77
Jammu & Kashmir	JPDCL	4	Y	0.00%	-36%	171
	KPDCL	4	Y	0.03%	-78%	33
Jharkhand	JBVNL	4	N	100.00%	-13%	16
Karnataka	BESCOM	5	Y	100.00%	-37%	27
	CESCOM	5	Y	72.54%	-33%	50
	GESCOM	5	Y	100.00%	-26%	6
	HESCOM	5	Y	37.16%	37%	32
	MESCOM	5	Y	49.76%	29%	53
Kerala	KSEBL	4	Y	100.00%	-74%	126

STATE	DISCOM	CONNECTION AND OTHER SERVICES				
		Alignment of Regulations with industry best practices w.r.t timelines (out of 6)	Presence of pre-determined demand charges for up to 150kW	Applications processed through online portal (submission till approval)	Average deviation from SoP in time taken for providing connection	Prosumers Per Lakh Consumers (under net or gross metering)
Ladakh	LPDD	4	Y	0.00%	-23%	0
Madhya Pradesh	MPMKVVCL	2	Y	24.75%	-82%	55
	MPPoKVVCL	2	Y	100.00%	-88%	24
	MPPsKVVCL	4	Y	50.98%	-68%	35
Maharashtra	AEML	5	Y	100.00%	-16%	29
	BEST	6	Y	1.26%	13%	31
	MSEDCL	6	Y	100.00%	100%	129
	TPCL	6	Y	100.00%	13%	44
Manipur	MSPDCL	4	N	36.65%	-31%	159
Odisha	TPCODL	4	Y	1.85%	0%	12
	TPNODL	4	Y	4.03%	-78%	1
	TPSODL	4	Y	26.18%	41%	2
	TPWODL	4	Y	3.35%	-73%	2
Puducherry	PED	4	Y	0.09%	28%	55
Punjab	PSPCL	4	Y	33.13%	78%	183
Rajasthan	AVVNL	6	Y	37.74%	-30%	45
	JdVVNL	6	Y	21.26%	-65%	122
	JVVNL	6	Y	94.90%	-56%	180
Tamil Nadu	TANGEDCO	5	Y	100.00%	-81%	10
Telangana	TSNPDCL	5	Y	100.00%	75%	20
	TSSPDCL	5	Y	100.00%	-19%	84
Tripura	TSECL	3	Y	41.81%	-18%	4
Uttar Pradesh	DVVNL	4	Y	100.00%	82%	2
	KESCo	4	Y	100.00%	-62%	65
	MVVNL	4	Y	23.85%	62%	42
	NPCL	4	Y	100.00%	-53%	171
	PsVVNL	4	Y	100.00%	-19%	15
	PuVVNL	4	Y	100.00%	70%	8
Uttarakhand	UPCL	3	Y	100.00%	-62%	127
West Bengal	WBSEDCL	6	Y	100.00%	-27%	2
National Average		5	-	67.61%	-2.30%	153

Annexure-B

(iii) Performance Across Parameters - Metering, Billing and Collections

STATE	DISCOM	METERING, BILLING AND COLLECTION			
		Average time (days) taken for replacement of defective meters (Rural)	Average time (days) taken for replacement of defective meters (Urban)	Bills generated based on actual meter reading	Bills generated on the basis of non-manual meter reading
Andhra Pradesh	APCPDCL	10.00	8.00	99%	75%
	APEPDCL	13.37	15.16	95%	82%
	APSPDCL	11.82	10.84	99%	95%
Arunachal Pradesh	APDA	4.35	3.00	0%	0%
Assam	APDCL	6.35	5.22	89%	20%
Bihar	NBPDCL	0.00	0.00	60%	0%
	SBPDCL	0.00	0.00	57%	0%
Chandigarh	CED	7.00	8.00	95%	0%
Chhattisgarh	CSPDCL	36.17	25.51	75%	0%
Dadra & Nagar Haveli	DNHPDCL	0.00	0.00	89%	87%
Delhi	BRPL	-	3.33	96%	100%
	BYPL	-	0.99	99%	100%
	TPDDL	-	2.61	100%	25%
Goa	GED	15.38	11.01	77%	0%
Gujarat	DGVCL	3.50	2.72	100%	0%
	MGVCL	12.96	3.85	98%	0%
	PGVCL	88.07	47.16	82%	0%
	UGVCL	NA	NA	83%	0%
Haryana	DHBVNL	0.00	20.58	83%	54%
	UHBVNL	12.96	9.11	72%	31%
Himachal Pradesh	HPSEBL	22.52	10.00	91%	0%
Jammu & Kashmir	JPDCL	7.00	4.00	70%	0%
Jammu & Kashmir	KPDCL	5.04	4.30	28%	0%
Jharkhand	JBVNL	15.00	15.00	56%	0%
Karnataka	BESCOM	15.43	12.88	90%	0%
	CESCOM	20.98	20.98	87%	0%
	GESCOM	19.11	12.38	95%	0%
	HESCOM	22.04	15.00	84%	0%
	MESCOM	23.05	15.53	95%	0%
Kerala	KSEBL	29.73	29.87	82%	0%
Ladakh	LPDD	6.00	4.45	93%	0%

METERING, BILLING AND COLLECTION					
Billing frequency for domestic category consumers as per regulations	Bills generated for domestic category consumers in a year	Consumers receiving billing updates on mobile	%age of Prepaid consumers	Tariff categories (incl. sub-categories and slabs)	%age of consumers paying digitally
Monthly	100%	92%	0.00%	57	32%
Monthly	92%	96%	0.00%	57	50%
Monthly	100%	88%	0.00%	57	51%
Monthly	0%	4%	9.59%	33	0%
Monthly	100%	75%	0.75%	59	2%
Monthly	89%	76%	0.67%	33	6%
Monthly	80%	82%	1.21%	33	13%
Bi-monthly	74%	75%	0.00%	37	59%
Monthly	99%	67%	0.00%	13	13%
Monthly	100%	27%	0.00%	28	25%
Monthly	98%	97%	0.35%	24	82%
Monthly	99%	97%	0.11%	24	77%
Monthly	97%	100%	0.29%	38	53%
Monthly	75%	48%	0.00%	50	32%
Bi-Monthly	100%	78%	0.00%	63	23%
Bi-monthly	98%	75%	0.00%	63	22%
Bi-monthly	99%	78%	0.00%	63	22%
Bi-monthly	72%	65%	0.00%	63	20%
Bi-monthly	85%	100%	0.00%	66	38%
Bi-Monthly	84%	77%	0.00%	66	42%
Monthly	73%	74%	0.01%	77	36%
Monthly	93%	8%	0.00%	55	8%
Monthly	99%	12%	0.00%	55	11%
Monthly	64%	65%	0.00%	25	11%
Monthly	88%	80%	0.44%	105	27%
Monthly	98%	86%	0.55%	93	8%
Monthly	91%	87%	0.00%	93	5%
Monthly	98%	84%	0.00%	93	8%
Monthly	99%	54%	0.00%	93	9%
Bi-monthly	100%	100%	0.00%	151	59%
Monthly	79%	20%	0.00%	55	10%

STATE	DISCOM	METERING, BILLING AND COLLECTION			
		Average time (days) taken for replacement of defective meters (Rural)	Average time (days) taken for replacement of defective meters (Urban)	Bills generated based on actual meter reading	Bills generated on the basis of non-manual meter reading
Madhya Pradesh	MPMKVVCL	4.00	12.00	51%	0%
	MPPoKVVCL	15.90	4.11	59%	1%
	MPPsKVVCL	6.20	5.49	49%	3%
Maharashtra	AEML	-	3.28	84%	44%
	BEST	-	41.78	71%	0%
	MSEDCL	114.78	106.21	70%	3%
	TPCL	-	17.09	77%	12%
Manipur	MSPDCL	9.88	2.00	78%	0%
Odisha	TPCODL	762.54	976.15	63%	0%
	TPNODL	162.22	84.67	59%	0%
	TPSODL	60.00	30.00	60%	0%
	TPWODL	0.00	0.00	53%	0%
Puducherry	PED	15.00	15.00	74%	6%
Punjab	PSPCL	48.04	0.00	92%	0%
Rajasthan	AVVNL	32.71	11.55	76%	3%
	JdVVNL	45.82	16.44	81%	1%
	JVVNL	18.17	1.24	95%	0%
Tamil Nadu	TANGEDCO	14.89	17.61	90%	0%
Telangana	TSNPDCL	22.12	16.09	79%	60%
	TSSPDCL	5.08	4.20	98%	82%
Tripura	TSECL	14.27	10.73	69%	6%
Uttar Pradesh	DVVNL	170.45	94.56	71%	7%
	KESCo	-	3.96	93%	97%
	MVVNL	135.30	102.30	74%	14%
	NPCL	4.98	5.51	93%	30%
	PsVVNL	97.56	83.35	76%	11%
	PuVVNL	0.00	0.00	63%	6%
Uttarakhand	UPCL	35.39	32.32	83%	51%
West Bengal	WBSEDCL	103.05	89.88	73%	0%
National Average		44.35	35.74	78%	19%

METERING, BILLING AND COLLECTION					
Billing frequency for domestic category consumers as per regulations	Bills generated for domestic category consumers in a year	Consumers receiving billing updates on mobile	%age of Prepaid consumers	Tariff categories (incl. sub-categories and slabs)	%age of consumers paying digitally
Monthly	99%	54%	0.00%	103	13%
Monthly	99%	74%	0.00%	103	32%
Monthly	99%	67%	0.00%	103	33%
Monthly	100%	66%	0.00%	44	41%
Monthly	100%	89%	0.00%	36	39%
Monthly	99%	92%	0.05%	56	44%
Monthly	100%	77%	0.00%	62	64%
Monthly	100%	9%	66.41%	19	31%
Monthly	95%	100%	0.00%	54	6%
Monthly	90%	87%	0.00%	54	5%
Monthly	90%	47%	0.00%	54	3%
Monthly	93%	50%	0.00%	54	3%
Monthly	97%	6%	0.00%	35	12%
Bi-Monthly	98%	38%	0.00%	81	26%
Bi-Monthly	100%	85%	0.44%	65	48%
Bi-Monthly	86%	87%	0.09%	65	30%
Monthly	73%	98%	0.05%	65	36%
Bi-Monthly	99%	86%	0.00%	49	27%
Monthly	97%	74%	0.24%	130	19%
Monthly	99%	93%	0.16%	130	36%
Monthly	89%	9%	14.33%	38	5%
Monthly	98%	83%	0.31%	134	7%
Monthly	99%	92%	3.37%	134	26%
Monthly	97%	78%	0.21%	134	6%
Monthly	100%	89%	4.71%	129	66%
Monthly	96%	55%	0.22%	134	15%
Monthly	100%	80%	0.11%	134	4%
Bi-Monthly	92%	66%	0.44%	57	24%
Quarterly	97%	84%	0.08%	150	57%
-	92%	70%	1.75%	-	27%

Annexure-B

(iv) Performance Across Parameters-Fault Rectification and Grievance Redressal

STATE	DISCOM	Fault Rectification and Grievance Redressal (10 marks)					
		Proportion of consumers registered at 24x7 customer care call center	Average call waiting time (seconds) at the call center	Proportion of consumers receiving outage related updates on mobile	Deviation from specified time for complaints resolution through call center	Grievance Redressal Mechanism (Two Tier)	Number of CGRF's per 1 Lakh consumers
Andhra Pradesh	APCPDCL	100%	28.22	92%	0.01%	Y	1
	APEPDCL	100%	13.17	96%	0.00%	Y	1
	APSPDCL	100%	14.08	87%	0.00%	Y	1
Arunachal Pradesh	APDA	33%	173.83	0%	0.00%	Y	5
Assam	APDCL	3%	4.74	78%	0.00%	Y	8
Bihar	NBPDCL	100%	177.25	76%	33.00%	Y	1
	SBPDCL	100%	177.25	82%	43.00%	Y	3
Chandigarh	CED	100%	NA	60%	0.00%	Y	1
Chhattisgarh	CSPDCL	100%	4.17	67%	37.00%	Y	7
Dadra & Nagar Haveli	DNHPDCL	100%	NA	100%	NA	Y	1
Delhi	BRPL	100%	15.42	97%	0.00%	Y	1
	BYPL	100%	10.66	97%	0.00%	Y	1
	TPDDL	100%	18.17	100%	1.00%	Y	1
Goa	GED	100%	35.25	48%	0.00%	Y	1
Gujarat	DGVCL	100%	NA	81%	0.00%	Y	20
	MGVCL	100%	NA	75%	0.00%	Y	119
	PGVCL	100%	NA	78%	0.00%	Y	4
	UGVCL	100%	NA	65%	0.00%	Y	2
Haryana	DHBVNL	100%	134.25	87%	2.00%	Y	1
	UHBVNL	100%	37.13	100%	82.00%	Y	1
Himachal Pradesh	HPSEBL	100%	55.00	74%	NA	Y	292
Jammu & Kashmir	JPDCL	100%	125.00	0%	0.00%	Y	3
	KPDCL	100%	40.00	0%	2.00%	Y	4
Jharkhand	JBVNL	99%	30.00	0%	0.00%	Y	5
Karnataka	BESCOM	100%	31.91	72%	43.00%	Y	8
	CESCOM	100%	4.00	39%	5.00%	Y	5
	GESCOM	99%	4.66	69%	12.00%	N	0
	HESCOM	100%	3.83	37%	249.00%	Y	7
	MESCOM	100%		78%	15.96%	Y	4

STATE	DISCOM	Fault Rectification and Grievance Redressal (10 marks)					
		24x7 customer care call center	Average call waiting time at the call center	Consumers receiving outage related updates on mobile	Deviation from specified time for complaints resolution through call center	Grievance Redressal Mechanism (Two Tier)	Number of CGRF's per 1 Lakh consumers
Kerala	KSEBL	100%	59.00	100%	0.20%	Y	3
Ladakh	LPDD	0%	NA	0%	NA	N	0
Madhya Pradesh	MPMKVVCL	100%	13.33	54%	0.00%	Y	1
	MPPoKVVCL	100%	4.08	74%	19.00%	Y	1
	MPPsKVVCL	100%	4.50	78%	0.00%	Y	1
Maharashtra	AEML	82%	8.67	66%	0.00%	Y	1
	BEST	100%	NA	89%	0.00%	Y	1
	MSEDCL	100%	54.40	92%	0.00%	Y	16
	TPCL	100%	14.17	77%	1.00%	Y	1
Manipur	MSPDCL	31%	32.42	14%	NA	N	0
Odisha	TPCODL	100%	NA	52%	0.00%	Y	5
	TPNODL	100%	NA	87%	40.00%	Y	2
	TPSODL	100%	NA	12%	NA	Y	2
	TPWODL	100%	NA	48%	NA	Y	3
Puducherry	PED	100%	NA	30%	NA	Y	1
Punjab	PSPCL	100%	8.08	0%	0.00%	Y	2
Rajasthan	AVVNL	100%	54.83	85%	0.00%	Y	255
	JdVVNL	100%	13.25	87%	0.00%	Y	235
	JVVNL	100%	16.02	100%	0.00%	Y	278
Tamil Nadu	TANGEDCO	100%	19.17	86%	0.00%	Y	44
Telangana	TSNPDCL	100%	30.50	74%	88.00%	Y	2
	TSSPDCL	59%	22.17	93%	4.00%	Y	2
Tripura	TSECL	100%	23.58	0%	0.00%	N	0
Uttar Pradesh	DVVNL	100%	11.58	13%	1.00%	Y	5
	KESCo	100%	67.83	92%	6.00%	Y	1
	MVVNL	100%	18.83	74%	54.55%	Y	5
	NPCL	100%	5.58	89%	0.00%	Y	1
	PsVVNL	100%	4.17	24%	4.00%	Y	3
	PuVVNL	100%	27.00	80%	0.00%	Y	1
Uttarakhand	UPCL	100%	10.29	66%	0.00%	Y	9
West Bengal	WBSEDCL	100%	85.50	84%	NA	Y	1
National Average		93.43%	37.98	64.27%	-	-	23

Annexure-C

Category specific consumer coverage

STATE	DISCOM	TOTAL CONSUMER	Category specific consumer coverage				
			Urban	Rural	Industrial	Agricultural	Other
Andhra Pradesh	APCPDCL	4655870	32%	66%	1%	1%	0%
	APEPDCL	6250654	31%	54%	0%	4%	11%
	APSPDCL	6492181	34%	47%	1%	16%	2%
Arunachal Pradesh	APDA	283006	51%	49%	0%	0%	0%
Assam	APDCL	6129387	15%	79%	0%	1%	5%
Bihar	NBPDCL	10457913	15%	84%	0%	1%	0%
	SBPDCL	5964395	27%	67%	1%	4%	0%
Chandigarh	CED	228476	83%	15%	1%	0%	1%
Chhattisgarh	CSPDCL	5832846	19%	77%	1%	3%	0%
Dadra & Nagar Haveli	DNHPDCL	82523	57%	38%	4%	1%	0%
Delhi	BRPL	2697029	100%	0%	0%	0%	0%
	BYPL	1750556	100%	0%	0%	0%	0%
	TPDDL	912016	91%	0%	3%	6%	0%
Goa	GED	653194	36%	62%	1%	0%	0%
Gujarat	DGVCL	3391998	37%	42%	3%	6%	12%
	MGVCL	3290540	33%	49%	1%	6%	11%
	PGVCL	5540750	42%	37%	1%	20%	0%
	UGVCL	3760721	28%	55%	2%	15%	0%
Haryana	DHBVNL	3739378	38%	51%	2%	9%	0%
	UHBVNL	3248179	37%	51%	2%	10%	0%
Himachal Pradesh	HPSEBL	2537783	19%	80%	0%	0%	0%
Jammu & Kashmir	JPDCL	1100759	31%	66%	2%	0%	1%
	KPDCL	1001349	32%	65%	1%	0%	2%
Jharkhand	JBVNL	4462418	28%	71%	0%	1%	0%
Karnataka	BESCOM	12593418	59%	24%	2%	8%	8%
	CESCOM	3549802	23%	55%	1%	12%	9%
	GESCOM	3308784	22%	61%	2%	12%	2%
	HESCOM	4939746	27%	41%	2%	19%	10%
	MESCOM	2473820	33%	61%	1%	3%	1%
Kerala	KSEBL	12935311	20%	80%	0%	0%	0%
Ladakh	LPDD	56051	33%	67%	0%	0%	0%
Madhya Pradesh	MPMKVVCL	4668652	38%	39%	0%	16%	7%
	MPPoKVVCL	6162579	27%	57%	0%	16%	0%
	MPPsKVVCL	5589256	33%	43%	1%	23%	1%

STATE	DISCOM	TOTAL CONSUMER	Category specific consumer coverage				
			Urban	Rural	Industrial	Agricultural	Other
Maharashtra	AEML	3056284	100%	0%	0%	0%	0%
	BEST	1011714	99%	0%	1%	0%	0%
	MSEDCL	27409126	42%	32%	2%	23%	1%
	TPCL	725413	100%	0%	0%	0%	0%
Manipur	MSPDCL	501502	42%	58%	0%	0%	0%
Odisha	TPCODL	2509479	26%	74%	0%	0%	0%
	TPNODL	1957345	21%	79%	0%	0%	0%
	TPSODL	2309905	26%	74%	0%	0%	0%
	TPWODL	2052905	18%	78%	0%	3%	1%
Puducherry	PED	434118	39%	58%	2%	2%	0%
Punjab	PSPCL	9282302	43%	36%	0%	21%	0%
Rajasthan	AVVNL	5145736	22%	77%	1%	0%	0%
	JdVVNL	4500313	32%	68%	0%	0%	0%
	JVVNL	5326724	20%	68%	2%	10%	0%
Tamil Nadu	TANGEDCO	31186334	55%	39%	3%	0%	3%
Telangana	TSNPDCL	5317347	28%	52%	0%	2%	18%
	TSSPDCL	8919504	61%	26%	4%	1%	8%
Tripura	TSECL	907093	34%	66%	0%	0%	0%
Uttar Pradesh	DVVNL	5565307	21%	70%	0%	2%	7%
	KESCo	651394	99%	0%	1%	0%	0%
	MVVNL	6583932	30%	68%	0%	2%	0%
	NPCL	102196	41%	53%	0%	5%	1%
	PsVVNL	6504587	39%	51%	0%	6%	4%
	PuVVNL	8409252	15%	85%	0%	0%	0%
Uttarakhand	UPCL	2409134	30%	70%	0%	0%	0%
West Bengal	WBSEDCL	20417835	19%	78%	1%	2%	0%

Annexure-D

Framework-Description and Measurement of Parameters

Parameter	Description & Measurement Method	Data Source
Operational Reliability (45 Marks)		
Hours of Supply (34 Marks)	• Average daily electricity supply duration (in hours) in urban, rural and industrial 11 kV feeders • Feeders at higher voltage level will not be included • Mixed feeders will be classified basis the dominant consumer type (number of consumers to be considered and not quantum of connected load) • Standby feeders which remain unutilized for full month not to be considered for calculation • For ease of calculation, average will not be weighted by number of consumers or load on the feeders • Scheduled as well as unscheduled outages included • Interruptions of less than 5 minutes to be neglected	During initial year(s), data to be submitted by Discoms along with supporting documents. REC or REC appointed agency to validate the data basis FMS and/ or evidence documents shared by DISCOMs. In subsequent years, FMS data and consumer survey (till FMS data is not compete) to be considered
Interruption Index (7 Marks)	• Interruption Index formula given at National Power Portal shall be used • Feeders at 11kV voltage level will be included • Average will be calculated for the total number of feeders, leading to No. of interruptions per feeder for the year • Scheduled as well as unscheduled outages • Interruptions of less than 5 minutes to be neglected	During initial year(s), data to be submitted by Discoms along with supporting documents. REC or REC appointed agency to validate the data basis evidence documents shared by discoms In subsequent years, FMS data system generated reports & regulatory filings to be considered
DT Failure Rate (4 Marks)	• Number of DT failures as a percentage of total DTs • Total DTs = Average of the number of DTs at the beginning and end of the period under consideration • All DTs across voltage levels to be considered for assessment	During initial year(s), data to be submitted by discom along with supporting documents. REC or REC appointed agency to validate the data basis evidence documents shared by Discoms

Connection and Other Services (10 Marks)		
Alignment of regulations with industry best practices w.r.t timelines for : (i) Release of connection (ii) Testing of meters (iii) Replacement of meters (iv) Issuance of no dues certificates to applicants (v) Provision for payment of claims on deviation from SoP (vi) Assessing feasibility of rooftop solar installation (vii) Connection of rooftop solar after installation *(Negative 2 Marks for non-alignment)*	• Alignment of regulation (SOP/ supply code) with industry best practices with respect to timelines as highlighted below: - Release of connection: Less than seven days in metro cities, fifteen days in other municipal areas and thirty days in rural areas - Testing of meters: Less than thirty days, of receipt of the complaint from the consumer - Replacement of meters: Less than twenty-four hours in urban areas and seventy-two hours in rural areas - Issuance of no dues certificates: Less than seven days from the receipt of final payment - Provision for payment of claims on deviation from SoP: Payment of claims made by consumers against non-adherence of Standards of Performance (SOP) by the utility - Assessing feasibility of rooftop solar installation: Less than twenty days - Connection of rooftop solar after installation: Less than thirty days from the date of submission of installation certificate	Copy of regulations notified by the regulatory commission
Predetermined demand charges for up to 150kW *(Negative 1 Marks for non-alignment)*	• Whether regulations provide for having predetermined demand charges for up to 150kW consumers	Copy of regulations notified by the regulatory commission
Applications processed through online portal *(2 Marks)*	• Number of applications for issuing a new electricity connection processed and approved online (Submission till approval) vis-à-vis the total applications approved in the period to be considered • An application shall be treated to have been processed online even if it is received in physical format provided it is entered into the computer system and the remaining processing is predominantly online, except for few processes in the same office.	Data to be submitted by discom along with supporting documents. REC or REC appointed agency to validate the data basis evidence documents shared by discoms

Average deviation from SoP in time taken for providing connection *(7 Marks)*	• Each class of consumers for which a different timeline for providing electricity connection starting from date of receipt of application to energization of meter, as specified in regulations, shall be considered as a category • Category wise average deviation (+/-) in percentage from specified timeline shall be calculated • Discom average deviation in percentage shall be calculated, weighted by the number of connections of each category given in the period under consideration	During initial year(s), data to be submitted by Discoms along with supporting documents. REC or REC appointed agency to validate the data basis evidence documents shared by Discoms In subsequent years, validation process to include inputs from consumer survey
Prosumers *(1 Mark)*	Prosumers (under net or gross metering) per lakh of total number of consumers, as on the end of the period under consideration	Data to be submitted by discom along with supporting documents. REC or REC appointed agency to validate the data basis evidence documents shared by discoms
Metering, Billing and Collection (35 Marks)		
Replacement of Defective Meters *(1+1 Mark)*	Average time taken for replacement of defective meters in • Urban areas • Rural areas	During initial year(s), data to be submitted by Discoms along with supporting documents. REC or REC appointed agency to validate the data basis evidence documents shared by discoms In subsequent years, validation process to include inputs from consumer survey
Bills generated based on actual meter reading *(4 Marks)*	• Percentage of bills generated on actual readings vis-à-vis total bills generated • Only actual meter readings from working meters to be considered (not including provisional, average, flat rate and unmetered billing, faulty/burnt meter, locked premises etc.) • Total bills generated to include metered and unmetered connections	Data to be submitted by discom along with supporting documents. REC or REC appointed agency to validate the data basis evidence documents shared by discoms
Bills generated through non-manual meter reading *(7 Marks)*	• Bills generated through non-manual meter reading process (i.e. smart meters, AMR meters, portbased/ Bluetooth/IR handheld meter reading devices, etc.) vis-à-vis total bills generated shall be calculated • On the basis of this, Discoms shall be categorized into deciles	Data to be submitted by discom along with supporting documents. REC or REC appointed agency to validate the data basis evidence documents shared by discoms

Billing frequency for domestic category consumers as per regulations *(Negative1 mark for non-monthly billing)*	• Monthly billing frequency for domestic category consumers	Data to be submitted by discom along with supporting documents. REC or REC appointed agency to validate the data basis evidence documents shared by discoms
Number of bills generated for domestic category consumers *(3 Marks)*	• All bills generated for all consumer under domestic category in a year	During initial year(s), data to be submitted by Discoms along with supporting documents. REC/PFC or REC appointed agency to validate the data basis evidence documents shared by discoms In subsequent years, validation process to include inputs from consumer survey
Consumers receiving billing updates on mobile *(3 Marks)*	• Percentage of consumers receiving bills on mobile • Would be measured as (Total bill related SMS received) / (No of bills received)	During initial year(s), data to be submitted by Discoms along with supporting documents. REC or REC appointed agency to validate the data basis evidence documents shared by discoms In subsequent years, validation process to include inputs from consumer survey
Prepaid consumers *(8 Marks)*	• Consumers under prepaid metering as a percentage of total number of consumers as at the end of the period under consideration, shall be calculated • On the basis of this, Discoms shall be categorized into quartiles	Data to be submitted by discom along with supporting documents. REC or REC appointed agency to validate the data basis evidence documents shared by discoms
Tariff categories (incl. sub-categories and slabs) *(2 Marks)*	• Number of tariff categories including subcategories and tariff slabs	Data to be submitted by discom along with supporting documents. REC or REC appointed agency to validate the data basis evidence documents shared by discoms
Number of consumers paying digitally *(6 Marks)*	Percentage of consumers making payments through digital channels (net-banking, credit/ debit cards, UPI, payment wallets, etc.) vis-à-vis total number of consumers • Prepaid consumers making payments digitally to be included in calculation of the percentage	Data to be submitted by discom along with supporting documents. REC or REC appointed agency to validate the data basis Validate the data basis evidence documents shared by discoms evidence documents shared by discoms

Fault Rectification and Grievance Redressal (10 Marks)		
24x7 customer care call centre with common code '1912' *(2 Marks)*	• Coverage will be calculated as a % of consumers covered by the Toll Free 24x7 Call Centre, as at the end of the period under consideration • Equipped with modern features - IVRS facility - Computer telephony integration - Automatic call distributor systems - System built complaint escalation mechanism o Status alert to consumer - Mechanism for verification of closure of complaints - Data analytics for insights - Message chatbots • Types of complaints registered - Supply - Commercial - Safety	Data to be submitted by discom along with supporting documents. REC or REC appointed agency to validate the data basis evidence documents shared by discoms
Average customer call waiting time *(1 Mark)*	• Average wait time (in seconds) for consumers (on 24x7 consumer care call centre helpline) while calling for registration of complaints (from call connection to initiation of conversation with consumer care representative)	During initial year(s), data to be submitted by Discoms along with supporting documents. REC or REC appointed agency to validate the data basis evidence documents shared by discoms In subsequent years, validation process to include inputs from consumer survey

Outage alerts through registered mobile *(2 Marks)*	• Discom shall be categorized into the following categories on the basis of outage alerts being provided by the Discom to its consumers: • Complete: If all consumers are generally being providing alerts both scheduled and unscheduled outages • Substantial: If majority of the consumers are generally being providing alerts for both scheduled and unscheduled outages • Moderate: If a majority of the consumers are generally being provided alerts for scheduled outages • Low: If some of the consumers are generally being provided outage alerts, scheduled, unscheduled or both • Negligible: If none or few consumers are being provided outage alerts, scheduled, unscheduled or both.	During initial year(s), data to be submitted by Discoms along with supporting documents. REC or REC appointed agency to validate the data basis evidence documents shared by discoms In subsequent years, validation process to include inputs from consumer survey
Deviation from specified time for complaints resolution through call centre *(4 Marks)*	• Each class of complaint for which a different timeline for resolution has been specified by the state regulator shall be considered as a category • Category wise average deviation (+/-) in percentage from the specified timeline in resolving the complaint shall be calculated • Discom average deviation in percentage shall be calculated, weighted by the number of complaints resolved for each category	Data to be submitted by discom along with supporting documents. REC or REC appointed agency to validate the data basis evidence documents shared by discoms
Adequacy of Grievance Redressal Mechanism *(1 Mark)*	• Whether two tier grievance redressal mechanism has been established by the Discom as per regulations specified by the SERC or not? • Whether adequate number of Consumer Grievance Redressal Forums (CGRF) have been established. Calculated as number of CGRFs per 100,000 consumers • In initial year(s), only orders issued up to 31.3.2021 will be seen as evidence. However, in later years, actual operation of the mechanism will be seen.	Data to be submitted by discom along with supporting documents. REC or REC appointed agency to validate the data basis evidence documents shared by discoms

Annexure-E

Framework-Marking Methodology

Parameter	Unit	Marks	Scoring
Operational Reliability (45 Marks)			
Hours of Supply	Hours/day	34	Rural (Total marks for Rural = A) • Over 22 hrs (Full Marks) • Under 16 hrs (No Marks) • 16- 22 hrs (Proportionate Marks) Urban (Total marks for Urban = B) • 24 hrs (Full Marks) • Under 17 hrs (No Marks) • 17- 23 hrs (Proportionate Marks) Industrial (4 marks) • 24 hrs (Full Marks) • Under 23 hrs (No Marks) • 23 - 24 hrs (Proportionate Marks) (A + B) to constitute 30 marks where ratio of A and B is determined basis proportion of consumers (not on energy basis)
Interruption Index	Interruptions per consumer	7	Rural (Total marks for Rural = X) • <60 (Full Marks) • >720 (No Marks) • 60 - 720 (Proportionate Marks) Urban (Total marks for Rural = Y) • <20 (Full Marks) • >420 (No Marks) • 20 - 420 (Proportionate Marks) Industrial (1 mark) • <10 (Full Marks) • >280 (No Marks) • 10 - 280 (Proportionate Marks) (X + Y) to constitute 6 marks where ratio of X and Y is determined basis proportion of feeders
DT Failure Rate	%	4	• Failure at <= 4% (Full Marks) • Failure at >14% (No Marks) • Failure 4% - 14% (Proportionate Marks)

Connection and Other Services (10 Marks)			
Alignment of regulations with industry best practices w.r.t timelines for (i) Release of connection (ii) Testing of meters (iii) Replacement of meters (iv) Issuance of no dues certificates to applicants (v) Provision for payment of claims on deviation from SoP (vi) Assessing feasibility of rooftop solar installation (vii) Connection of rooftop solar after installation	Yes/No	0 (-2)	Aligned with industry best practices (No Marks) • Non-alignment of any of the aspects (- 2/7 Mark each)
Presence of predetermined demand charges for up to 150kW	Yes/No	0 (-1)	• Yes (No Marks) • No (-1 Mark)
Applications processed through online portal (submission till approval)	%	2	• Highest % (Full marks) • Lowest % (No Marks) x Remaining (Proportionate Marks)
Average deviation from SoP in time taken for providing connection	%	7	• Within prescribed SOP timelines (Full Marks) • >20% Deviation from SOP (No marks) • 0 - 20% Deviation (Proportionate Marks)
Prosumers (under net or gross metering)	per lac	1	• Highest % (Full marks) • Lowest % (No Marks) • Remaining (Proportionate Marks)
Metering, Billing and Collection (35 marks)			
Average time taken for replacement of defective meters (Urban)	Days	1	• Least No. of days (Full marks) • Highest No. of days (No Marks) • Remaining (Proportionate Marks)
Average time taken for replacement of defective meters (Rural)	Days	1	• Least No. of days (Full marks) • Highest No. of days (No Marks) • Remaining (Proportionate Marks)
Bills generated based on actual meter reading	%	4	• Over 95% (Full Marks) • Under 65% (No Marks) • 65% - 95% (Proportionate Marks)
Bills generated on the basis of non-manual meter reading	Decile	7	• Top decile (Full Marks) • Bottom decile (No Marks) • Remaining deciles (Proportionate Marks)
Billing frequency for domestic category consumers as per regulations	Monthly/ Bimonthly	0 (-1)	If Billing is monthly for: • All domestic consumers (No Marks) • Part domestic consumers (Proportionate Negative Marks)

Bills generated for domestic category consumers in a year	Number	3	All bills generated for all consumers (Full Marks) • Otherwise (Marks proportionate to average number of bills per consumer)
Consumers receiving billing updates on mobile	%	3	If Billing alerts are received for • All Bills (Full Marks) • Some Bills (Proportionate Marks)
Prepaid consumers	Quartile	8	• Top quartile (Full Marks) • Bottom quartile (No Marks) • Remaining quartile (Proportionate Marks)
Tariff categories (incl. sub-categories and slabs)	Number	2	• Least No. of categories (Full Marks) • Highest No. of categories (No Marks) • Remaining (Proportionate Marks)
Number of consumers paying digitally	%	6	• Highest % (Full Marks) • Lowest % (No Marks) • Remaining (Proportionate Marks)
Fault Rectification and Grievance Redressal (10 marks)			
24x7 customer care call centre with common code '1912'	Yes/No	2	• Coverage (33.33% marks of total): Proportionate for the %age covered • Equipped with modern features (33.33% marks of total) - 5 or more modern features (Full Marks) - 4 Modern features (Half Marks) - Less than 4 features (No Marks) • Types of complaints registered (33.33% marks of total) - Supply, commercial, safety (Full Marks) - Supply & commercial (Half Marks) - Supply& safety (Half Marks) - Only Outages (No Marks)
Average call waiting time at the call centre	Seconds	1	• Under 30 seconds (Full Marks) • >120 seconds or no call centre (No Marks) • Remaining (Proportionate Marks)
Consumers receiving outage related updates on mobile	Complete / Substantial/ Moderate / Low / Negligible	2	• 100% (Full Marks) • 75-100% (75% Marks) • 50 - 75% (50% Marks) • 25 - 50% (25% Marks) • <25% (No Marks)

Deviation from specified time for complaints resolution through call centre	%	4	• 100% Within specified limit (Full marks) • >20% Deviation over limit (No marks) • Deviation 0 - 20% (Proportionate marks)
Adequacy of Grievance Redressal Mechanism	Yes/No	1	Two Tier Grievance Redressal Mechanism (50% marks of total) - Present (Full marks) - Not Present (No marks) • Number of CGRFs per 1 Lakh consumers (50% marks of total) - Highest (Full Marks) - Lowest (No Marks) - Remaining (Proportionate Marks)

Annexure-F

Working Sheet

Operational Reliability:

(i) Hours of Supply & Interruption Index:

Calculation Methodology for HOS (Hours of Supply) & Interruption Index			
	Availability of RFMS/NPP Data Set for HOS/SAIFI	p* Value	Final Value
Scenario I	For all Months	p>0.05	DCSR
		p<0.05	Weighted Average (RFMS-60% & DCSR-40%)
Scenario II	Few Months (Value for Missing Month = DCSR - Deviation*)		Weighted Average (RFMS-60% & DCSR-40%)
Scenario III	No Month		HOS (Rural/Urban) = Avg DCSR (1- NAD**)

1. **p value = Value derived from T Test. If p<0.05 (5% Significance level), then two data sets are statistically significant, otherwise statistically insignificant.*
2. *Avg RFMS = Average RFMS figures for all the months for which RFMS data is available*
3. *Avg NPP = Average NPP figures for all the months for which NPP data is available*
4. ***NAD = National Average Deviation (HOS/SAIFI)-*
5. *HOS - Rural = 7% & Urban = 1.24%*
6. *SAIFI - Rural = 7% & Urban = (-)1.24%*
7. *RFMS - Rural Feeder Monitoring System*
8. *NPP - National Power Portal*

In the DCSR exercise, we compare the annual average (calculated from the monthly figures) Hours of supply and Interruption Index from the input data sheet sent by the Discom and the RFMS data. If the difference between the two datasets is not statistically significant at 5% significance level (p value>0.05), then data from the Discom in the input data sheet shall be considered.

If the difference in the annual average hours of supply is statistically significant (p value<0.05), then, the weighted average of RFMS and Input data sheet shall be considered for Interruption Index and Hours of supply (HoS).

The total marks assigned to the HoS parameter is 34 which is further divided into 3 categories Rural, Urban & Industrial. Marks distribution are as follows-

1. Rural + Urban = 30 Marks
   Rural = 30*(Total No. of Rural consumers/ Total No. of Consumers)
   Urban = 30*(Total No. of Urban consumers/ Total No. of Consumers)
2. Industrial = 4 Marks

(ii) Aggregate DT Failure Rate = Weighted Average of (Total No. of DTs Failed/ Total No. Of DTs)

**Weighted Average is based on category wise distribution of DTs*

Connection & Other Services:

(i) **Percentage of Applications processed through online portal=** (Total No. of New Connections Released (including all categories) via Online processing/ Total No. of New Connections released) * 100

(ii) **Average deviation from SoP in time taken for providing connection Deviation=** (Average time Taken for release of connection- Average time Taken as per SOP)/ Average time Taken as per SOP
Weighted average days taken for new connection= Weighted average of the total no. of new connections released across all the categories*Deviation

(iii) **Prosumers (under net or gross metering)/per lac=** (Total number of prosumers*100000)/ Total number of consumers

Metering, Billing and Collection:

(i) **Average time taken for replacement of defective meters=** (Month wise Average no. of days taken for replacement of meters*Month wise no. of meters replaced)/ Sum of Total no. of meters replaced across all the months

(ii) **Percentage of Bills generated through actual meter readings=** (Total No. of Bills generated on actual meter readings/ Total no. of bills generated) *100

(iii) **Percentage of Bills generated through non-manual readings=** (Total No. of Bills generated through Non manual meter readings/ Total no. of bills generated) *100
Billing frequency for domestic category consumers (% of consumers with monthly billing) = (Number of domestic consumers billed monthly/ Total no. of domestic consumers) *100

(iv) **Percentage of Bills generated for domestic category consumers in a year=** (Total no. of bills generated for domestic consumer in a year/No. of bills required to be generated) *100
No. of bills required to be generated= (No. of consumers billed monthly*12) + (No. of consumers with bi-monthly billing*6) + (No. of consumers with quarterly billing*4) + (No. of other consumers with different billing frequency * Frequency of billing for other category)

(v) **Percentage of Consumers receiving billing updates on mobile=** (Consumers registered for SMS alert/ Total no. of consumer) * 100

(vi) **Percentage of Prepaid consumers=** (Total no. of prepaid consumers/ Total No. of Consumers) * 100

(vii) **Percentage of consumers paying digitally=** (Total no. of online transactions/ Total number of bills generated) * 100

Fault Rectification and Grievance Redressal:

(i) **Percentage of consumers registered in 24x7 customer care call center=** (Number of Consumers for whom 24x7 consumer care helpline exists / Total number of Consumers) * 100

(ii) **Percentage of Consumers receiving outage related updates on mobile=** (No. of consumers whose mobile numbers are registered to receive outage alerts/ Total number of consumers) * 100

Annexure-G

Acronyms

ACS	Average Cost of Supply
AMR	Automated Meter Reading
ARR	Average Revenue Realized
AT&C Losses	Aggregate Technical and Commercial Losses
CEEW	Council on Energy, Environment and Water
CGRF	Consumer Grievance Redressal Forums
CMD	Chairman and Managing Director
CoS	Connections and Other Services
CUTS	Consumer Unity & Trust Society
DCSR	DISCOM Consumer Services Rating
DDUGJY	Deendayal Upadhyaya Gram Jyoti Yojana
DISCOM	Distribution Companies
DT	Distribution Transformer
ERP	Enterprise Resource Planning
FRGR	Fault Rectification and Grievance Redressal
FRTU	Feeder Remote Terminal Unit
GOI	Government of India
HoS	Hours of Supply
IFMR	Institute for Financial Management and Research
II	Interruption Index
IPDS	Integrated Power Development Scheme
IRES	India Residential Energy Survey
ERC	Electricity (Rights of Consumer) 2020
J-PAL	Abdul Latif Jameel Poverty Action Lab
KPMG	Klynveld Peat Marwick Goerdeler
KV	Kilo Volt
kW	Kilo Watt
MBC	Meter, Billing and Collection
MIS	Management Information System
ML	Main Land
MOP	Ministry of Power
NFMS	National Feeder Monitoring System
NITI Aayog	National Institution for Transforming India Aayog
NPP	National Power Portal
O&M	Operations and Maintenance
OR	Operational Reliability

PIA	Project Implementing Agency
PwC	Pricewaterhouse Coopers Private Limited
QR code	Quick Response Code
QRT	Quick Response Team
RAPDRP	Restructured Accelerated Power Development and Reforms Programme
RDSS	Revamped Distribution Sector Scheme
RE	Renewable Energy
RFMS	Rural Feeder Management System
RMU	Ring Main Unit
ROs	Regional Offices
SAP	Systems Applications and Products in data processing
Saubhagya	Pradhan Mantri Sahaj Bijli Har Ghar Yojana
SC	Special Category
SOP	Standard Operating Procedures
TAT	Turn Around Time
UDAY	Ujjwal DISCOM Assurance Yojana
UTs	Union Territories
w.r.t	With Respect To

Acronyms of DISCOMs

AEML	Adani Electricity Mumbai Ltd.
APCPDCL	Andhra Pradesh Central Power Distribution Company Limited
APDA	Department of Power, Arunachal Pradesh
APDCL	Assam Power Distribution Company Limited
APEPDCL	Andhra Pradesh Eastern Power Distribution Company
APSPDCL	Andhra Pradesh Southern Power Distribution Company Limited
AVVNL	Ajmer Vidyut Vitran Nigam Limited
BESCOM	Bangalore Electricity Supply Company Limited
BEST	Brihmanmumbai Electric Supply Company
BRPL	BSES Rajdhani Power Limited
BYPL	BSES Yamuna Power Limited
CED	Central Electricity Supply Company Limited
CESC	Calcutta Electric Supply Corporation Limited
CESCOM	Chamundeshwari Electricity Supply Corporation Limited
CSPDCL	Chhattisgarh State Power Distribution Company Ltd.
DGVCL	Dakshin Gujarat Vij Company Limited
DHBVNL	Dakshin Haryana Bijli Vitran Nigam
DNHPDCL	Dadra & Nagar Haveli Power Distribution Corporation Ltd
DVVNL	Dhakshinachal Vidyut Vitran Nigam Limited
EDAN	Electricity Department, UT of Andaman & Nicobar
GED	Electricity Department, Government of Goa
GESCOM	Gulbarga Electricity Supply Company Limited
HESCOM	Hubli Electricity Supply Company Limited
HPSEBL	Himachal Pradesh State Electricity Board Limited
JBVNL	Jharkhand Bijli Vitran Nigam Limited
JdVVNL	Jodhpur Vidyut vitran Nigam Limited
JPDCL	Jammu Power Distribution Corporation Ltd
JVVNL	Jaipur Vidyut Vitran Nigam Limited
KESCo	Kanpur Electricity Supply Company
KPDCL	Kashmir Power Distribution Corporation Ltd
KSEBL	Kerala State Electricity Board Limited
LED	Electricity Department, UT of Lakshadweep
LPDD	Ladakh Power Development Department
MeECL	Meghalaya Energy Corporation Limited
MESCOM	Mangalore Electricity Supply Company Limited
MGVCL	Madhya Gujarat Vij Company Limited

MPED	Power & Electricity Department, Government of Mizoram
MPMKVVCL	Madhya Pradesh Madhya Kshetra Vidyut Vitran
MPPoKVVCL	MP Poorv Kshetra Vidyut Vitran Company Limited
MPPsKVVCL	MP Paschim Kshetra Vidyut Vitran Company Limited
MSEDCL	Maharashtra State Electricity Distribution Co. Ltd.
MSPDCL	Manipur State Power Distribution Company Ltd
MVVNL	Madhyanchal Vidyut Vitran Nigam Limited
NBPDCL	North Bihar Power Distribution Company Limited
NPCL	Noida Power Company Limited
NPD	Department of Power, Nagaland
PED	Electricity Department, UT of Puducherry
PGVCL	Paschim Gujarat Vij Company Limited
PSPCL	Punjab State Power Corporation Limited
PsVVNL	Paschimanchal Vidyut Vitran Nigam Limited
PuVVNL	Purvanchal Vidyut Vitran Nigam Ltd.
SBPDCL	South Bihar Power Distribution Company Limited
SPD	Sikkim Power Development Corporation Limited
TANGEDCO	Tamil Nadu Generation & Distribution Corporation
TPCL	Tata Power Company, Ltd. (India)
TPCODL	Tata Power Central Odisha Distribution Limited
TPDDL	Tata Power Delhi Distribution Limited
TPL	Torrent Power Limited
TPNODL	Tata Power Northern Odisha Distribution Limited
TPSODL	Tata Power Southern Odisha Distribution Limited
TPWODL	Tata Power Western Odisha Distribution Limited
TSECL	Tripura State Electricity Corporation Limited
TSNPDCL	Telangana State Northern Power Distribution Company Ltd
TSSPDCL	Telangana State Southern Power Distribution Company Ltd
UGVCL	Uttar Gujarat Vij Company Limited
UHBVNL	Uttar haryana Bijli Vitran Nigam
UPCL	Uttarakhand Power Corporation Limited
WBSEDCL	West Bengal State Electricity Distribution Company Limited

Acronym of Indian States

AN	Andaman & Nicobar
AP	Andhra Pradesh
AR	Arunachal Pradesh
AS	Assam
BR	Bihar
CH	Chandigarh
CG	Chhattisgarh
DNH	Dadra & Nagar Haveli
DD	Daman & Diu
DL	Delhi
GA	Goa
GJ	Gujarat
HR	Haryana
HP	Himachal Pradesh
JK	Jammu & Kashmir
JH	Jharkhand
KA	Karnataka
KL	Kerala
LA	Ladakh
LD	Lakshadweep
MP	Madhya Pradesh
MH	Maharashtra
MN	Manipur
ML	Meghalaya
MZ	Mizoram
NL	Nagaland
OD	Odisha
PY	Puducherry
PB	Punjab
RJ	Rajasthan
SK	Sikkim
TN	Tamil Nadu
TS	Telangana
TR	Tripura
UP	Uttar Pradesh
UK	Uttarakhand
WB	West Bengal

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आरईसी
REC
असीमित ऊर्जा, अनंत संभावनाएं
Endless energy. Infinite possibilities.

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