INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

ENVIRONMENT AND SOCIAL SYSTEMS ASSESSMENT

FOR

PROPOSED LOAN IN THE AMOUNT OF US$497.9 MILLION TO

REC LIMITED

FOR THE

PROGRAM FOR ELECTRICITY DISTRIBUTION SECTOR REFORMS IN INDIA

(P177844)

DRAFT

June 21, 2023

TABLE OF CONTENT

Executive Summary ..... **vi**

1 Introduction to the Program **1**

1.1 Background and Context 1

1.2 Program Design 2

1.2.1 Program Components 2

1.3 Government Program and Bank Financed Program (P Vs p) 3

1.4 Program expenditure framework and financing 4

1.5 Geographic Scope and Context 6

1.6 Program Implementing Agencies and Partners 7

1.7 Introduction to ESSA 7

1.8 Methodology Adopted for ESSA 8

2 Potential Environmental and Social Effects of the Program **9**

2.1 Environmental Risks or Impacts and Benefits of the Program 9

2.2 Social Risks or Impacts and Benefits of the Program 10

2.3 Indirect and Cumulative Impacts 16

3 Assessment of Environmental and Social Management System, Capacity & Performance **17**

3.1 Assessment of Existing Systems 17

3.2 Assessment of Institutional Capacity and Gaps 18

3.2.1 REC Ltd. 18

3.2.2 Discoms at State Level 19

3.3 Legal and Regulatory System 20

3.4 Environmental and Social Management System Assessed Against Core Principles 21

3.4.1 Core Principle -1: Program E&S Management System 21

3.4.2 Core Principle -2: Natural Habitat and Physical and Cultural Resources 22

3.4.3 Core Principle -3: Public and Workers Safety 23

3.4.4 Core Principle -4: Land Acquisition and Resettlement 24

3.4.5 Core Principle- 5: Rights and Interests of Indigenous People and Concerns of Vulnerable Population Groups 25

3.4.6 Core Principle- 6: Social Conflict 27

3.5 Grievance Redressal Mechanism 27

4 Consultations with Key Stakeholders and Disclosure **31**

4.1 Stakeholder consultation 31

4.2 Summary of Multi-stakeholder consultation workshop 32

4.3 Disclosure of ESSA 33

5 Recommendations and Actions 34

5.1 Exclusion of High-Risk Activities 34

5.2 Key ESSA Findings 34

5.3 Summary of Recommendations and Actions 35

5.4 Measures for Inclusion in the Program Action Plan 36

5.5 Input to the Implementation Support Plan 37

Annexures 38

Annexture-1: List of Documents and Information Reviewed 38

Annexure-2: Review of Applicable Legal and Regulatory Framework 39

Annexure-3: List of Participants in the Multi-Stakeholder Consultation Workshop 46

ABBREVIATIONS

AT&C Loss	Aggregate Technical and Commercial Loss
ARR	Aggregate Revenue Requirement
AVVNL	Ajmer Vidyut Vitran Nigam Limited (Ajmer Discom)
CEA	Central Electricity Authority
CHS	Community Health and Safety
CGRF	Consumer Grievance Redressal Forum
CM	Chief Minister
CMD	Chairman & Managing Director
CPCB	Central Pollution Control Board
CPGRAMS	Centralised Public Grievance Redress and Monitoring System
CSR	Corporate Social Responsibility
DARPG	Department of Administrative Reforms and Public Grievances
DBT	Direct Benefit Transfer
DC	Distribution Circles
Discom	Distribution Company
DLI	Disbursement Linked Indicator
DMS	Distribution Management System
DRC	Distribution Reform Committee
EA	Electricity Act
EHSS	Environmental, Health, Safety and Social
E&S	Environment and Social
ESG	Environmental and Social Governance
ESSA	Environmental and Social Systems Assessment
FRBM	Fiscal Responsibility and Budget Management
GBS	Gross Budgetary Support
GDP	Gross Domestic Product
Genco	Generating Company
GIB	Great Indian Bustard
GIS	Geographic Information System
GoI	Government of India
GoMP	Government of Madhya Pradesh
GoR	Government of Rajasthan
GRS	Grievance Redress Service
GSDP	Gross State Domestic Product
HR	Human Resources
IBRD	International Bank for Reconstruction and Development
ICT	Information and Communication Technology

IEA	International Energy Agency
IGR	Internal Grievance Redressal
IPF	Investment Project Financing
IPP	Independent Power Producer
IT	Information Technology
IVA	Independent Verification Agency
JdVVNL	Jodhpur Vidyut Vitran Nigam Limited (Jodhpur Discom)
JVVNL	Jaipur Vidyut Vitran Nigam Limited (Jaipur Discom)
kWh	kilowatt-hour
LPS	Late Payment Surcharge
M&E	Monitoring and Evaluation
MC	Monitoring Committee
MDMS	Meter Data Management System
MNRE	Ministry of New and Renewable Energy
MoP	Ministry of Power
MP	Madhya Pradesh
MPERC	Madhya Pradesh Energy Regulatory Commission
MPMaKVVCL	Madhya Pradesh Madhya Kshetra Vidyut Vitaran Company Limited
MPPaKVVCL	Madhya Pradesh Paschim Kshetra Vidyut Vitaran Company Limited
MPPoKVVCL	Madhya Pradesh Poorv Kshetra Vidyut Vitaran Company Limited
MW	Mega Watt
NBFC	Non-Banking Financial Company
OHS	Occupational Health and Safety
PCM	Procurement & Contracts Management
PDO	Project Development Objective
PforR	Program for Results
PIU	Project Implementation Unit
PPA	Power Purchase Agreement
PSB	Public Sector Bank
PRO	Public Relation Officer
RA	Result Area
RBI	Reserve Bank of India
RDSS	Revamped Distribution Sector Scheme
RE	Renewable Energy
RERC	Rajasthan Electricity Regulatory Commission
RTI	Right to Information
SC	Scheduled Caste
SCADA	Supervisory Control and Data Acquisition
SERC	State Electricity Regulatory Commission

ST	Scheduled Tribe
TA	Technical Assistance
T&D	Transmission and Distribution
Transco	Transmission Utility
UDAY	Ujjwal Discom Assurance Yojana (of GoI)
UT	Union Territory
WBG	World Bank Group
WII	Wildlife Institute of India

EXECUTIVE SUMMARY

E1. Introduction to the Program

(i) **Background**: India's rapid economic development and growing population require a power system that can meet the demand for higher quality and cleaner electricity services. With rising incomes, industrialisation, and urbanisation, the demand is expected to grow. However, the electricity distribution business (which for most parts is managed by state-owned distribution utilities or Discoms) continues to perform poorly on most financial and operational parameters. The financial distress in the electricity distribution sector is due to (a) high levels of aggregate technical and commercial (AT&C) losses; (b) tariffs not fully covering the annual revenue requirement of Discoms; and (c) delay in the release of electricity tariff subsidy by state governments and pendency of payments for electricity consumption by government departments/ entities/ local bodies.

(ii) To support the electricity distribution sector, the Government of India (GoI) has announced three important programs to support reforms, including (1) Relaxing borrowing limits under Fiscal Responsibility and Budget Management (FRBM) Act by 0.5 percent of Gross State Domestic Product (GSDP) subject to states meeting defined performance criteria for the electricity distribution sector; (2) Revamped Reform-linked Result-based Distribution Sector Scheme (RDSS) to assist Discoms in improving their operational efficiencies and financial sustainability; and (3) The Electricity Late Payment Surcharge 2022 (LPS Scheme) which provides a mechanism for the settlement of outstanding dues (including principal and late payment surcharge) owed to generating companies and Electricity Trading Licensees, by Discoms, by providing financing to re-structure the dues into longer-term loans.

(iii) The proposed PforR Program builds upon the World Bank's engagement in electricity distribution at state level. It supports GoI's RDSS program, a results-linked scheme that will provide financial assistance to Discoms based on meeting a pre-qualifying criterion and achieving basic minimum benchmarks in reforms. The PforR operation aims to (a) provide a stronger focus on the implementation of critical reforms and initiatives in electricity distribution in alignment with GoI's RDSS scheme, (b) improve the capacity of government agencies to deliver the program through their own systems and procedures, and (c) provide flexibility and efficiency in supporting an ambitious government program. The PforR program will cover public Discoms in States of Madhya Pradesh and Rajasthan. The program will be implemented by REC limited (a financial intermediary under the administrative control of Ministry of Power, GoI) and which will be also the borrower for the World Bank financing. The PforR Program will be supported by an Investment Project Financing (IPF) component for Technical Assistance (TA) and includes consultancy support for the capacity building of REC and the participating Discoms in the implementation of the reforms around resource adequacy planning, smart meter deployment, energy accounting, smart meter data analytics for loss reduction and deployment of modern technologies for improving the customer service, billing and business processes.

(iv) **Program Development Objective**: is to enable energy transition by improving the financial health and operational efficiency of electricity distribution utilities in Participating States in India.

(v) The **PDO-level result indicators** include (a) the Gap between Average Revenue Realised and Average Cost of Supply (INR/kWh) – Madhya Pradesh Discoms; (b) the Gap between Average Revenue Realized and Average Cost of Supply (INR/kWh) – Rajasthan Discoms; (c) Aggregate Technical and Commercial Losses (percentage) - Madhya Pradesh Discoms; and (d) Aggregate Technical and Commercial Losses (percentage) - Rajasthan Discoms.

(vi) **Result Areas:** The program has three result areas. **Result Area-1 (RA-1)**: Improving generation planning towards enabling increased share of renewable energy; **Results Area-2 (RA-2)**: Enhancing

financial performance of the electricity distribution sector leading to a reduction in revenue gap; and **Results Area-3 (RA-3)**: Improving the operational efficiency of electricity distribution sector leading to reduction in AT&C losses.

(vii) The PforR Program focuses on critical policy and structural reforms, and financing for power purchases and limited investments (metering and associated ICT systems) that are essential to improve operational efficiency of state-owned Discoms. Further, on power purchase dues, the PforR funds shall have order of preference towards electricity purchased by Discoms from RE producers.

E2. Environmental and Social Systems Assessment (ESSA)

(viii) An Environmental and Social Systems Assessment (ESSA) for the "Electricity Distribution Sector Reforms in India program" has been completed in line with the World Bank's Guidance for conducting ESSA for PforR financing operations. The findings and recommendations of the ESSA are based on the review of relevant environmental and social (E&S) management systems of the REC and the Discoms in Participating States of Madhya Pradesh and Rajasthan.

(ix) **Methodology**: The ESSA process adopted a methodology in which (a) the E&S effects, including indirect effects, of activities associated with the Program were identified/analysed; (b) borrower's systems for managing identified E&S effects, including a review of practices and the performance track record was assessed; (c) borrower's systems - laws, regulations, standards, procedures, and implementation performance were compared against the core principles and key planning elements to identify any significant differences that could affect Program performance. Based on this, the ESSA has recommended measures to strengthen performance on specific operational aspects relevant to managing risks and enhancing the benefits/sustainability of the Program.

(x) It involved (a) a comprehensive review of government policies, legal frameworks, program documents, and other relevant information, including REC's environmental and social management systems (b) interviews and consultations were conducted with relevant experts and officials from REC officials looking after different aspects of the program on environmental and social systems and procedures. Discussions and consultations were also undertaken with participating Discoms in Madhya Pradesh and Rajasthan. A multi-stakeholder workshop was organized on June 06, 2023, at the national level covering participants from a wider set of stakeholder groups including from NGOs, Civil society members, electricity distribution utilities among others.

(xi) **Environment and Social Risks and Impacts**: The PforR program would improve the energy mix, including encouraging green energy, would help decarbonise the distribution network, reduce electricity demand, and further reduce greenhouse gas emissions. Other interventions envisaged, like smart metering, energy accounting, and direct benefit transfer, would indirectly help raise consumer awareness of consumers on electricity and resource conservation. Overall, the program has many positive social impacts, including (a) improved electricity supply will contribute to improved livelihoods and poverty reduction, including potential for improved health and education opportunities; and (b) potential options for reduced electricity consumption with transparency in subsidy delivery system.

(xii) The program does not envisage the development of any distribution infrastructure; hence, any land acquisition, land restriction, and/or resettlement is not anticipated. Similarly, any construction-related impacts are not envisaged. The smart meter and IT-OT system investments proposed to be supported under the program would generate e-waste and thermoset plastic/ sheet moulding compounds and fiber reinforced plastic; given that there are established systems and processes and country systems related to waste management, no significant risk is envisaged. With

regard to RE generating plants, the Hon'ble Supreme Court of India, in response to a petition to address the issue of the dwindling population of GIB (Great Indian Bustard)[1], directed that power lines in the priority habitat area of the GIB in Rajasthan[2] must be undergrounded and those in the potential GIB habitat provided with Bird diverters. According to the latest status report by the court-appointed committee and the affidavit by the State of Rajasthan, several lines are yet to implement the court order. Thus, the Discoms must screen entities compliant with the court order for entering/ executing PPAs [However entering into new PPAs is outside the program boundary]. The key social risks emerge from the need for further attention towards (a) strengthening consumer engagement process by the Discoms; (b) ensuring monitoring of adherence to Community Health Safety (CHS) measures when undertaking repair and/or replacements (such as meter replacement), especially at consumer end; and (c) improving information sharing by Discoms on issues concerning consumers.

(xiii) The program does not involve any land acquisition, air and water pollution, loss of or damage to valued habitats or cultural heritage, community and worker safety, or vulnerable groups and would not lead to potential cumulative, indirect, or induced effects of GHG emission, climate change. The country's systems for e-waste, thermoset plastic and OHS are robust to handle the issues highlighted. Further REC and Discoms of both states have mechanisms in place which can handle these issues but might require strengthening of system and processes. There institutional capacities and regulatory structure are in place at Discoms to engage with the consumers, redressing their grievance, monitoring of adherence to Community Health Safety (CHS) measures when undertaking repair and/or replacements (such as meter replacement), especially at consumers.

(xiv) There is a low likelihood that the achievement of the operational objectives would have an adverse E&S impact (including those related to climate change) because they are not present or are not relevant to the operation. The operation would decarbonize the distribution network as the percentage of renewable energy increase and thus would have beneficial impacts on GHG emissions. Further the activities have embedded measures and borrower has capacity to ensure the risks are eliminated or mitigated. Recommendations are further made towards strengthening the existing E&S management systems. Thus E&S risk are rated "low."

(xv) **Assessment of borrower's capacity and systems:** The REC is a Public Sector Undertaking (PSU) under the Ministry of Power (MoP) and is a financial intermediary playing the strategic role in the development of the power sector in India by servicing the financing needs of the entire power sector in the country. REC will have the overall responsibility for compliance, monitoring, and implementation of the Program. REC's state loan department will act as the Project Implementation Unit (PIU) for the Program. At the state level, the Discoms in Madhya Pradesh (3 Discoms) and Rajasthan (3 Discoms) are the key agencies for implementing the RDSS and LPS and will be the main recipients of loan from REC under the proposed Program.

[1] The great Indian bustard (*Ardeotis nigriceps*), or Indian bustard, is a Critically Endangered species found on the Indian subcontinent. Listed in Schedule I of the Indian Wildlife (Protection)Act, 1972, in the CMS Convention and in Appendix I of CITES, as Critically Endangered on the IUCN Red List and the National Wildlife Action Plan (2002-2016). It has also been identified as one of the species for the recovery program under the Integrated Development of Wildlife Habitats of the Ministry of Environment and Forests, Government of India. In 2011 Birdlife International up listed this species from Endangered to Critically Endangered, mainly because it has been extirpated from 90% of its former range, and the population was estimated at perhaps fewer than 250 individuals in 2008.

[2] The judgement of the Hon'ble Supreme Court of India relevant to the scope of the project has been discussed. For reference to the details of the case, please look up Home | SUPREME COURT OF INDIA (sci.gov.in).

(xvi) REC has approved an Environmental and Social Governance (ESG) policy in January 2023. It is now in the process of detailing and integrating them in the operation in a gradual manner. While many of the elements of the ESG are already in practice by REC, however, the policy makes it a more coherent and consolidated approach towards environmental and social aspects. The ESG policy framework will serve as a guiding document for all ESG initiatives and activities undertaken by REC. Overall, the existing legislative and regulatory systems in the country and at the state level applicable to the Program and the processes at REC and the Discoms are robust to avoid, minimise, or mitigate adverse impacts.

(xvii) The Occupational Health Safety (OHS) and Community Health Safety (CHS) issues related to electricity distribution are governed by the Central Electricity Authority (Measures Relating to Safety and Electricity Supply) Regulations, 2010. Discoms in both states have developed Safety Manual and instituted processes, but there is scope for improvement in areas, e.g., incident reporting & investigation, comprehensive approach to training. While the overall systems and process align with ESSA Core principles, there is scope for improvement and opportunity to enhance social benefits by improving transparency through strengthening the consumer engagement and feedback mechanism process. REC has also started undertaking Consumer Service Ratings of Discoms (CSRD) since FY21 towards creating a path of accountability for the Discoms and awareness amongst consumers on multiple parameters that directly impacts their satisfaction levels. In the second CSRD exercise conducted in FY22[3] across 58 Discoms in different states in the country, one Discom in Madhya Pradesh was rated B+ while remaining two Discoms in in Madhya Pradesh and all three Discoms in Rajasthan were rated in the 'B' category.

E3. Key Recommendations

(xviii) The program provides an opportunity to further strengthen the E&S management systems and procedures at both REC and Discoms level, e.g., compliance reporting to national regulation or court orders, implementing industry best practices on OHS and CHS measures, strengthening stakeholder engagement process, and consumer feedback mechanism etc. The Program Action Plan (PAP) further details the critical measures for REC and Discoms to help relevant agencies overcome environmental, social, and safety gaps and improve their systems on E&S management.

(xix) **Excluded Activities**: Activities causing high or substantial E&S risks and impacts are not financed under the current program, and they include: (a) involuntary land taking, any physical displacement or permanent disruption of sources of income; (b) Activities that are not in compliance with Central and State environmental legislation, court orders including the Hon'ble Supreme Court Order on GIB; (c) Air, water, or soil contamination leading to significant adverse impacts on the health or safety of individuals, communities, or ecosystems; (d) Destruction or damage to any physical and cultural resources; (e) Adverse impact on Indigenous People or their territories without their consent; (f) Located in or adversely affecting any protected areas, critical habitats, culturally or socially sensitive areas or leading to conversion of natural habitat; (g) Workplace conditions that expose workers to significant risks to health and personal safety and harmful child or forced labour; (h) Adverse E&S impacts covering large geographical areas, including transboundary impacts, or global impacts such as greenhouse gas (GHG) emissions; and (i) Any significant cumulative, induced, or indirect impacts.

(xx) **Key Recommendations towards Strengthening Environmental and Social Systems**: The critical recommendations towards strengthen environmental and social systems and promoting sustainable practices under the current PforR includes: **(A) Environmental Systems:** (a) Review and strengthen the OHS system in case of network/consumer metering; (b) Support REC in defining the

[3] https://recindia.nic.in/uploads/files/co-usri-crsd-report-fy-21-22-dt120423.pdf

Process and Procedure for developing ESG System to translate the ESG policy; (c) Developing process for the handling of the Thermoset Plastic Waste including Sheet moulding compound (SMC)/Fibre Reinforced Plastic (FRP); **(B) Social Systems:** (a) The ESG policy to be translated into programmatic actions into planning and operations of REC; (b) Discoms in Rajasthan to further strengthen consumer feedback mechanism by introducing periodic Customer satisfaction survey to understand consumer issues and concerns; (c) Discoms in Madhya Pradesh need to review the existing consumer feedback mechanism and strengthen mechanism for its collation and analysis to feed into planning and operations of Discoms towards strengthening consumer relationship.; and (d) Develop mechanism for proactive communication of Discom metering plans.

(xxi) **Program Action Plan (PAP)**: The Program will ensure adequate resources are provided for timely and effective implementation of environmental and social measures, and the key recommendations will be made a part of the Program Action Plan (PAP). The list of PAP actions is presented below.

Action description	Responsibility	Timing	Completion Measurement
1. Prepare SoP/ Program Manual defining process and procedure for integrating ESG policy into REC's planning and operation	REC	Eighteen months from program effectiveness	ESG – SoP/ program manual prepared and adopted for implementation.
2. Consumer communication and feedback mechanism to be strengthened by Discoms	All Discoms in Rajasthan and Madhya Pradesh	Eighteen months from program effectiveness	1. Guideline for consumer feedback mechanism on consumer complaints received in CIS / CMS prepared by Discoms and a report prepared. 2. Communication plan for pre-paid smart-metering consumer metering prepared and brought into implementation.
3. Review and strengthen the OHS system for network / consumer metering	All Discoms in Rajasthan and Madhya Pradesh	Twelve months from program effectiveness	Development of procedure for OHS in network/ consumer metering implementation.

1 INTRODUCTION TO THE PROGRAM

1.1 Background and Context

1. India's rapid economic development and growing population require a power system to meet the demand for higher quality and cleaner electricity services. The country's power sector is one of the world's largest and most complex and has undergone a dramatic transformation since the enactment of the Electricity Act (EA) of 2003. Over the past decade, India's economic development drove annual peak power demand and energy demand growth to 4.2 per cent and 4.1 percent, respectively. Through large national programs, electricity access has been expanded to nearly every household, from only 67.2 percent of households in 2011. India is the third largest electricity consumer globally, yet per capita electricity consumption of 1,255-kilowatt hour (kWh) for FY22 is only slightly above one-third of the global average. Energy demand is expected to grow rapidly with rising incomes, industrialisation, and urbanization (which drives adoption of modern appliance use and cooling demand). According to International Energy Agency (IEA), India is expected to be the largest source of primary energy growth globally through 2040. The rise in temperature due to climate change further pose challenges to electricity demand and generation. India is slowly moving towards a high share of renewable energy (RE) in the overall energy mix. The RE, excluding large hydropower, currently represents 29.4 percent of installed generation capacity (mainly from wind and solar).

2. Electricity distribution is the weakest link in the entire value chain of the Indian power sector. Electricity distribution (which for most parts is managed by state-owned Discoms) continues to perform poorly on most financial and operational parameters. With electricity being part of the concurrent list as per the Indian Constitution, wherein both Central and state governments can frame policies on electricity sector, but the responsibility for the distribution of electricity to consumers lies with states. Since the late 1990s, several reform initiatives and schemes have been implemented to upgrade the electricity distribution infrastructure and help the Discoms improve their operational and financial health, but these have yielded mixed results.

3. The combined annual losses of the distribution companies in FY22 were ~US$6.5 billion. Of these, ~70 percent of the annual losses in FY22 are limited to public Discoms across only six states (i.e., Andhra Pradesh, Madhya Pradesh, Maharashtra, Rajasthan, Tamil Nadu, and Uttar Pradesh). These losses have led to the Discoms owning US$11.9 billion) to the electricity generation companies (at the end of March 2022), of which approximately 20 percent was owed to RE generators. Additionally, the Discoms owe the state-owned electricity generating and transmission utilities around US$8.9 billion. In addition, to manage their cashflows, Discoms have also resorted to short-term loans and the overall debt of the Discoms has reached US$75.6 billion at the end of FY22. Of this, approx. 69 percent of the debt is limited to only Discoms across these six states. This high debt leads to a vicious cycle of further deterioration in financial health and impacts the Discoms ability to invest in network strengthening for delivering quality and reliable supply.

4. In most states, the key reasons for this financial distress in the electricity distribution sector are: (a) high levels of aggregate technical and commercial (AT&C) losses; (b) annual revenue requirement of Discoms not fully covered by tariffs; and (c) delay in release of electricity tariff subsidy (towards reduced tariff for electricity consumption by agriculture and domestic consumers) by state governments and pendency of payments for electricity consumption by government departments/ local bodies.

5. GoI has made strong commitments to low-carbon long-term development. The government's climate commitments include: (a) net zero emissions by 2070; and (b) 50 percent of power capacity from non-fossil fuels by 2030. While the share of renewable energy in the overall energy mix has

increased over the years to 29.4 percent (RE share excluding large hydropower) of installed generation capacity of significantly increase its RE capacity to 500 GW and achieve 50 percent of its overall energy needs with RE by 2030. However, a critical risk factor towards RE deployment and dispatch and the achievement of this goal is the off-taker risk since most of the public distribution utilities (Discoms) which purchase RE are financially stressed.

6. Over the last two to three years, GoI has announced three important programs to support reforms in the electricity distribution sector and ensure continuity of electricity supply. This includes: (1) Relaxing borrowing limits for States (by upto 0.5 percent of GSDP) under Fiscal Responsibility and Budget Management (FRBM) Act to incentivize power sector reforms; (2) Revamped Reform-linked Result-based Distribution Sector Scheme (RDSS), which is a results-linked scheme that will provide financial assistance to Discoms based on meeting a pre-qualifying criterion and achieving basic minimum benchmarks in reforms, to assist them in improving their operational efficiencies and financial sustainability; and (3) The Electricity Late Payment Surcharge 2022 (LPS Scheme) which provides a mechanism for the settlement of outstanding dues (including principal and late payment surcharge) owed to generating companies and Electricity Trading Licensees, by Discoms, by providing financing to re-structure the dues into longer term loans.

1.2 Program Design

7. The proposed Program builds upon the World Bank's engagement in electricity distribution at state level The proposed program plans to support the RDSS and the LPS scheme to assist the publicly owned Discoms in improving their operational efficiencies and financial sustainability. The PforR operation aims to (a) provide stronger focus on the implementation of critical reforms and initiatives in electricity distribution in alignment with GoI's RDSS scheme, (b) improve the capacity of government agencies to deliver the program through their own systems and procedures, and (c) provide flexibility and efficiency in supporting an ambitious government program.

8. The proposed World Bank operation will support the Government program by playing a convening role among various government programs and provide critical financing in the interim before the financial health of the distribution sector is improved. The PforR program is also expected to support the central government programs achieve implementation rigor at the state-level.

9. **The Program Development Objective (PDO)** is to enable energy transition by improving the financial health and operational efficiency of electricity distribution utilities in Participating States in India. The PDO-level result indicators include: (a) Gap between Average Revenue Realised and Average Cost of Supply (INR/kWh) – Madhya Pradesh Discoms and Rajasthan Discoms; and (b) Aggregate Technical and Commercial or AT&C Losses (percentage) - – Madhya Pradesh Discoms and Rajasthan Discoms.

1.2.1 Program Components

10. The proposed Program has three Results Areas. The sub-sections below present the details of each Results Area:

11. **Results Area 1 (RA-1) – Improving generation planning towards enabling increased share of renewable energy:** Given that power purchase costs of a Discoms constitute about 80 percent of their overall costs, any inefficiency in power purchase directly impacts the consumer tariffs. Thus, there is a need to design a mechanism to develop medium-term (5–7-year horizon) resource adequacy plans to meet the power requirements of the Discoms, in a way that is most techno-commercially viable and environmentally sustainable. Under this area, the focus would be to support the preparation of

resource adequacy plans, incorporating Renewable Purchase Obligations (RPOs). Compliance to RPOs as per trajectory specified by the State Electricity Regulatory Commission (SERC), is mandated by Electricity Act 2003 and National Tariff Policy 2006 and, is also one of the suggested reform areas under RDSS.

12. **Results Area 2 (RA-2) – Enhancing financial performance of electricity distribution sector leading to reduction in revenue gap:** Under this result area, the focus is on (i) bringing discipline to the timelines for filing tariff petitions and tariff determination process; and (ii) ensuring timely release of tariff subsidy[4] by the state government to Discoms for providing subsidized tariffs to domestic and agriculture consumers. Further, the PforR program will support introducing pilots on Direct Benefit Transfer (DBT) for subsidies for electricity consumption in agriculture, which apart from having the fiscal implications, are also leading to over-abstraction of groundwater. The DBT pilots will include models that can work in the political context of the country and incentivize judicious use of groundwater. Further, the focus would also be on identifying any revenue gap of Discoms and addressing it by preparing a financing plan which shall be approved by the state government. Among other aspects, the financing plan shall include estimate of revenue earned from sale of power to consumers, amount of tariff subsidies, costs (including power purchases), and sources of financing for any resultant gap between actual costs of the Discoms and revenue requirements approved by the regulator and passed in tariffs (tariff shortfall).

13. **Results Area 3 (RA-3) – Improving the operational efficiency of electricity distribution sector leading to reduction in AT&C losses:** The focus under this area would be to support Information and Communication Technology (ICT) interventions related to improving and automating the commercial and business processes in the Discoms, feeder-level energy accounting and smart metering (to reduce losses and to facilitate integration of Distributed Renewable Energy (DRE) resources into the grid).

1.3 Government Program and Bank Financed Program (P Vs p)

14. The Table below provides an overall linkage of the Government's program and the World Bank's PforR Program. The PforR will support a subset of the government program's objectives:

Title	Government program (p) *Revamped Distribution Sector Scheme (RDSS)*	The PforR Program (P) *Program for electricity distribution sector reforms in India*	Comments on alignment
Objective	To improve the quality and reliability of power supply to consumers through a financially sustainable and operationally efficient distribution sector.	To enable energy transition by improving the financial and operational efficiency of electricity distribution utilities in Participating States in India.	The PforR operation is supporting a portion of the GoI's RDSS and LPS scheme, with a focus on crucial short- and medium-term actions.
Duration	FY22-26	FY24-27	The Bank designed this Program for 4 years and will continue till FY27 to allow for verification of achievement of DLRs and processing of disbursements.

[4] To ensure the affordability of tariffs for consumers, the state government, under the provisions of Section 65 of the Electricity Act 2003, provides subsidy support to any consumer or class of consumer.

Geographic coverage	All Public Discoms/ Power departments in the country	Public Discoms in Participating states (Madhya Pradesh and Rajasthan)	Given the limited availability of World Bank funds compared to sector needs and government's own funds, focusing on a few states can have a demonstration effect and inform the design of Government's own program in other states.
Results areas	The Government program includes the following result areas. Objective 1 – Ensuring financial sustainability of all public Discoms/ power departments in the country. Objective 2: Strengthening supply infrastructure to improve reliability of electricity supply. Objective 3 - Policy and Structural Reforms, Training & Capacity Building, and other enabling & supporting activities.	The Result Areas under PforR do not explicitly cover the Objective 2	PforR supports important reforms for financial sustainability of distribution sector (where the World Bank has comparative advantage) and excludes investment focused activities that are part of Government program (under RDSS scheme).

1.4 Program expenditure framework and financing

15. The expenditure framework highlighting the overall program financing for the proposed program.

Source	Amount (US$, Millions)
Counterpart Funding	603.35
International Bank for Reconstruction and Development (IBRD)	497.90
Energy Sector Management Assistance Program (ESMAP) – Recipient Executed Trust Fund	2.10
Total Program Financing	**1,103.35**

16. The World Bank financed PforR Program will cover financing for limited investments and power purchases. The investments shall be limited to metering and associated ICT systems (such as components of management information systems, advanced distribution management and outage management systems etc.) that are essential to improve operational efficiency of state-owned Discoms. The PforR program excludes certain portions of government program, especially related to basic investments in network strengthening and upgrade.

Details of PforR Program Expenditure

Description	PforR Program expenditure	Expected World Bank financing
Financing/loans by REC to state-owned Discoms (in Participating States) for payment for power purchase from the GENCO's	US$1 billion	US$447.9 million
Financing/loans by REC to state-owned Discoms (in Participating States) for smart metering and associated ICT investments	US$100 million	US$50 million
Sub-total for PforR component	**US$1.1 billion**	**US$497.9 million**
TA component (as IPF)		US$2.1 million
Total		**US$500 million**

17. Technical Assistance component (as IPF): The TA component will include support for: (i) Resource adequacy planning and implementing power procurement optimization tool, (ii) institutionalizing the process for preparation and updating of financial turnaround plan of Discoms, (iii) Program implementation for pilots in Direct Benefit Transfer of Subsidy, (iv) implementation of grid modernization by adoption of Information Technology (IT)/ Operational Technology (OT) systems, and (v) capacity building and knowledge exchange with other national and international utilities/ institutions.

18. **The Program has three Result Areas (RA) associated with three Disbursement Linked Indicators (DLIs) and eight targets. The RAs, their objectives and the associated DLIs are summarized in Table below.4**.

Result Areas	Overall Objective	Disbursement Linked Indicators/ Targets	DLI Price (US$ million)
RA1: Improving generation planning towards increased share of renewable energy	Design a mechanism to develop medium-term Resource Adequacy Plans to meet the power requirements of the Discoms, in a way that is most techno-commercially viable and environmentally sustainable incorporating meeting Renewable Purchase Obligations, and that new generation or PPA is based on these plans	**DLI1** Enabling renewable energy through systematic power procurement planning *1.1 Resource adequacy planning*	25.0
RA2: Enhancing financial performance of electricity distribution sector leading to reduction in revenue gap	Bringing discipline to the timelines related to tariff petition filing and determination process, timely release of tariff subsidy by the state governments; identifying any revenue gap of Discom; support introducing pilots on Direct Benefit Transfer (DBT) for subsidies for electricity consumption in agriculture	**DLI2** Enhance financial performance of electricity distribution sector leading to reduction in revenue gap *2.1 Timely filing and determination of tariff petition*	365.0

Result Areas	Overall Objective	Disbursement Linked Indicators/ Targets	DLI Price (US$ million)
	and preparing a state-approved financing plan	*2.2 Payment of electricity tariff by the state government to the Discoms* *2.3 Preparation of state approved financing plan to determine under-recoveries and support reduction on ACS-ARR gap* *2.4 Pilot scheme for DBT*	
RA3: Improve the operational efficiency of electricity distribution sector leading to reduction in AT&C losses	Support Information and Communication Technology (ICT) interventions related to improving and automating the commercial and business processes in the Discoms, feeder-level energy accounting and smart metering	**DLI3 Improve the operational efficiency of electricity distribution sector leading to reduction in AT&C losses** *3.1 ICT implememtation roadmap* *3.*2 Quarterly feeder level energy accounting reports published *3.3 Deployment of smart meters*	107.9
Total			**497.9**

1.5 Geographic Scope and Context

19. Program Scope: While the government program will support all public Discoms/ Power departments in the country, however, given the limited availability of World Bank funds compared to sector needs and government's own funds, the proposed World Bank financed PforR Program focuses on public Discoms in two states i.e., Madhya Pradesh and Rajasthan that can have a demonstration effect and inform the implementation of Government's own program in other states.

20. Madhya Pradesh (MP) is the fifth-most populated state and is India's second-largest state by area. Electricity supply in the state is managed by three government owned Discoms: (i) Madhya Pradesh Poorv Kshetra Vidyut Vitaran Company Ltd (MPPKVVCL); (ii) Madhya Pradesh Madhya Kshetra Vidyut Vitaran Company Ltd (MPMKVVCL); and (iii) Madhya Pradesh Paschim Kshetra Vidyut Vitaran Company Ltd (MPPaKVVCL), catering to more than 16.7 million consumers with a peak electricity demand of 17,111 MW (FY22). The per capita consumption of electricity in the State was 1,185 kWh in FY22.

21. Rajasthan is the seventh-most populated state and is India's largest state by area. Electricity supply is managed by three government-owned Discoms - Ajmer Vidyut Vitran Nigam Limited (AVVNL), Jaipur Vidyut Vitran Nigam Limited (JVVNL), Jodhpur Vidyut Vitran Nigam Limited (JDVVNL) providing electricity to 15.03 million consumers with a peak electricity demand of 16,777 MW (in FY22). The per capita consumption of electricity in the State was 1,302 kWh in FY22, which is above the national average.

1.6 Program Implementing Agencies and Partners

22. The proposed P4R Program will be implemented through REC Ltd (a financial intermediary), which is also the nodal agency of the RDSS scheme and for providing loans for meeting the Genco payment obligations under the LPS scheme. For facilitating the implementation of the PforR Program, a Program steering committee has been constituted which includes members from the participating states (Principal Secretary, Energy), Joint Secretary, Ministry of Power (MoP), Chairman and Managing Director/ REC. The Steering Committee shall also coordinate with RDSS inter-ministerial Monitoring Committee (MC)[5]. REC will have the overall responsibility for compliance, monitoring, and implementation of the Program. REC's state loan department will act as the Project Implementation Unit (PIU) for the Program.

23. At the state level, the three public Discoms each in Madhya Pradesh as well as Rajasthan are the key agencies that are instrumental in implementing the RDSS and LPS and will be the main recipients of World Bank loan from REC under the proposed Program.

1.7 Introduction to ESSA

24. This Environmental and Social Systems Assessment (ESSA) has been prepared by a World Bank ESSA Team for the proposed Program for Electricity Distribution Sector Reforms in India, in accordance with the requirements of the World Bank Policy for Program-for-Results Financing. The PforR Policy requires that the Bank conducts a comprehensive ESSA to assess the degree to which the PforR Program promotes environmental and social sustainability and to ensure that effective measures are in place to identify, avoid, minimize, or mitigate any environmental, health, safety, and social impacts. Through the ESSA process, recommendations to enhance environmental and social management outcomes within the program are developed, which subsequently become a part of the overall Program Action Plan.

25. The main objectives of this ESSA are to: (i) identify the Program's environmental, health, safety, and social effects; (ii) assess the legal and policy framework for environmental and social management, including a review of relevant legislation, rules, procedures, and institutional responsibilities that are being used by the Program; (iii) assess borrower's institutional capacity to manage the potential adverse environmental and social impacts; (iv) and to recommend specific actions to address gaps in the Program's environmental and social management system. The ESSA also describes the extent to which the applicable government environmental and social policies, legislations, program procedures and institutional systems are consistent with the six ESSA 'core principles' and recommends actions to address the gaps and enhance performance during Program implementation. These six core principles are listed below and further defined through corresponding Key Planning Elements in this report:

1) **Core Principle 1: Environmental and Social Management**: Environmental and social management procedures and processes are designed to: (a) promote environmental and social sustainability in Program design; (b) avoid, minimize, or mitigate against adverse impacts; and (c) promote informed decision making related to a Program's environmental and social effects
2) **Core Principle 2: Natural Habitats and Physical Cultural Resources**: Environmental and social management procedures and processes are designed to avoid, minimize, and mitigate any adverse effects (on natural habitats and physical and cultural resources) resulting from the Program.

3) **Core Principle 3: Public and Worker Safety**: Program procedures ensure adequate measures to protect public and worker safety against the potential risks associated with: (a) construction and/or operations of facilities or other operational practices developed or promoted under the Program; and (b) exposure to toxic chemicals, hazardous wastes, and otherwise dangerous materials.

4) **Core Principle 4: Land Acquisition**: Land acquisition and loss of access to natural resources are managed in a way that avoids or minimizes displacement, and affected people are assisted in improving, or at least restoring, their livelihoods and living standards.

5) **Core Principle 5: Indigenous Peoples and Vulnerable Groups**: Due consideration is given to cultural appropriateness of, and equitable access to, Program benefits, giving special attention to the rights and interests of indigenous peoples and to the needs or concerns of vulnerable groups.

6) **Core Principle 6: Social Conflict**: Avoid exacerbating social conflict, especially in fragile states, post-conflict areas, or areas subject to territorial disputes.

1.8 Methodology Adopted for ESSA

26. ESSA refers both to the process for evaluating the acceptability of a borrower's system for managing the Program's environmental and social (E&S) risks in the operational context, and to the final report that is an output of that process. The ESSA process is a multistep methodology in which the World Bank team analyses the E&S effects, including indirect and cumulative effects, of activities associated with the defined Program; analyses the borrower's systems for managing the identified E&S effects, including reviewing practices and the performance track record; compares the borrower's systems - laws, regulations, standards, procedures, and implementation performance against the core principles and key planning elements to identify any significant differences between them that could affect Program performance; and recommends measures to address capacity and performance on policy issues and specific operational aspects relevant to managing the Program risks such as staff training, implementing institutional capacity building programs, developing and adopting internal operational guidelines.

27. The ESSA covered a comprehensive review of relevant existing information and data sources, complemented by consultations, interviews/ discussions with implementing agencies and key stakeholders to capture opinions, anecdotal evidence, functional knowledge, and concerns. It involved (a) a comprehensive review of government policies, legal frameworks, program documents, and other relevant information including REC's environmental and social management systems (b) interviews and consultations were conducted with relevant experts and officials from REC officials looking after different aspects of the program on environmental and social systems and procedures. Discussions and consultations were also undertaken with key officials of three Discoms in Madhya Pradesh i.e. MPMaKVVCL, MPPaKVVCL, MPPoKVVCL along with Department of Energy, Government of Madhya Pradesh, and from the three Discoms in Rajasthan i.e., JdVVNL (Jodhpur Discom), JVVNL (Jaipur Discom), and AVVNL (Ajmer Discom).

28. The executive summary of draft ESSA was disclosed online on May 30, 2023, on REC Website, ahead of the virtual multi-stakeholder consultation held on June 06, 2023. The consultation in hybrid mode was undertaken through REC Corporate Office in Gurgaon and three regional offices in the states of Rajasthan, Madhya Pradesh and Maharashtra, Discoms office in Madhya Pradesh and Rajasthan. The ESSA has been updated to include the consolidated feedback received during the consultation and the final ESSA will be disclosed online on the websites of REC and the World Bank.

2 POTENTIAL ENVIRONMENTAL AND SOCIAL EFFECTS OF THE PROGRAM

2.1 Environmental Risks or Impacts and Benefits of the Program

29. The Program would be beneficial to the environment as it aims to enable energy transition by improving the financial health and operational efficiency of Discoms in select states in India. Improving the operational efficiency of the Discoms will lead to reduction in demand for electricity production thus reducing green-house gas emissions. Improved financial health of the Discoms will have a positive impact on the investment climate for renewable energy deployment.

30. Since the Program excludes development of physical infrastructure, therefore impacts on air and water quality from construction activities are not anticipated. The project would involve implementation / upgradation of IT systems thus issues related to waste management e.g., e-waste, packaging, refrigerants may arise. As there are established systems and processes and country systems related to waste management, no significant impact is envisaged. Further, smart meter and other electrical items can include thermoset plastic/ sheet moulding compounds and fibre reinforced plastic. Guidelines for the disposal of these waste have been provided by Ministry of Environment, Forest and Climate Change (MoEF&CC). Due to long life of the meters (usually 8-10 years), Discoms will have some lead time to look at alternative pathways for the safe disposal of the waste.

31. The Central Electricity Authority (Measures relating to Safety and Electricity Supply) Regulations, 2010, Chapters III[6] and IV[7] have defined several safety measures which have to be implemented by the Discoms for the safety of consumers, the general public and the workers. Likewise, the Discoms in both states have developed Safety Manual, have instituted processes, e.g., Permits to Work (PTW) for the safety of the workers. Even though the officer executing the job is responsible for ensuring the safety of workers, additional oversight is provided. The Discoms in Rajasthan have a Quality and Safety cell which provides additional oversight during the implementation of works. In the case of Madhya Pradesh, the Quality cell provides additional support for safety. Review of the Safety Manual indicates that procedures like PTW and training etc. are in place. The review also indicated that the Safety Officer has provisions for penalizing contractors (especially financial penalties) but only for violation of stop works. However, there are few areas e.g. incident reporting & investigation, comprehensive approach to training including induction, refresher training etc. where the Operational, Health and Safety (OHS) systems can be strengthened to improve the performance of the contractor. During the consultations, it was informed that, the present processes do not include any system of recording the performance of the contractors and informing the next procurement. The Discoms in Madhya Pradesh informed that they are working on a system to bridge this gap. The scope of the present PforR is limited to installation of smart meters and does not include infrastructure improvements of the distribution systems. Thus, improvement in practices would focus on the measures which would strengthen the OHS system in procurement and implementation of smart meters.

32. The community health safety would not be any major challenge because the national and state legislation provides for a comprehensive framework. Further the program would not have any impact on natural habitats because no infrastructure is being planned under the program.

33. The Direct benefit transfer of subsidies to famer has obvious benefit but it can also lead to the overuse of groundwater for irrigation. However, the pilot on providing direct benefit transfer for such

[6] Chapter III: General safety requirements.

[7] Chapter IV: General conditions relating to Supply and use of electricity

subsidies will include models that can work in the political context of the country and incentivize judicious use of groundwater.

34. A part of Rajasthan has been identified as a habitat of the Great Indian Bustard[8] (*Ardeotis nigriceps*) a critically endangered species which is facing threats from dwindling habitats and impacts from anthropogenic pressures including collision with powerlines. The Hon'ble Supreme court of India in response to a petition[9] to address the issue of the dwindling population, has given a judgement[10] requiring that power lines in the priority area of the GIB must be undergrounded and those in the potential GIB habitat[11] must be provided with Bird divertors. Some of these lines are owned by Renewable Energy producers, and they are responsible for implementing the court directives. According to the latest status report by the court appointed committee and the affidavit by the State of Rajasthan, number of renewable energy producers are yet to implement the court order. It is thus important for the Discoms to screen entities which are compliant with court order for entering/ executing Power Purchase Agreements (PPAs).

35. Similarly spatial analysis shows that in both Rajasthan and Madhya Pradesh most of the renewable energy power producers are located is areas which are water stressed. Ministry of New and Renewable Energy (MNRE) has already provided guidelines for reducing water usage by such plants. Further, the PforR program boundary does not include financing setting up or establishment of renewable energy plant.

2.2 Social Risks or Impacts and Benefits of the Program

36. Overall, the proposed PforR program has many positive social impacts including (a) improved electricity supply with reduced load shedding contributing to improved livelihoods and reduction in poverty including potential for improved health and education opportunities; and (b) potential options for reduced electricity consumption with transparency in subsidy delivery system.

37. Given that power purchase costs of a Discom constitute about 80 per cent of their overall costs, and any inefficiency in power purchase directly impacts the consumer tariffs, the program aims to address the underlined issues to improve operational efficiency, process of tariff setting, better debt management, and system of power purchase to improve financial health of the Discoms leading to better electricity supply to consumers.

38. The key social aspects of the program that may need further attention are (a) strengthening consumer engagement process by the Discoms; (b) ensuring monitoring of adherence to CHS measures when undertaking repair and replacements (such as meter replacement) especially at consumer end; and (c) improving information sharing by Discoms on issues concerning consumers in a timely and transparent manner.

[8] The great Indian bustard (*Ardeotis nigriceps*), or Indian bustard, is a Critically Endangered species found on the Indian subcontinent. Listed in Schedule I of the Indian Wildlife (Protection)Act, 1972, in the CMS Convention and in Appendix I of CITES, as Critically Endangered on the IUCN Red List and the National Wildlife Action Plan (2002-2016). It has also been identified as one of the species for the recovery program under the Integrated Development of Wildlife Habitats of the Ministry of Environment and Forests, Government of India. In 2011 Birdlife International up listed this species from Endangered to Critically Endangered, mainly because it has been extirpated from 90% of its former range, and the population was estimated at perhaps fewer than 250 individuals in 2008.

[9] Writ Petition No. 838 of 2019 was filed by Dr. M. K. Ranjitsinh & Others Vs. Union of India & Others

[10] The sections of the judgement relevant to the PforR scope has been discussed. For the details on the case and judgement please refer. https://main.sci.gov.in/

[11] This included powerlines in the whole of Jaisalmer, parts of Barmer, Jodhpur and Bikaner districts

39. The Table below provides the key environmental and social benefits and risks associated with the proposed program.

DLI	DLR	Potential Environmental Benefits and Risks	Potential Social Benefits and Risks
DLI1: Enabling renewable energy through systematic power procurement planning	Discoms have prepared a resource adequacy plan [duly incorporating renewable purchase obligations] for power requirements for medium term and submitted resource adequacy plan to SERC	• The increased share of renewable energy would lead to the decarbonisation of the electricity sector. This would be consistent with India's goal of "Low carbon development of electricity systems consistent with enhanced benefits of development". • As discussed, the Great Indian Bustard (GIB) population is under threat in part of Rajasthan from a variety of reasons including collision with power lines and the Hon'ble Supreme Court has given certain directives on powerlines. Discoms should take into cognizance compliance with Hon'ble Court's judgement before making entering/ executing PPAs. However, as the Program activities limit themselves to only planning function and do not explicitly support entering/executing PPAs, the risk is limited.	• A systematic generation expansion planning at the state level will help reduce the mix of conventional power generation (coal thermal), with more RE. Given that power purchase costs of a Discoms constitute about 80 percent of their overall costs, any inefficiency in power purchase directly impacts the consumer tariffs. On the other hand, when planned properly with a proper mix of RE, it may help optimize/ reduce consumer tariff. This will have a positive impact with reduce expenditure on electricity by the consumers and may result in savings for other priority areas such as for health, education, and other livelihood-related activities.
DLI2: Enhance financial performance of electricity distribution sector leading to	**DLR 2.1:** Regulatory discipline around timely filing of Annual Revenue Requirement (ARR) and tariff petitions	• Since this is related to financial planning by Discoms for the tariff determination purpose, these will have a negligible direct environmental impact. However, this would help in promoting energy efficiency in the	• With focus on bringing discipline to the timelines for filing tariff petitions and tariff determination process, it will lead to improved financial health of Discoms and will contribute towards stable and

DLI	DLR	Potential Environmental Benefits and Risks	Potential Social Benefits and Risks
reduction in revenue gap	and true-up petitions by Discom and issuance of regulatory order is institutionalized.	Discoms and also raising awareness of the consumers on energy conservation	potentially improved supply of electricity to consumers. • Process of filing tariff petition and determining tariff order has defined mechanism of consultation and disclosure with various stakeholders including various consumer groups. •
	DLR 2.2: Preparation of Financing plan to determine the under-recoveries in the electricity distribution sector and support reduction in Average Cost of Supply (ACS) – Average Revenue Realised (ARR) gap and its approval by the State government	• No environmental risk is envisaged in the financial discipline	
	DLR 2.3: Timely Payment of 100% electricity tariff subsidy dues by State Government	• These would be transactions between the respective State Government and the Discoms and thus would have negligible environmental impacts. • No risks envisaged as this would be a financial transaction	• The timely release of tariff subsidy payment to Discom by the state government will help improve financial health of the Discoms and thereby expected to have improved electricity supply to consumer.

DLI	DLR	Potential Environmental Benefits and Risks	Potential Social Benefits and Risks
	DLI 3.2: Pilot on direct benefit transfer (DBT) of subsidy for electricity consumption in agriculture is designed and implemented	• The pilots will be undertaken on existing feeders that are already segregated and no new infrastructure works will be involved. Also, the program does not support any infrastructure works thus no risk are envisaged in this work • Use of subsidised electricity causes farmers to pump groundwater without any consideration for the actual cost of pumping, which can be significant. This leads to over-extraction of groundwater, resulting in the risk of depletion of the aquifer and reduced water availability. The pilot will aim to develop new business models that can work in the political context of the country and incentivize the judicious use of electricity and groundwater	• Introducing pilots on DBT for subsidies for electricity consumption in agriculture will make state government accountable to subsidy payments to Discoms which currently remains hidden and often keeps getting accumulated as debt and being paid in delayed manner – this will help improve governance aspects of the subsidy provisioning. • Subsidy transfer through DBT and its reflection in the tariff and consumer bills will enhance transparency and consumer awareness about subsidy and expected to help reduce unwanted power consumption or wastage. • However, it is important to make consumer aware about these initiatives if the subsidies are intended as incentives to reduce consumption and strengthening the feedback mechanism on the same will help reduce misperceptions and consumer resentments. •
DLI 3: Improve the operational efficiency of electricity distribution sector leading to reduction in AT&C losses	**DLR 3.1:** Preparation of an ICT implementation roadmap (including network metering roadmap) for new systems and improvement in existing systems and	• The reduction of AT&C losses would in resource conservation. • This activity involves the implementation of IT/OT systems and metering. This roadmap may include various technologies such as ERP, SCADA, DMS, OMS, GIS, MDMS etc. based on the needs of the Discom. Since most of them	• With reduced AT&C losses and improved operational efficiencies, it is expected to reduce load shedding and improve power supply to consumers. • It may be useful for Discoms to also spell out the electricity supply standards to consumers that they aim to achieve with enhanced operational efficiency and reduced AT&C losses. A feedback mechanism and disclosure of performance will

DLI	DLR	Potential Environmental Benefits and Risks	Potential Social Benefits and Risks
	implementation of one high priority system (as identified in the roadmap)	are IT-OT system, the environmental impacts are limited to waste management. Handling, storage and disposal of waste, e.g., packing waste, e-waste etc., is important and Discoms as generators as per the different Waste rules, have some responsibilities. Energy efficiency and refrigerants used in cooling systems are other important issues. Presently the Discoms do not have any system for handling this waste and achieving regulatory compliance.	strengthen consumer relationship and build consumer trust on Discoms. •
	DLI 3.2: Quarterly publication of feeder level energy accounting reports	• Accounting and Audits would lead to improved energy efficiency in the system. The Manner and Intervals for Conduct of Energy Audit (Accounting) in electricity distribution companies) Regulations 2021 require the reporting of the energy mix, category of the consumers and the consumption of energy by each category of consumers. This would provide the necessary data required for analysis of energy conservation, emission reduction and environmental protection and footprint. • Transparent accounting would improve the awareness of consumers on energy conservation • No major environmental risks envisaged.	• No specific social risk. However, disclosure of feeder level energy accounting will enhance consumer awareness and may garner support in reducing pilferage.

DLI	DLR	Potential Environmental Benefits and Risks	Potential Social Benefits and Risks
	DLI 3.3: Deployment of smart meters	• The Discoms in both states have developed safety manuals to ensure compliance with the Central Electricity Authority (Measures relating to Safety and Electricity Supply) Regulations, 2010. It was observed that safety procedures were implemented and, in some areas, e.g. Incident Reporting & Investigation, a comprehensive approach to training leaves room for strengthening / improving the safety performance of contractors. Since the project only involves working on smart meters, the OHS issue are not significant. • There are issues relating to the disposal of Thermoset Plastic Waste including Sheet moulding compound (SMC)/Fibre Reinforced Plastic (FRP). Central Pollution Control Board (CPCB) has produced guidelines for management and disposal in 2016. Given the that the life of the meters is 8-10 years Discoms can look at alternate pathways for disposal in line with CPCB guidelines.	• No specific social risk. However, need to adhere to community health and safety (CHS) measures as necessary.

2.3 Indirect and Cumulative Impacts

40. The program can have indirect impacts which can enhance sustainability. REC has recently (in January 2023) adopted an Environment, Social and Governance (ESG) policy. Being a Financial Institution, it can leverage its position and drive the sustainability agenda. This financial leveraging will not only help REC improve its ESG performance but can also help in the greening of the value chain in the electricity distribution sector in the country.

3 ASSESSMENT OF ENVIRONMENTAL AND SOCIAL MANAGEMENT SYSTEM, CAPACITY & PERFORMANCE

3.1 Assessment of Existing Systems

41. As mentioned earlier, the PforR Policy of the Bank requires the proposed Program to operate within an adequate environmental and social management system that can manage environmental and social effects (particularly adverse impacts and risks) identified during the ESSA process. This includes:

a. an adequate legal and regulatory framework and institutional setting to guide environmental and social impact assessment and the management of environmental and social effects, and

b. adequate institutional capacity to effectively implement the requirements of the system including staffing, resources and process and practices in place.

42. This section assesses whether the program's environmental and social management systems are consistent with the core principles and key planning elements contained in the PforR Policy and whether the involved institutions have the requisite capacity to implement the requirements of these systems. Both elements (e.g., program systems and capacity) are necessary towards ensuring that the environmental and social effects identified in Chapter-2 of this document are effectively managed. Through the analysis, the ESSA team has identified some gaps, which can be addressed through actions recommended under Chapter-5 of this report.

43. A program system is constituted by the rules and "arrangements within a program for managing environmental and social effects[12], "including institutional, organizational, and procedural considerations that are relevant to environmental and social management[13]" and that provide "authority" to those institutions involved in the program "to achieve environmental and social objectives against the range of environmental and social impacts that may be associated with the Program[14]." This includes existing laws, policies, rules, regulations, procedures, and implementing guidelines, etc. that are applicable to the program or the management of its environmental and social effects. It also includes inter-agency coordination arrangements if there are shared implementation responsibilities in practice[15].

44. Program capacity is the "organizational capacity" of the institutions authorized to undertake environmental and social management actions to achieve effectively "environmental and social objectives against the range of environmental and social impacts that may be associated with the Program." This ESSA has examined the adequacy of such capacity by considering, among other things, the following factors:

a. Adequacy of human resources (including in terms of training and experience), budget, and other implementation resources allocated to the institutions.

b. Adequacy of institutional organization and the division of labour among institutions.

[12] Drawn from Program-for-Results Financing: Interim Guidance Notes on Staff Assessments, "Chapter Four: Environmental and Social Systems Assessment Interim Guidance Note," Page 77, paragraph 1

[13] Ibid, page 82, paragraph 12

[14] Ibid., Page 77, paragraph 2, and page 82 paragraph 12.

[15] Based "Chapter Four: Environmental and Social Systems Assessment Interim Guidance Note," Program-for Results Financing: Interim Guidance Notes on Staff Assessments

c. Effectiveness of inter-agency coordination arrangements where multiple agencies or jurisdictions are involved; and

d. The degree to which the institutions can demonstrate prior experience in effectively managing environmental and social effects in the context in projects or programs of similar type and magnitude.

3.2 Assessment of Institutional Capacity and Gaps

45. As mentioned in the Section 1.6, REC will have the overall responsibility for compliance, monitoring, and implementation of the Program. REC's state loan department will act as the Project Implementation Unit (PIU) for the Program. At the state level, the three Discoms each in Madhya Pradesh and Rajasthan are the key agencies for implementing the RDSS and LPS and will be the main recipients of World Bank loan from REC under the proposed Program.

3.2.1 REC Ltd.

46. REC Ltd is a Central Public Sector Undertaking (PSU) under the Ministry of Power (MoP). REC is a financial intermediary and plays a strategic role in the GoI's initiatives for the development of the power sector in India. It is associated with power sector flagship programs of the MoP GoI, that contribute towards the development of power sector in the country. The company has been classified as an "infrastructure finance company" by the Reserve Bank of India (recognized as Systematically Important NBFC) servicing the financing needs of entire power sector value chain and its product is interest-bearing loans to power utilities. It also has an extensive network of 22 offices in different states across the country. REC is organised along business lines with state loan department (working on transmission and distribution Projects) and renewables department (working on renewable Energy projects).

47. REC has approved an ESG policy in January 2023 and plans to integrate it into their operations gradually. The ESG policy framework will serve as a guiding document for all ESG initiatives and activities undertaken by REC. The policy aims to constitute an ESG committee headed by the Chairman & Managing Director (CMD) of REC with representation of Head of Departments of various divisions in REC viz. State Operations, Private Sector Projects Management, Renewables, New Infrastructure and Logistics, Estate, Admin, Procurement & Contracts Management (PCM), Human Resources (HR), Corporate Social Responsibility (CSR) and Information Technology (IT). The Committee will be responsible for overall implementation of the ESG policy framework and review ESG performance across functions and communicate the progress through periodical reports to the management. The oversight of ESG policy outputs is expected to be done by the Risk Management Committee of the REC Board. The key focus areas under the ESG policy include: (1) Energy & emissions; (2) Green energy/Energy efficiency initiatives; (3) waste management; (4) environmental and social risk management – by limiting its exposure to environmental (including climate), social and governance related risks by integrating ESG factors in its project and entity appraisal processes, and ensuring that a borrower shall comply with Environmental, Health, Safety and Social (EHSS) standards and to this effect, REC will stipulate suitable conditions in the loan agreements; (5) creating empowered workforce - by ensuring non-discrimination and fair treatment; creating an inclusive culture to ensure representation across gender, caste, creed, religion, region, physical ability and military/ veteran status; following best policies of industry relating to health, safety and well-being of its employees and their dependent family members; employee ethics and code of conduct guided by the Code of Conduct and Ethics manual; women safety with zero tolerance policy on prevention of any sexual harassment in line with Prevention of Sexual Harassment at the Workplace Act (POSH) Act; support continuous skill upgradation and employee development; and deploy adequate grievance redressal channels to

address employee concerns and feedback; (6) enhancing customer experience by being customer centric; (7) supporting community and society through corporate social responsibility (CSR) activities; (8) enhancing transparency and accountability to stakeholders by developing systems and processes and mechanisms to understand stakeholder expectations and concerns, and redress their grievances in a fair and constructive manner; and (9) strengthening corporate governance, and strengthening disclosure mechanisms.

48. While many of the elements of the ESG are already in practice by the REC, however, the policy makes it a more coherent and consolidated approach towards environmental and social aspects. With the REC Board approving the ESG policy in January 2023, REC is in the process of detailing them and integrating them in its operation in a gradual manner.

3.2.2 Discoms at State Level

49. **Madhya Pradesh Discoms**: Madhya Pradesh has three Discoms under the Energy Department of Government of Madhya Pradesh i.e., ***Central Discom*** - Madhya Pradesh Madhya Kshetra Vidyut Vitaran Company Limited (MPMaKVVCL) with area of supply being Bhopal, Gwalior, Hoshangabad and Chambal Commissionery; ***Western Discom*** - Madhya Pradesh Paschim Kshetra Vidyut Vitaran Company Limited (MPPaKVVCL) with area of supply being Indore and Ujjain Commissionery; and ***Eastern Discom*** - Madhya Pradesh Poorv Kshetra Vidyut Vitaran Company Limited (MPPoKVVCL) with area of supply being Jabalpur, Rewa, Sagar and Shahdol Commissionery. Each Discom is headed by a Managing Director who is generally a senior Civil Services officer deputed to each of these State-owned companies incorporated under the Companies Act, 1956 (now Companies Act 2013). Each of these Discoms operate in similar manner and being regulated by the Madhya Pradesh State Electricity Regulatory Commission (MPSERC) in their operations of supply of electricity.

50. **Rajasthan Discoms**: Rajasthan has three Discoms under the Energy Department of Government of Rajasthan i.e., **Jaipur Vidyut Vitran Nigam Limited** supplies electricity in 12 districts namely Jaipur, Dausa, Alwar, Bharatpur, Dholpur, Kota, Bundi, Baran, Tonk, Jhalawar, Karoli, and Sawaimadhopur; **Ajmer Vidyut Vitran Nigam Limited** supplies electricity in 11 districts namely Ajmer, Bhilwara, Nagaur, Sikar, Jhunjhunu, Udaipur, Rajsamand, Pratapgarh, Chittorgarh, Banswara, and Dungarpur; **Jodhpur Vidyut Vitran Nigam Limited** supplies electricity in 10 districts namely Jodhpur, Sirohi, Pali, Jaisalmer, Bikaner, Barmer, Sri Ganganagar, Jalore, Churu, and Hanumangarh. Each Discom is headed by a Managing Director and each of these State-owned companies have been incorporated under the Companies Act, 1956 (now Companies Act 2013). Each of these Discoms operate in similar manner and being regulated by the Rajasthan Electricity Regulatory Commission (RERC) in their operations of supply of electricity.

51. The Discoms of both Rajasthan and Madhya Pradesh follow the Central Electricity Authority (CEA) (Measures relating to Safety and Electricity Supply) Regulations, 2010 and further amendments, to ensure compliance to the safety norms. These include safety measures to be undertaken by designated person(s) to operate and carry out the work/ O&M on electrical lines and apparatus, safety provisions for electrical installation and apparatus of various voltage level including LT level which are applicable on distribution licensees as well. The CEA regulation also mandates the power entities including distribution licensees to designate safety officers.

52. CEA has also introduced a safety manual for general consumers and persons engaged in electrical works. Further, the Rajasthan Discoms has issued general guidelines for electrical safety. In order to ensure 'Zero Accident' in its operations, Madhya Pradesh also has issued a similar manual detailing out the safety rule, Permit to Work, Lock Out -Tag out procedures etc. Further, Madhya Pradesh and Rajasthan Discoms have issued orders stipulating guidelines to be followed by all field officers/ engineers as a precautionary measure to avoid any accident. Discoms in Madhya and Pradesh and Rajasthan have also appointed multiple safety officers in line with various provisions of CEA

regulations. In Madhya Pradesh, the Office of Chief Engineer (Electrical Safety) & Chief Electrical Inspector (CEI) is entrusted with the responsibilities of ensuring the safety related aspects of all electrical installations in the State. The works of CEI are of Techno-Legal nature wherein it ensures that the installations and charging procedures are in line with the guidelines issued by CEA and the subsequent relevant regulations and guidelines issued by Madhya Pradesh Electricity Regulatory Commission (MPERC). In the case of Rajasthan even though all the officers are responsible for ensuring safety during the works, they have a specialised Quality and Safety Cell, which oversee the implementation of safety during the execution of the works. In Discoms of both Rajasthan and Madhya Pradesh processes for implementing safety of workers and consumers are thus in place.

53. REC has also initiated a system of Consumer Service Ratings of Discoms (CSRD)[16] in FY21 for Discoms in the country across different states to assess the Discoms performance across various service parameters, undertake a comparative performance assessment with peer Discoms and identify gaps to take corrective measures. The Consumer Service Rating was developed across four key dimensions which are central to enhancing level of consumer services and included operational reliability; connection and other services; metering, billing, collection linked services; fault rectification and grievance redressal. Based on the findings of the second such exercise conducted for FY22, one Discom in Madhya Pradesh was rated B+ while remaining two Discoms in Madhya Pradesh and all three Discoms in Rajasthan were rated in the 'B' category.

3.3 Legal and Regulatory System

54. India has specific policy, legal and regulatory provisions directly relevant to the activities being carried out under the program. ESSA has reviewed these national and state specific Guidance, laws and regulations relevant to managing the environmental and social effects of the proposed program. The Government of India has taken significant policy measures in the past years to restructure the power sector, increase capacity and improve transmission, sub-transmission & distribution network etc. The Electricity Act of 2003 brought sweeping changes to the legal framework governing the sector, which was followed by notification of National Electricity Policy, National Tariff Policy, Renewable Energy Policy, National Hydro Policy and Mega Power Policy, reflecting the measures taken by the Government to bring competitiveness and efficiency in the sector. In addition, there are number environmental and social laws, regulation, and guidance relevant to the program as listed in Annex-2.

55. The Electricity Act 2003 (and further amendments), consolidate the laws relating to generation, transmission, distribution, trading and use of electricity and generally for taking measures conducive to development of electricity industry, promoting competition therein, protecting interest of consumers and supply of electricity to all areas, rationalization of electricity tariff, ensuring transparent policies regarding subsidies, promotion of efficient and environmentally benign policies, constitution of Central Electricity Authority, Regulatory Commissions and establishment of Appellate Tribunal and for matters connected therewith or incidental thereto. Among other provisions, the Section 23, 50 and 53 of this Act is more relevant to the proposed P4R program and provides for equitable distribution of electricity, defines electricity supply code, and provisions relating to safety and electricity supply.

56. The legal/regulatory framework on social aspects ensures the following: (a) protection of the interest of Scheduled Caste (SC) and Scheduled Tribe (ST) population, (b) non-discrimination based on religion, race, caste, and gender, (c) transparency with the right to information, (d) the right to fair compensation in case of land acquisition.

[16] https://recindia.nic.in/consumer-service-rating-of-discoms; https://recindia.nic.in/launch-of-first-ever-consumer-services-rating-discoms-csrd

57. Over-all, the provisions of the existing environmental and social legal/regulatory framework, including the stipulations to protect the interest of marginalized and vulnerable population such as the SCs and STs, are adequate though enabling institutional and technical capacity building is required for achieving full and more uniform compliance on the ground.

58. The Environment Protection Act 1986 is an umbrella legislation that provides a framework for Central, and State Authorities established under prevailing laws. It provides a single focus for the protection of the environment. For specific areas e.g. protection of National Habitats and wildlife the Forest Conservation Act 1980, Wildlife (Protection) Act 1972 and the Eco-Sensitive Zone regulations provide considerable guidance include that for the electricity distribution. Thus, the environmental aspects of planning in critical environmental areas are covered even though the EIA regulation 2006 does not require the environmental clearance for Electricity Distribution Sector Projects.

59. The waste generated from the IT systems and smart meters e.g., Plastic waste (plastic packaging Waste), E-waste, Thermoset plastic waste, are handled through specific legislations i.e. Plastic Waste Management Rules, 2016, e-Waste Management Rules 2016 and Thermoset Plastic Waste including Sheet moulding compound (SMC)/Fibre Reinforced Plastic (FRP).

60. In addition to the environmental legislations, the order of the Hon'ble Supreme Court on different environmental aspects (e.g. GIB) also has to be complied with. The details of the different legislations are provided in Annexure 2.

3.4 Environmental and Social Management System Assessed Against Core Principles

3.4.1 Core Principle -1: Program E&S Management System

Program E&S management systems are designed to: (a) avoid, minimize, or mitigate adverse impacts; (a) promote E&S sustainability in the Program design; (b) avoid, minimize, or mitigate adverse impacts; and (c) promote informed decision-making relating to a Program's E&S effects

System and Capacity Assessment

61. The GoI, GoR / GoMP regulatory systems - environmental, forests and pollution control acts and regulations - were assessed and found to be adequate to manage the environmental effects. The regulatory framework does not require distribution infrastructure to obtain any clearance or permits. They are exempted from regulatory scrutiny during the planning and construction phases. However, the overarching Environmental Protection Act 1986 provides for different provisions which streamline E&S Management in the operations. Since the underlying investments to achieve the result areas would not involve any investment in developing infrastructure for distribution network, the requirement for impact assessment is not envisaged in this program. REC has recently adopted its ESG Policy and are in the process of defining procedures and process for operationalising the ESG Policy.

62. The program envisages for payment of power from renewable energy sources. Renewable Energy Generators are also not required to undertake any E&S impact assessment as per the regulatory framework. REC has been proactive and has included in the loan agreement with RE Companies that the RE Companies have to carry out an Environment and Social Due Diligence (ESDD) to implement the Environment and Social Action Plan (ESAP) and specific E&S Studies complying with IFC Performance Standards as may be required. However, the PforR program boundary does not include any financing for generating power plants or associated infrastructure. The Discoms, for their power purchases, are guided by the regulations and guidelines notified by GoI and state electricity regulatory commissions and compliance with all judicial orders.

63. Every team at REC, i.e., Renewable Energy and State Discoms, manage their own E&S aspects. At Rajasthan Discoms, the Safety and Quality wing is responsible for checking the works on a sample basis. They can even impose penalties. There are, however, no dedicated personnel for assessing or

managing E&S aspects. However, for the components covered under the PforR program, the E&S risks are "low" because it would entail primarily installation of smart meters. No new infrastructure, e.g., new substation or transmission line, is covered under the proposed Program boundary. Since the E&S risk is low, there are no requirements for dedicated trained manpower. However, capacity building of existing manpower can be considered in the Discoms on E&S Aspects.

64. REC as well as the Discoms in Madhya Pradesh and Rajasthan has a well-developed grievance redress management system with multiple channels to register grievances. While REC being a financial intermediary (FI) for extending loans to public utilities for improvement in power sector, it has no direct role in interacting with community/ electricity consumers. However, mechanisms are available through Centralized Public Grievance Redress and Monitoring System (CPGRAMS) where anyone can register their grievances and track them for resolution. On the other hand, Discoms have elaborate mechanism of grievance redressal align with the Electricity (Rights of Consumers) Rules, 2020. Section 3.5 of the report further details out on the mechanism for grievance redressal.

Key Gaps Identified

65. The systems at the country level and the processes at REC and the Discoms are robust to avoid, minimize, or mitigate adverse impacts. Capacity building of existing staff at REC and the Discoms in Madhya Pradesh and Rajasthan may be undertaken on Environment and Social Safeguards management. The REC's ESG Policy provide a unique promote E&S sustainability in the electricity distribution sector and the company should consider developing process and procedures to operationalize this.

3.4.2 Core Principle -2: Natural Habitat and Physical and Cultural Resources

Program E&S management systems are designed to avoid, minimize, or mitigate adverse impacts on natural habitats and physical cultural resources resulting from the Program. Program activities that involve the significant conversion or degradation of critical natural habitats or critical physical cultural heritage are not eligible for PforR financing.

System and Capacity Assessment

66. GoI regulation mandate distribution lines passing through the Forest Area and requiring conversion of forest land would require clearance under the Forest Act. However, in case it uses the Right of Way (RoW) of an existing road through a forest area, permission is required under The Forest (Conservation) Act, 1980 for the use of forest land. In case of Wildlife sanctuaries for most of the cases the ESZ notification considered power lines through the ESZ of Sanctuaries as restricted activities and recommended it to be underground. The distribution line requires clearance or permission under the Forest (Conservation) Act 1980. However, in this PforR program no infrastructure works are being envisaged so impact on forest land and natural habitats is not expected.

67. In its Judgement, the Hon'ble Supreme Court of India has identified Great Indian Bustards (*Ardeotis nigriceps*) habitats in Rajasthan and suggested mitigation measures, including undergrounding some electricity lines or fixing bird diverters. Some of these lines are owned by independent solar power producers. Since neither the Discoms nor the PforR Project would develop or invest in any solar power plant, there is no risk of degradation of critical natural habitat. The planning of the power purchase by Discoms should consider compliance with the Supreme Court Order as a criterion in finalising/executing PPAs.

68. Constructions in the proximity of cultural heritage sites, such as protected monuments, are also regulated, and there is a guideline to address chance finds. The regulations provide for an exemption for "construction or maintenance, extension, management for supply and distribution of electricity to the public". Thus, there is no requirement for any permission/ screening. However, the "competent authority" can recommend mitigation measures if required. Moreover, as part of the program, no new infrastructure is envisaged. Thus, no conversion or degradation of critical natural habitats or physical or cultural heritage is envisaged. Discoms are fully aware and competent of addressing these regulatory requirements. Hence, consistency to this core principle is confirmed.

Key Gaps Identified

69. The GoI, GOR/GoMP regulation comprehensively cover the environmental issues pertaining to Natural Habitat and Physical and Cultural Resources. In the case of the Hon'ble Supreme Court of India regarding the Great Indian Bustards, the Discoms in Rajasthan should consider ensuring compliance with the order while signing/ executing of PPAs.

3.4.3 Core Principle -3: Public and Workers Safety

Program E&S management systems are designed to protect public and worker safety against the potential risks associated with (a) the construction and/or operation of facilities or other operational practices under the Program; (b) exposure to toxic chemicals, hazardous wastes, and otherwise dangerous materials under the Program; and (c) reconstruction or rehabilitation of infrastructure located in areas prone to natural hazards.

System and Capacity Assessment

70. The Central Electricity Authority (Measures relating to Safety and Electric Supply) Regulations, 2010 Chapter III (General Safety requirements); have provisions dealing with the health and safety of the community, including consumers[17] and workers[18]. Both Discoms have incorporated these regulations in the Safety Manual and Bid/ Contract Documents to manage public and worker safety. Review of documents indicates that certain procedures e.g., PTW and training etc are in place. The review also indicated that the Safety Officer has provisions for penalizing contractors (especially financial penalties) but only for violation of "Stop Works". Trainings are carried out but there are no systematic plan for training of the workers at periodic interval, However in some areas e.g. incident reporting and investigation, comprehensive approach to training including induction, refresher training etc there is scope for some improvement of the OHS performance.

71. Discoms are required to have authorization under the Hazardous Waste (Management, Handling & Transboundary Movement) Rules, 2016, for the generation, storage and disposal of the waste transformer oils. The Discoms (both Rajasthan and Madhya Pradesh) have registered themselves as generators of hazardous waste; The used transformer oil is provided to registered recyclers, and manifests are maintained for the same. Further, as per the Regulation of Polychlorinated Biphenyls Order, 2016 electrical equipment shall not contain 0.05 per cent or more Polychlorinated Biphenyls by weight (i.e., Polychlorinated Biphenyls ≥ 500 mg/kg) by 2025. As the PforR program covers only installation of smart meters, this is not relevant for this program.

[17] Chapter IV: General conditions relating to electricity supply and use

[18] The Occupational Health and Safety requirement has also been defined u/s rule 19: Handling of electric supply -lines and apparatus. Precautions to be observed and PPE requirement has also been defined in the rules.

72. The smart meters and the IT-OT system would generate e-waste, thermoset plastic waste including sheet moulding compound (SMC)/ fibre reinforced plastic (FRP) would be generated form smart meters. There is regulation on management of e-waste, which have to be followed by Discoms and would help in mitigating the risk. Similarly for thermoset plastic waste including SMC/ FRP, CPCB has issued guidelines for its disposal in 2016. Discoms have to develop its own procedures based on CPCB guidelines. As the expected life of the meters is usually 8-10 years, Discoms will have some lead time to look at alternative pathways and procedures for the safe disposal of the waste.

73. The prevailing labour laws strictly prohibit engaging in child labour as well as forced labour. The implementation of the Prevention of Sexual Harassment of Women at Workplace (prevention, prohibition and redressal) or POSH Act 2013 through the State Commission for Women, Women and child welfare department largely addresses the SEA/SH risk. REC as well as Discoms in Madhya Pradesh and Rajasthan have functional Internal Complaint Committee (ICC) as per the Act.

Key Gaps Identified

74. The Discoms in both Rajasthan and Madhya Pradesh have developed OHS system which cover key elements of the safety and are aligned with the regulatory requirements. However, there is scope for strengthening the OHS process in case of smart meters on network/ consumers. They also have to develop procedures for the disposal of e-waste and thermoset plastic waste including SMC/ FRP.

3.4.4 Core Principle -4: Land Acquisition and Resettlement

Program E&S systems manage land acquisition and loss of access to natural resources in a way that avoids or minimizes displacement and assists affected people in improving, or at the minimum restoring, their livelihoods and living standards.

System and Capacity Assessment

75. The national legal and regulatory framework on land acquisition and involuntary resettlement is adequate, especially for land title holders. The Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013 (RFCTLARR) is followed in all states for any requirement of land acquisition, which also emphasizes on extensive consultation and consent and provision of replacement cost, and support towards livelihood enhancement in a transparent and participatory manner. However, the limitation it has is being silent on treatment of squatters, where states have varied practices of considering compensating for loss of assets and livelihood. This Act is being followed by all departments in state through state's revenue department.

76. For any loan being extended by the REC, the availability of land (where required) in possession of the respective borrower is a pre-condition to the loan and is part of the loan appraisal process. Also, in certain cases land is used as the mortgage for the loan, and hence, REC has a detailed process for scrutiny of the land (if and where required). However, the proposed project does not support any infrastructure works and hence there is no land requirement.

77. While the system and capacity for land acquisition and resettlement exist within the GoMP and GoR, given that no infrastructure work is supported under the program, and hence no land acquisition, and/or land restriction, or displacement of title holders or non-title holders is anticipated under the PforR and is part of the of excluded activities.

3.4.5 Core Principle- 5: Rights and Interests of Indigenous People and Concerns of Vulnerable Population Groups

Program E&S systems give due consideration to the cultural appropriateness of, and equitable access to, Program benefits, giving special attention to the rights and interests of Scheduled Tribe people (Indigenous Peoples) and scheduled caste people, and to the needs or concerns of vulnerable groups.

System and Capacity Assessment

(a) Towards Access to Services/ Electricity Supply

78. Over the last 6-8 years, GoI has expedited the objective of improving the access and quality of electricity supply by connecting the un-connected villages through *Deendayal Upadhayaya Gram Jyoti Yojana* (DDUGJY), and emphasis on household electrification through *Pradhan Mantri Sahaj Bijli Har Ghar Yojana* (SAUBHAGYA) scheme for which REC is the nodal agency for the entire country. In addition to village electrification, the SAUBHAGYA scheme emphasises on last mile connectivity and electricity connection to all un-electrified households in rural areas, last mile connectivity and electricity connection to all remaining economically poor un-electrified households in urban areas. These unconnected villages were the most backward, remote, and difficult to reach areas with larger proportion of Scheduled Tribe (ST) and Scheduled Caste (SC) population. To expedite and monitor the electrification process under SAUBHAGYA, in the web portal a feature named '*Samwad*' (means Dialogue in English) was provided in the portal to facilitate the general public to raise their queries and interact with officials of Discoms, thus establishing transparency and accountability. Also, the SAUBHAGYA tollfree help line number (1800-121-5555) and the Discoms helpline numbers (for all Discoms) are provides for further assistance. Under the DDUGJY, each districts have District Electricity Committee with elected representative, District Collector, and Chief/ Superintending Engineer of the concerned Discom being part of it. Both DDUGJY and SAUBHAGYA schemes have very well laid process that is being followed by each state and Discoms and provides details about the scheme, its status in state/ district among other information including contact details for seeking help and/or registering grievances. While these programs don't come directly under the purview of the proposed program, the villages electrified, and consumers added were largely from the remote and backward areas with larger proportion of ST, SC and other backward castes and will benefit from the improved supply of electricity by the Discoms in Madhya Pradesh and Rajasthan.

79. About 90 percent of the proposed program expenditure is being earmarked towards payment of power purchases by the Discoms, and hence, Discoms have limited direct engagement with consumers under the PforR program. However, this will help Discoms in improving their financial health and hence will benefit with improved power supply situation to all types of consumers including in rural and urban areas and living in remote, backward and tribal areas.

(b) Towards Citizen Engagement

80. Given the nature of operation, REC has no direct engagement with community/ electrical consumers, however, since FY21, REC has started an annual exercise on Consumer Service Ratings of Discoms across Discoms in the country to compare their performance across various service parameters and identify gaps to take corrective measures. The engagement with community/ electrical consumers is in the realm of Discoms who provide them electrical connections, supply electricity, and provide electricity supply related services both in technical and commercial spheres. Apart from technical and commercial services related to electricity supply to consumers, the key areas that require community engagement by Discoms are (a) in the process of tariff setting; (b) in the process of consumer grievance redressal; and (c) in communicating with consumers and seeking their feedback on provision of services.

81. Citizen engagement process for tariff approval by the electricity regulatory commissions is robust in India and mandated by the Electricity Act 2003. Section 64 (3) of the Act mandates the electricity regulatory commissions to undertake public consultations/ public hearing and issue the tariff order or reject the application after considering all suggestions and objections received from the public. The Commission also invites suggestions and objections from the public for consideration before determination of Aggregate Revenue Requirement (ARR) and Tariff. Both Madhya Pradesh and Rajasthan Electricity Regulatory Commission (ERC) makes the proceedings of the Commission open to the public. Also, in Madhya Pradesh and Rajasthan, the Commission regulates Discoms to publish the salient features of the tariff petition, in at least two leading daily newspapers, one in Hindi and one in English, having large circulation in its area of supply, within the time specified by the Commission. The tariff order is a public document and disclosed at the State ERC website.

82. The grievance redress mechanism is an integral part of Discoms in Madhya Pradesh and Rajasthan and the Discoms have set up various forums in line with the Electricity (Rights of Consumers) Rules,2020, and this has been detailed out in Section 3.5.

83. The process of interacting and communicating with consumers including on load shedding, billing related information, and/or the installation of smart meters etc. are periodically done by Discoms directly or through their Distribution Circles (DCs) on need to inform basis. In addition, there are Public Relation Officers (PROs) at Discom level. In case of Madhya Pradesh, all the information is shared online through website, Apps, and through social media platforms. Also, facilitating consumer services through the mobile App, 'Smart Bijlee', which allows users to make payments, submit complaints, or apply for a new connection etc. Most of these activities are managed by the IT cell in Discoms and through Assistant Engineer (AE)-IT at DC level. In addition, feedback from consumers is sought through call enters by making random selection of consumers in each DCs on daily basis (about 30 consumer every day) for their satisfaction and experience with Discom related services. However, there may be a need to consolidate the findings on a regular basis and feed into improvement of services and further strengthen the consumer relationship with Discoms.

84. In Rajasthan, some Discoms have undertaken the customer satisfaction survey to seek the feedback on improvement of electricity supply. However, these surveys are one off measure and there is no fixed periodicity or mechanism to compare with a baseline using similar methodologies.

Key Gaps Identified

85. In Rajasthan, Discoms do not follow an organised mechanism to seek feedback from consumers and requires strengthening.

86. While the communication with consumers being undertaken at Discoms and at the Distribution circle levels including for billing, metering, scheduled load shedding etc. there is limited mechanism to share Discoms plan and performances with consumers to build positive perception about Discoms and to be more consumer focused.

87. Discoms in Madhya Pradesh have system of taking feedback from consumers on regular basis through call centres, however, how these data are analysed, consolidated and fed into improving planning and operations are not very clear and may require strengthening.

3.4.6 Core Principle- 6: Social Conflict

Program E&S systems avoid exacerbating social conflict, especially in fragile states, post-conflict areas, or areas subject to territorial disputes.

System and Capacity Assessment

88. The program activities do not exacerbate any social conflict. In fact, it will benefit community across Discoms in both Madhya Pradesh and Rajasthan with improved electricity supply as a result of improved financial health of Discoms and enhanced operational efficiency, and hence improved living condition and livelihood opportunities especially among poor and marginalized.

3.5 Grievance Redressal Mechanism

89. **At REC**: The REC leverages existing country systems to receive, resolve and manage grievances through the national system of Centralized Public Grievance Redress and Monitoring System (CPGRAMS). The CPGRAMS is an online web-enabled system (https://pgportal.gov.in/) in association with Directorate of Public Grievances (DPG) and Department of Administrative Reforms and Public Grievances (DARPG) to register and track grievance, and is being used in all Central Ministries, Departments, and government agencies/ institutions such as the case with REC Ltd. (https://recindia.nic.in/grievances). Any state specific grievances can also be lodged here which are further directed to respective agencies and state department for resolution and reported back through CPGRAMS system. The REC has also deputed a Grievance Redressal Officer and an Appellate Authority and whose contact details are provided on the REC website as well.

90. In addition, national laws provide for the Right to Information (RTI) Act for the public to get information and resolution of grievances as mandated under the Act. An RTI Cell is in existence in REC to deal with applications received under the RTI Act. REC has designated a Chief Public Information Officer (PIO) to respond to the RTI applications and a First Appellate Authority (RTI) to adjudicate on RTI First Appeals for effective implementation of the RTI Act. The RTI Cell also comprises of an Assistant Public Information Officer. The entire functioning of the RTI Cell and implementation of the RTI Act in REC is observed by the Transparency Officer. REC is also associated with the online RTI Portal of GoI, Department of Personnel & Training (https://rtionline.gov.in), which enables citizens of India, to file RTI applications/first appeals online along with a payment gateway.

91. **In Discoms**: Various mechanism are used for registering grievances and seeking resolution at Discom level and this includes RTI Act to get information and resolution of grievances as mandated under the Act. In Madhya Pradesh and Rajasthan, registering of grievances also happens through Chief Minister's (CM's) grievance cell/ help desk number/ portal, which is then directed to respective Discoms for resolution.

92. Based on the need for grievance redress mechanism to align with the Electricity (Rights of Consumers) Rules,2020 notified on 31.12.2020 by the Ministry of power, GoI, MPERC and RERC have notified Discoms to strengthen the grievance redress mechanism for timely and satisfactorily resolutions of consumers grievances. Keeping in view the objective of safeguarding consumers' interests, the Commission has directed in the Regulations to establish the Electricity Consumers' Grievance Redressal Forum and Electricity Ombudsman for redressal of grievances. Both states have gone ahead and framed a three-layered hierarchy for giving adequate forums to the consumers to get their grievance(s) addressed as per the regulatory provisions. This includes internal grievance redressal at local level i.e., at sub-division, division and circle level. And if not satisfied, then consumer

grievance redressal forum at zonal and corporate level, and finally the placement of Ombudsman at ERCs. The scope of type of grievances that can be registered at each level and timeline for redressal has also been notified.

93. The complaints that can be registered are related to quality of supply, defects in service, electricity bills, arrear, payment related, and other standard of performance by Discoms. While the IGR in Rajasthan Discoms is headed by Officer in-charge of concerned office and includes one revenue officer, one operation and maintenance (O&M) engineer and/or, Officer from meter and protection (M&P) / Internal Audit / Vigilance wing; the IGR in Madhya Pradesh is also having members from Domestic, Agriculture, Industrial/HT, and Prosumer Consumers.

94. The process for filing complaints includes:

a. The Consumer needs to lodge a complaint related to supply and billing at licensee's designated offices, Call Centres or any other location as published/displayed from time to time.

b. Depending on the nature of complaint, the same will be assigned to the designated officers. There are two levels of complaints handling internal redressal mechanism with the licensee.

c. If the complaint is not solved at level 1 then it moves to higher officer at level 2.

d. If the consumer is not satisfied with the action taken by the licensee, then he may lodge complaint to the Forum in writing with all relevant documents.

e. Again, if the consumer is not satisfied with the decision of the Forum, then he may make an appeal to the Ombudsman.

95. The complaints can be filed through various channels and includes: (a) physical helpdesk; (b) through call centres; (c) WhatsApp message and online services; (d) Discom's mobile App; and (e) through social media platforms. This is in addition to the national level Mobile App (Urja Mitra) and 1912 national helpline number rolled out by Ministry of Power, GoI. The details of the channels for registering grievances in Madhya Pradesh and Rajasthan is as below.

Channels for Registering Grievances in Madhya Pradesh

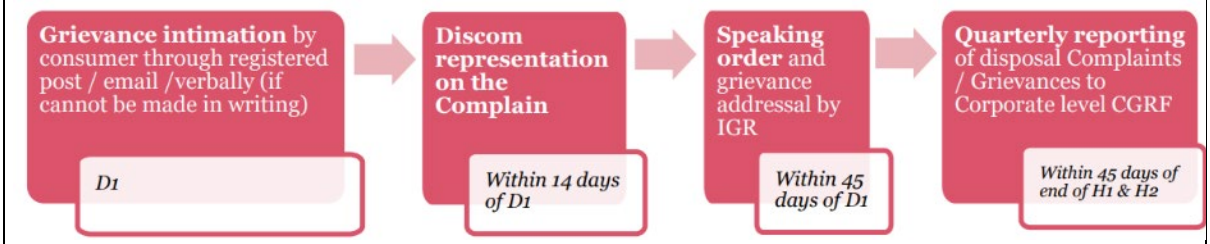
Physical Helpdesks	▪ Around **1 no. at each division** office		
Voice services	▪ **Telle caller/IVR** – 1912	▪ **Toll Free No.** – 1800-233-1266 for MPEZ – 0731-6700000 for MPWZ	
Message & Online services	▪ **Whatsapp Chatbot** – 0755-2551222 for MPCZ	▪ **Website** – https://services.mpcz.in/Consumer/#/IsamparkApp/registerComplaint 9414000783- **iSAMPARK** for MPCZ – https://mpwzservices.mpwin.co.in/mpeb_english/home- **Urjas** for MPWZ	
Discoms' mobile app.	▪ **Smart Bijlee Android App** (MPEZ)	▪ **UPAY** (MPCZ)	▪ **URJAS** (MPWZ)
Social Media Platforms	**Twitter**	**Facebook**	

Channels for Registering Grievances in Rajasthan

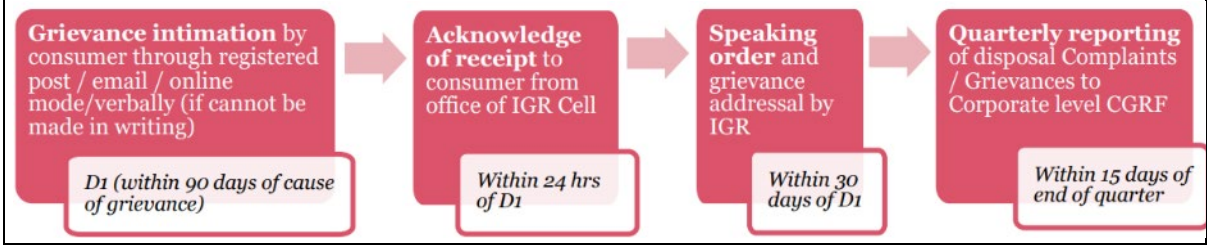
Physical Helpdesks	▪ Around **1 no. at each subdivision** office		
Voice services	▪ **Toll free / IVRS nos.** – 18001806127, 18001806507 & 01412203000 for JVVNL – 18001806565 for AVVNL – 18001806045 for JdVVNL	▪ **24x7 Safety helpline number** – 0141-4730700 for JVVNL – 18001806565 for AVVNL – 0291-2651200 for JdVVNL	
Message services	▪ **Whatsapp** – 9414037085 for JVVNL – 9414000783 for AVVNL – 9413359064 for JdVVNL	▪ **SMS** – 7065051222 for JVVNL – 9414000783 for AVVNL – 7065051222 for JdVVNL	
Discoms' mobile app.	▪ **Bijli Mitra** (JVVNL)	▪ **Urja Sarthi** (AVVNL)	▪ **Vidyut Saarthi** (JdVVNL)
Other	▪ **Online complaint** registration – JVVNL: https://jvccc.ariatelecom.net/registercomplaint – JdVVNL: https://jdvvnlcrm.teleperformancedibs.com/registercomplaint	▪ **RAPDRP Web Self Service** (https://wss.rajdiscoms.com/**jvvnl**_web/, http://wss.rajdiscoms.com/**avvnl**_web/, http://wss.rajdiscoms.com/**jdvvnl**_web/)	▪ **WebChat** through Discoms' website ▪ **Sampark portal** (https://sampark.rajasthan.gov.in/)
Social Media Platforms	▪ **Twitter**	▪ **Facebook**	

96. The process timeline for grievances to be resolved in Madhya Pradesh and Rajasthan Discoms are as below.

Process timeline for Grievance Redressal in Madhya Pradesh



Process timeline for Grievance Redressal in Rajasthan



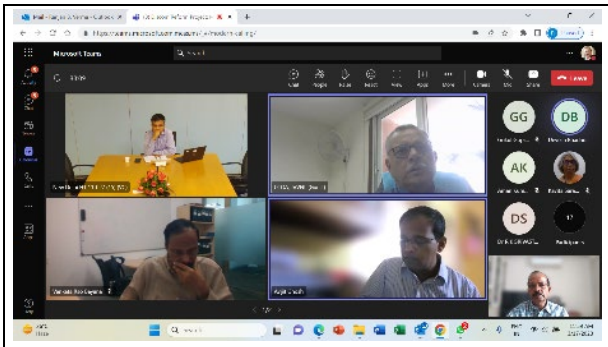
97. In case of filing the complaint to CGRF, the CGRF passes the order by after due hearing in presence of all parties within 30 to 45 days of filing the complaint. Similar to timeline above, a consumer may file representation, within 60 days in case of Madhya Pradesh and 30 days in case of Rajasthan of the date of order / expiry of resolution timeline, before the Ombudsman appointed / designated by the respective SERC if aggrieved by the non-addressal of grievance by CGRF within the stipulated timeline Or, aggrieved by the order passed by CGRF.

4 CONSULTATIONS WITH KEY STAKEHOLDERS AND DISCLOSURE

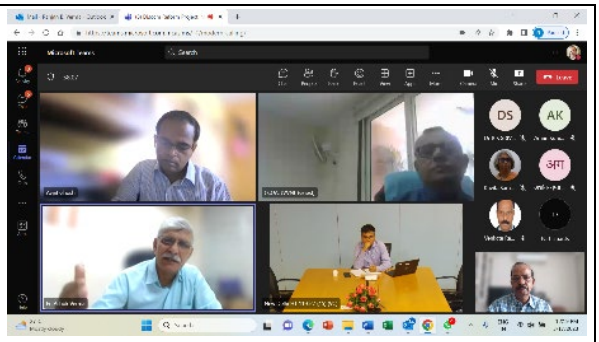
4.1 Stakeholder consultation

98. As part of preparation, face-to-face consultations were undertaken with various Divisions of REC as well as with Energy Department, Government of Madhya Pradesh and Central Discom and Western Discoms of Madhya Pradesh over September 2022 to February 2023 period. In addition, virtual consultations also happened with various officials of Rajasthan Discoms and Discoms in Madhya Pradesh in March 2023. Consultations with REC and Discoms included discussion on environmental and social aspects, existing policy and practices, and areas that may require strengthening. Details of the face-to-face and virtual consultations with ESSA team along with other team members is as below.

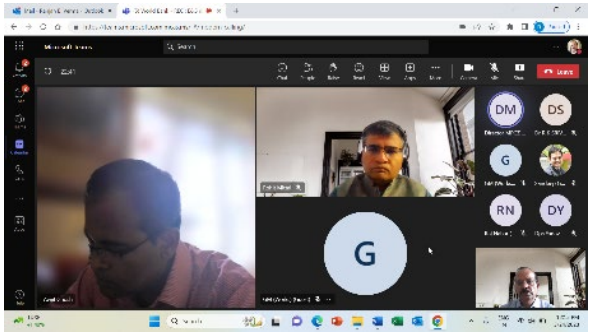
State	Date	Type of consultation	Departments/ Discoms Met
REC Ltd. Gurugram	6 March, 2023	Face-to-face	Various Divisions of REC including Human Resources, Project Management, RDSS, and RE.
Madhya Pradesh	12-14 September, 2022	Face-to-face	Energy Department, Government of Madhya Pradesh; Central Discom – Bhopal; Western Discom - Indore
Rajasthan	17 March, 2023	Virtual	All Discoms in State
Madhya Pradesh	24 March, 2023	Virtual	All Discoms in State



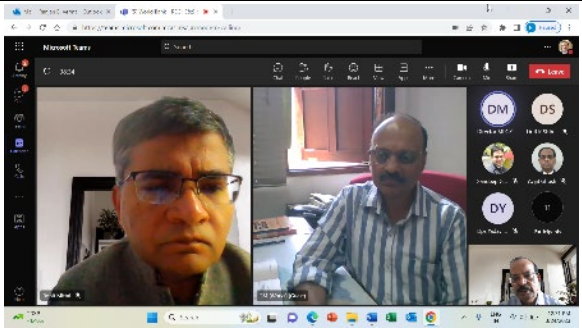
Virtual consultations with Rajasthan Discoms



Virtual consultations with Rajasthan Discoms



Virtual consultations with MP Discoms



Virtual consultations with MP Discoms

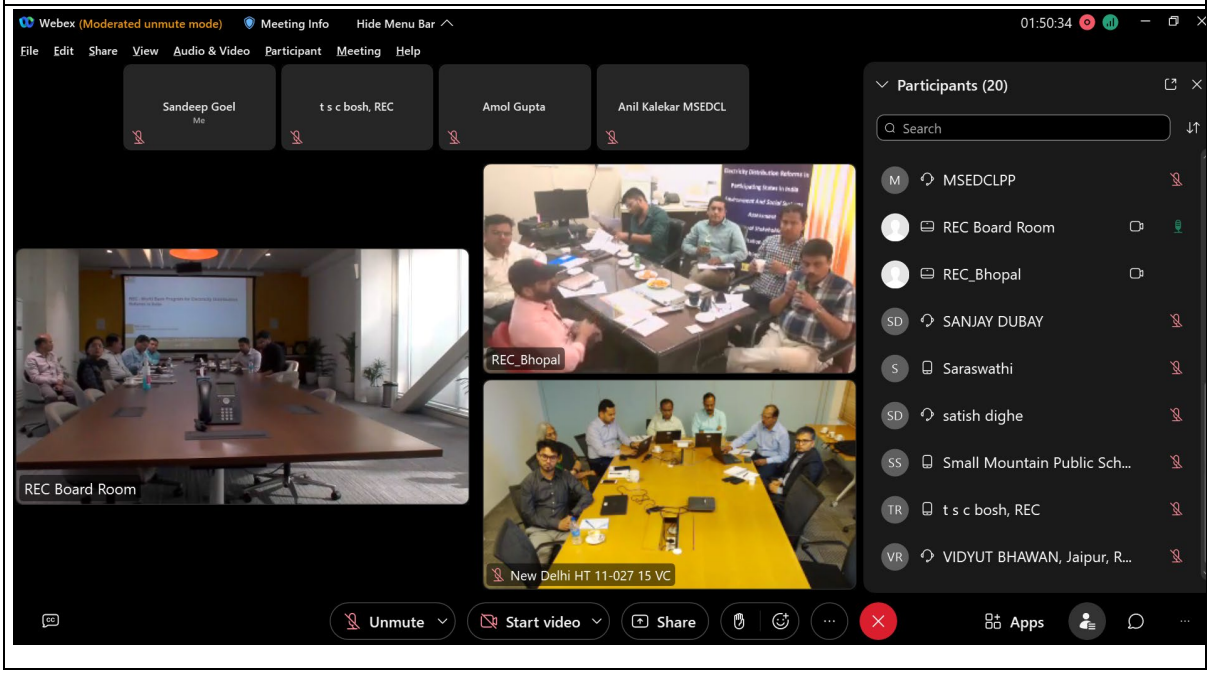
99. The consultation with all the implementing agencies and the seeking information was largely focused in the areas of (a) institutional mechanism and current practices for safety and security, occupational health and safety, and community health and safety; (b) implementation and adherence

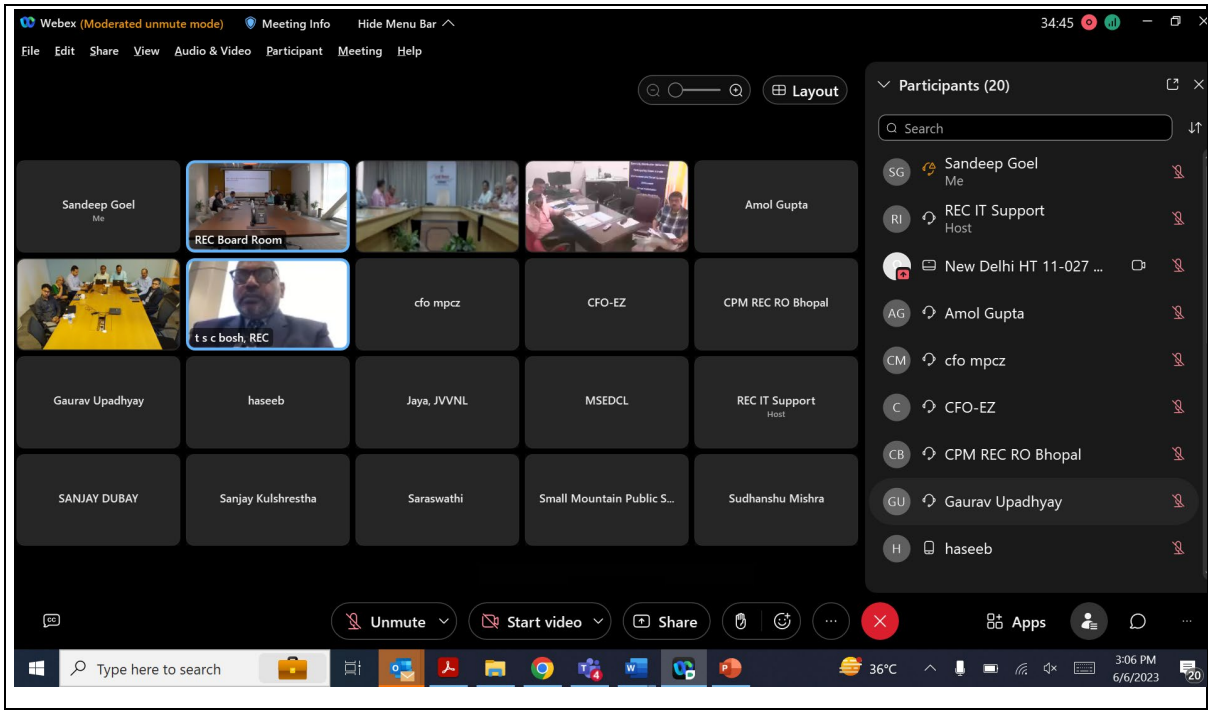
to environmental and social legislations in their operations; (c) community engagement in tariff processes as well as consumer relationship with Discoms including consumer satisfaction surveys etc.; (d) grievance redress mechanism; and (e) institutional mechanism for environmental and social activities and risk management..

4.2 Summary of Multi-stakeholder consultation workshop

100. A multi-stakeholder workshop was organized on June 06, 2023, during the Appraisal process at the national level covering participants from a wider set of stakeholder groups including from NGOs, Civil society members, Discoms from Madhya Pradesh, Rajasthan and other electricity distribution utilities among others. In the workshop, REC provided an overview of the proposed PforR Program followed by a detailed presentation on the principles, methodology and findings of the Environment and Social Systems Assessment by the World Bank Safeguard experts. Stakeholders raised queries and made few suggestions to improve the environment and social safeguard management through the Program and have been incorporated in the revised ESSA. The list of participants is included in Annexure 3.

Screenshots from the Multistakeholder workshop with NGOs and electricity distribution utilities





4.3 Disclosure of ESSA

101. The findings of the ESSA was shared with the Discoms in Madhya Pradesh and Rajasthan, and the executive summary of draft ESSA was disclosed on REC's website on May 30, 2023, prior to the multi-stakeholder workshop, to serve as the basis for discussion and receipt of feedback and comments. After incorporating the feedback received including during multi-stakeholder consultation, the final ESSA is being re-disclosed at the REC website and at the World Bank's external website.

5 RECOMMENDATIONS AND ACTIONS

102. This chapter includes the findings and recommendations emerging from the analysis presented in the earlier chapters. As part of the findings, the Program exclusions and highlights both on environmental and social issues have been included. As part of the recommendations, the ESSA inputs to the Program Action Plan and to the Implementation Support Plan covering both environmental and social issues have been included. These inputs focus on strengthening the environmental and social systems relevant to the electricity distribution sector in Rajasthan and Madhya Pradesh. Additionally, since REC, would work as a Financial Intermediary (FI), strengthening of their system is envisaged to influence the sector. These will be important not only for the Bank Program but also for the Government program at large.

5.1 Exclusion of High-Risk Activities

103. The proposed program will not finance any activities that will cause high or substantial E&S risks and impacts including activities as mentioned includes:

a. involuntary land taking, any physical displacement or permanent disruption of sources of income,
b. activities that are not in compliance with Central and State environmental legislation, court orders including the Hon'ble Supreme Court Order on GIB;
c. air, water, or soil contamination leading to significant adverse impacts on the health or safety of individuals, communities, or ecosystems
d. destruction or damage to any physical and cultural resources
e. adverse impact on Indigenous People or their territories without their consent,
f. located in or adversely affecting any protected areas, critical habitats, culturally or socially sensitive areas or leading to conversion of natural habitat
g. workplace conditions that expose workers to significant risks to health and personal safety and harmful child or forced labour.
h. adverse E&S impacts covering large geographical areas, including transboundary impacts, or global impacts such as greenhouse gas (GHG) emissions.
i. any significant cumulative, induced, or indirect impacts

5.2 Key ESSA Findings

Environment Systems

104. The GoR and GoMP program and the Bank's PforR Program will result in positive environmental impacts. This would not only ensure energy efficiency but also contribute to decarbonization goal through better planning for energy mix (including RPOs) of Discoms through resource adequacy plan preparation. This will result in positive environmental impacts.

105. In electricity distribution, key impacts include a) community health and safety and b) occupational Health and safety c) issues around thermoplastic waste from smart meters.

106. The National and State regulations Central Electricity Authority (Measures relating to Safety and Electric Supply) Regulations, 2010 adequately provide direction to manage these community and occupational health safety. The E-Waste (Management) Rules, 2022 would deal with e-waste generated while the Guidelines for Disposal of Thermoset Plastic Waste, including SMC/ FRP issued by MoEF&CC takes care of the disposal of thermoplastic waste from smart meters. The analysis of the legal requirement does not provide for any gaps with respect to the World Bank Policies.

107. The institutional system of the participating Discoms were envisaged to be robust as the safety of the workers and the community especially consumers is integral to the job profile of each of the members of the organization. In addition, there is a specialized department, e.g., the Quality Cell in Madhya Pradesh Discoms and the "Quality and Safety Cell" in Rajasthan who are specially tasked to oversight the safety aspects. The ESSA has, however, revealed some scope for strengthening the implementation of the OHS aspects w.r.t. installation of smart meters in the respective Discoms.

108. As the program will not support any infrastructure activities related to the distribution network, there would be no impact on forests or natural habitats. Also, no construction activities are envisaged; thus, pollution-related impacts from construction are not envisaged.

109. While the PforR program does not include financing for any renewable power project, there is a need for Discoms to understand the compliance of the Hon'ble Supreme Court order on GIB while entering/executing PPAs.

Social Systems

110. The Program will have positive social impacts with reduction in distribution losses and efficiency improvement which may lead to rationalization of electricity cost. With improved electricity supply and reduced load shedding it will also contribute to improving livelihoods and reduction in poverty and improved health and education opportunities.

111. The National and State regulatory systems are adequate to manage any social effects and ensures protection of the interest of poor and marginalised including SC, ST and minority population groups. It ensures non-discrimination based on religion, race, caste, and gender; and promote transparency and accountability with the right to information and other measures.

112. Overall, the management of social systems in REC as well as in Discoms are broadly in compliance with national and state legislations and aligned with World Bank core principles on environmental and social systems with respect to the activities expected under the proposed program. However, there are areas that requires further strengthening and includes:

a. REC has recently in January 2023 developed an ESG policy and it has been also approved by their Board of Directors. The next important step is to develop procedure and process to operationalize it to realise the full benefit of the same.

b. In Rajasthan, Discoms do not follow an organised mechanism to seek feedback from consumers and requires strengthening. Although in recent past there has been Consumer Satisfaction survey conducted – but as a one-off activity rather than a regular mechanism to seek feedback and integrate into planning and operations.

c. While the communication with consumers being undertaken at Discoms and at the Distribution circle levels including for billing, metering, scheduled load shedding etc. there is limited mechanism to share Discoms plan and performances to consumers to build positive perception about Discoms and to be more consumer focused.

d. Discoms in Madhya Pradesh have system of taking feedback from consumers on regular basis through call centres, however, how these data are analysed, consolidated and fed into improving planning and operations is not very clear and may require strengthening.

5.3 Summary of Recommendations and Actions

Recommendations towards strengthening Environmental Systems

113. The key recommendation towards strengthening environmental systems includes:

a. Review and strengthen the OHS system in case of network/consumer metering.

b. Support REC in defining the process and procedure for developing ESG system to translate the ESG policy.

c. Developing process for the handling of the Thermoset Plastic Waste including Sheet moulding compound (SMC)/Fibre Reinforced Plastic (FRP)

Recommendations towards strengthening Social Systems

114. The key recommendation towards strengthening social systems includes:

a. The ESG policy to be translated into programmatic actions into planning and operations of REC.

b. Discoms in Rajasthan to further strengthen consumer feedback mechanism by introducing periodic customer satisfaction survey to understand consumer issues and concerns as well as feedback on consumer perception on (i) quality of electricity supply, and (ii) on services provided by the Discom, among other areas.

c. Discoms in Madhya Pradesh need to review the existing consumer feedback mechanism and strengthen mechanism for its collation and analysis to feed into planning and operations of Discoms towards strengthening consumer relationship.

d. Develop mechanism for proactive communication of Discom metering plans.

5.4 Measures for Inclusion in the Program Action Plan

115. From the recommendations made above, the following actions are being proposed for inclusion in the Program Action Plan towards addressing key/critical identified gaps between the Program systems and PforR core principles.

Action description	Responsibility	Timing	Completion Measurement
Prepare SoP/ Program Manual defining process and procedure for integrating ESG policy into REC's planning and operation	REC	Eighteen months from program effectiveness	ESG – SoP/ program manual prepared and notified for implementation.
Consumer communication and feedback mechanism to be strengthened by Discoms	All Discoms in Rajasthan and Madhya Pradesh	Eighteen months from program effectiveness	1. Guideline for consumer feedback mechanism on consumer complaints received in CIS / CMS prepared by Discoms and a report prepared. 2. Communication plan for pre-paid smart-metering consumer metering prepared and brought into implementation.
Review and strengthen the OHS system for network / consumer metering	All Discoms in Rajasthan and Madhya Pradesh	Twelve months from program effectiveness	Development of the Procedure for OHS in network /consumer metering implementation

5.5 Input to the Implementation Support Plan

116. The Bank's Program focuses on reform the distribution of electricity and strengthening the Discoms systems and processes. The Bank's implementation support will focus largely on further building the environmental and social management capacity of REC and Discoms. Awareness and capacity building, streamlining systems and procedures in identified areas. There are no direct risks arising from institutional development, and if done effectively, the Program will contribute to further strengthening of E&S capacity.

117. Some of the Program Action Plan and the implementation support stated above may require external support to strengthen the E&S systems and procedures. To support Discoms, Technical Assistance has been envisaged under the program as an IPF component.

ANNEXURES

Annexture-1: List of Documents and Information Reviewed

1. A survey of public attitudes to electricity tariff reform in Rajasthan. International Institute for Sustainable Development (IISD), November 2016. Available at https://www.iisd.org/system/files/publications/survey-public-attitudes-electricity-tariff-reform-rajasthan.pdf
2. Central Electricity Authority (Measures relating to Safety and Electricity Supply) Regulations, 2018 and Amendment 2019. Available at https://cea.nic.in/regulations-category/measures-relating-to-safety-and-electric-supply/?lang=en
3. Consumer Empowerment, by MPERC. Available at Microsoft Word - English Consumer Empowerment.doc (mperc.in)
4. Consumer Protection in Electricity Sector in India. Forum of Regulators. Sep 2020. Available at http://www.forumofregulators.gov.in/Data/Reports/FoR%20Consumer%20Protection%20Study%20Report.pdf
5. Consumer Service Ratings of Discoms – By REC for the FY2020-21. Available at https://recindia.nic.in/consumer-service-rating-of-discoms; https://recindia.nic.in/launch-of-first-ever-consumer-services-rating-discoms-csrd
6. Do's and Don't Instruction on Mains and Apparatus, Madhya Pradesh. Available at 5216 part 2 (1).pdf (mp.gov.in)
7. Draft Electricity (Rights of Consumers) Rules, 2020. Available at https://powermin.gov.in/sites/default/files/Draft_Electricity_Rights_of_Consumers_Rules_2020.pdf
8. Growth of Electricity Sector In India (1947-2022). Central Electricity Authority, New Delhi, June 2022. Available at https://cea.nic.in.
9. Madhya Pradesh Electricity Regulatory Commission. https://mperc.in/index.htm
10. Measures Related to Electrical Safety. Central Electricity Authority. Ministry of Power, Government of India. Available at Measures Relating to Safety and Electric Supply Archives - Central Electricity Authority (cea.nic.in)
11. Rajasthan Electricity Regulatory Commission. https://rerc.rajasthan.gov.in/Index
12. Safety Manual – Madhya Pradesh Discoms. Available at Safety_manual.pdf (mpcz.in).
13. Smart Meter National Program. https://eeslindia.org/en/smart-meters/
14. Turning Around the Power Distribution Sector – Learning and Best Practices from Reforms. Niti Aayog, Government of India. August 2021. Available at https://www.niti.gov.in/sites/default/files/2021-08/Electricity-Distribution-Report_030821.pdf
15. Rajasthan Electricity Regulatory Commission (Consumer Grievance Redressal Forum, Electricity Ombudsman and Consumer Advocacy) Regulations, 2021. Available at Regulations - RERC JAIPUR (rajasthan.gov.in).

Annexure-2: Review of Applicable Legal and Regulatory Framework

India has a wide range of environmental and social policies, legislations, and regulations to handle/ manage E&S issues associated with different types of projects. However, many of these regulations are not applicable to present project due to the nature of project activities and demonstrable E&S impacts. A review of applicable national and state level laws and regulations has been undertaken to understand the applicability of these laws to the proposed projects. Additionally, the relevant guidelines prepared by the state power utilities, for planning, construction and operations of the sub-stations and distribution lines were also reviewed.

RELEVANT LEGAL & REGULATORY FRAMEWORK

Legislation	Relevance/ Applicability to the project
ELECTRICITY SUPPLY RELATED	
Electricity Act, 2003 (EA, 2003)	Consolidate the laws relating to generation, transmission, distribution, trading and use of electricity and generally for taking measures conducive to development of electricity industry, promoting competition therein, protecting interest of consumers and supply of electricity to all areas, rationalization of electricity tariff, ensuring transparent policies regarding subsidies, promotion of efficient and environmentally benign policies, constitution of Central Electricity Authority, Regulatory Commissions and establishment of Appellate Tribunal and for matters connected therewith or incidental thereto. Section 23 provides for equitable distribution of electricity supply and provides for regulating supply, distribution, consumption or use thereof. Section 50 provides for the Electricity Supply Code. And provides for recovery of electricity charges, intervals for billing of electricity charges, disconnection of supply of electricity for non-payment thereof, restoration of supply of electricity; measures for preventing tampering, distress or damage to electrical plant, or electrical line or meter, entry of distribution licensee or any person acting on his behalf for disconnecting supply and removing the meter; entry for replacing, altering or maintaining electric lines or electrical plants or meter and such other matters. Section 53 provides for provisions relating to safety and electricity supply. And provides for (a) protecting the public from dangers arising from the generation, transmission or distribution or trading of electricity, or use of electricity supplied or installation, maintenance or use of any electric line or electrical plant. (b) eliminating or reducing the risks of personal injury to any person, or damage to property of any person or interference with use of such property. (c) prohibiting the supply or transmission of electricity except by means of a system which conforms to the specification as may be specified.

	(d) giving notice in the specified form to the Appropriate Commission and the Electrical Inspector, of accidents and failures of supplies or transmissions of electricity. (e) specifying action to be taken in relation to any electric line or electrical plant, or any electrical appliance under the control of a consumer for the purpose of eliminating or reducing the risk of personal injury or damage to property or interference with its use. In addition, the Electricity Act brought sweeping changes to the legal framework governing the sector, which was followed by notification of National Electricity Policy, National Tariff Policy, Renewable Energy Policy, National Hydro Policy and Mega Power Policy, reflecting the measures taken by the Government to bring competitiveness and efficiency in the sector.
The Factories Act, 1948	This act provides occupational health & safety of the workers. The Occupational Health & Safety (OHS) Code have been formulated by the Govt. of India & once the rules under this code will be framed the occupational health & safety issues would be dealt as per the new OHS Code.
SOCIAL	
The Constitution of India (especially, Articles 15,16 and 46)	The Indian Constitution (Article 15) prohibits any discrimination based on religion, race, caste, sex, and place of birth. Article 16 refers to the equality of opportunity in matters of public employment. Article 46 directs the state to promote with special care the educational and economic interests of the weaker sections of the people, particularly of the Scheduled Castes and the Scheduled Tribes and also directs the state to protect them from social injustice and all forms of exploitation.
The Rights of Persons with Disabilities Act, 2016	The Act ensures that persons with disabilities enjoy the right to equality and nondiscrimination in all aspects of life. Every entity has to comply with the accessibility standards relating to physical environment, transport and information and communication technology as per the standards prescribed in the RPD Act. These include barrier free built environment having elevators/ramps for the benefit of wheelchairs. In respect to Access to Transport"-mentioned that-the appropriate Government shall take suitable measures to provide,—(a) facilities for persons with disabilities at bus stops, railway stations and airports conforming to the accessibility standards relating to parking spaces, toilets, ticketing counters and ticketing machines;(b) access to all modes of transport that conform the design standards, including retrofitting old modes of transport, wherever technically feasible Applicable to the project road infrastructure in terms of making it more accessible for those who are physically challenged
Fifth Scheduled Areas as in the Constitution of India	In the Scheduled Areas, involvement of tribal councils and communities, incorporating their views and culture specific needs will enhance their participation in the Program. Under the

	provisions of Fifth Scheduled Areas, the State should set up a Tribes Advisory Council (TAC) to advise the State Government on matters of welfare and development of the Scheduled Tribes in the State.
The Right to Information Act 2005; and rules by the respective states.	Provides a practical regime of right to information for citizens to secure access to information under the control of Public Authorities. The act sets out (a) obligations of public authorities with respect to provision of information; (b) requires designating of a Public Information Officer; (c) process for any citizen to obtain information/disposal of request, etc. (d) provides for institutions such as Central Information Commission/State Information Commission. The rules passed by respective states provide the rules for operationalizing the provisions of the above-mentioned act.
Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013 (RFCTLARR)	The act provides for a transparent process and fair compensation in land acquisition for public purposes and provides for rehabilitation and resettlement of landowners and those affected by land acquisition. It comprises four schedules that provide the minimum applicable norms for compensation based on market value, multiplier and solatium; resettlement and rehabilitation (R&R) entitlements to landowners and livelihood losers; and facilities at resettlement sites for displaced persons, besides providing flexibility to states and implementing agencies to provide higher norms for compensation and R&R.
Minimum wages Act, 1948	This act ensures minimum wages that must be paid to skilled and unskilled labours. The employer shall pay to every employee engaged in scheduled employment under him, wages at the rate not less than the minimum wages fixed by such notification for that class of employee without any deductions except authorized.
The Child and Adolescent Labour (Prohibition & Regulation) Act, 1986 **Notification of the Child Labour (Prohibition and Regulation) Amendment Act, 2016 and Rules 2017**	The Act prohibits employment of children in certain occupation and processes. The Act also specifies conditions of work for children, if permitted to work. The 2016 amendment also prohibits the employment of adolescents in the age group of 14 to 18 years in hazardous occupations and processes and regulates their working conditions where they are not prohibited.
The Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act, 2013	An act that aims at providing a sense of security at the workplace that improves women's participation in work and results in their economic empowerment. It requires an employer to set up an "Internal Complaints Committee" (ICC) and the Government to set up a 'Local Complaints Committee' (LCC) at the district level to investigate complaints regarding sexual harassment at workplace and for inquiring into the complaint in a time bound manner. The ICC needs to be set up by every organization and its branches with more than 10 employees.

ENVIRONMNETAL	
Article 48 A of the Constitution of India	The State shall endeavor to protect and improve the environment and to safeguard the forests and wildlife of the country. This is binding upon all.
Article 51 A (g) of the Constitution of India	It shall be the duty of every citizen of India to protect and improve the natural environment including forests, lakes, rivers and wildlife and to have compassion for living creatures. This is binding upon all.
Forest (Conservation) Act, 1980	This Act was enacted to prevent rapid deforestation and environmental degradation. State governments cannot de-reserve any forest land or authorize its use for any non-forest purposes without approval from the Central government. Projects involving diversion of forest areas to non-forest purpose undergo detailed review and approval procedures to obtain Forest Clearance MoEF&CC before starting any construction activity in designated forest area. This Act provides for the conservation of forests and regulates the diversion of forest land to non-forestry purpose. When any activity is to be undertaken in forest land, prior clearance is mandatorily required from Ministry of Environment and Forests (MoEF), GoI under this act.
Wildlife (Protection) Act, 1972	The Act envisages the requirement of Clearance from the National Board of Wildlife (NBWL) if any project activity is located within the Boundary of Wildlife Sanctuary. Projects involving protected areas undergo detailed review and approval procedures to obtain permission from Standing Committee of National Board for Wildlife (NBWL), MoEF&CC before starting any construction activity in such area. Whenever a developmental activity is to be undertaken in designated protected area such as National Parks, Wildlife Sanctuaries, Eco-sensitive Zone etc., prior approval from Ministry of Environment, Forest and Climate Change (MoEF&CC), required to be obtained.
Environment (Protection) Act,1986	It is umbrella legislation for the protection and improvement of environment. Environmental clearance component of this Act is only applicable to passing of transmission projects in specified areas of Aravalli range. This Act as such is not applicable to transmission/ distribution projects. Project categories specified under the schedule of the EIA notification require prior approval under this act. However, if line passes through specified areas in Aravalli range in the district of Alwar in Rajasthan environment clearance from concerned state authorities designated by Ministry of Environment, Forest and Climate Change (MoEF&CC) is mandatory.

	Though, not directly applicable other compliance measures, relevant rules and regulations notified under this EPA, 1986 are applicable to the operations of all projects.
Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016	According to the Rules, hazardous wastes are wastes having constituents specified in Schedule II of the Rules if their concentration is equal to or more than the limit indicated in the said schedule. The hazardous waste generated from the construction e.g., waste oils, lubricants, and rags would have to comply with the provisions of the rules with regards to storage and disposal. Used transformer oil is categorized as hazardous wastes and disposed only to authorized disposal facility (registered recyclers/ re-processors) records maintained and annual return on prescribed form is to be submitted to the concerned State Pollution Control Board.
Noise Pollution (Regulation and Control) Rules, 2002 amended up to 2010.	This provides for standards for noise for day and night for various land uses and specifies special standards in and around sensitive receptors of noise such as schools and hospitals. The project during the construction and operation has to adhere to the noise limits for various land use. All required noise control devices as may be required for all plants and work processes to be installed to ensure compliance to the applicable standards.
E-Waste (Management) Rules, 2016	Bulk consumers of electrical and electronic equipment will ensure that e-waste generated is channelized through the collection center or dealer of the authorized producer or dismantler or recycler or the designated take-back service provider of the producer to authorized dismantler or recycler. The project during operation would qualify as a bulk consumer and that the e- waste generated has to comply with the provisions of the rules and disposed of through the prescribed channels only
Construction and Demolition Waste Management Rules, 2016	Rules to manage construction and to waste resulting from construction, remodeling, repair, and demolition of any civil structure. Rules define C&D waste as waste comprising of building materials, debris resulting from construction, remodeling, repair, and demolition of any civil structure. All debris generated during the construction would be handled in accordance with the provisions of the Construction and Demolition Waste Management Rules, 2016
Ozone Depleting Substances (ODS) (Regulation and Control) Rules, 2000.	Controls and regulations specified on manufacturing, import, export, and use of Chlorofluorocarbons (CFC) compound. Follow the provisions of notification and shall phase out all equipment's, which uses ODS as per stipulated timeframe.
Battery Waste Management Rules, 2022	This includes all types of batteries regardless of chemistry, shape, volume, weight, material composition and use including include an

	automotive battery, Electric Vehicle Battery, Industrial Battery and Portable battery. Being a consumer, discard waste battery separately from other waste and make sure that the Waste Battery is being disposed of in an environment friendly manner by giving it to an entity engaged in collection or refurbishment or recycling.
Plastic Waste Management Rules, 2022	The amended rules focus on Extended Producer Responsibility (EPR). Accordingly, following four categories of entities are obligated for the environmentally sound management of the plastic product until the end of its life. The EPR guidelines suggest for Reuse, Recycling, Use of recycled plastic content, End of life disposal with respect to different plastic packaging. I) Single use plastic will be phased out by July 22. ii)Any plastic packaging which cannot be recycled or used as alternate source of energy will be phased out. iii)Producer, Brand Owner and Importers need to work out collection back mechanism for the equivalent quantity of plastic waste introduced by them in Indian market to meet their EPR obligation.
Water (Prevention and Control of Pollution) Act of 1974, Rules of 1975, and amendments	Control of water pollution is achieved through administering conditions imposed in consent issued under the provision of the Water (Prevention and Control of Pollution) Act of 1974. These conditions regulate the quality and quantity of effluent, the location of discharge, and the frequency of monitoring of effluents. Any component of the Project that has the potential to generate sewage or trade effluent will come under the purview of this Act, its rules, and amendments. This Act has very limited applicability as distribution projects don't involve any process resulting in generation of liquid wastes/effluents to environment. However, in substation facility only domestic sewage from residential accommodation is generated which is treated in soak pit inside the premise only.
Air (Prevention and Control of Pollution) Act of 1981, Rules of 1982, and amendments	Activities having the potential to emit air pollutants into the atmosphere must obtain CTE under Section 21 of the Air (Prevention and Control of Pollution) Act of 1981. This Act has very limited applicability as electricity distribution projects don't involve any direct emission of toxic/hazardous substances to environment except some fugitive emissions during construction activity and emission from D.G Set which is used intermittently as power backup in substation. However, project/facility has the responsibility to adopt necessary air pollution control measures for abating air pollution.
State Specific Felling of Trees Acts/Rules. **Madhya Pradesh Vrikshon Ka Parirakshan (Nagariya**	Permission is required for the felling of trees as per concerned State Rules. In the case of felling of the restricted trees, permission for felling must be obtained. No person shall without permission under the provisions of this Act fell any tree or cause any tree to be felled in

Kshetra) Adhiniyam, 2001	any land, whether of his ownership or otherwise, situated within the urban area.
The Ancient Monument and Archaeological Sites and Remains (Amendment and Validation) Act 2010	The Rules designate areas within a radius of 100 m and 200 m from the "protected property/ monument/ area" as "prohibited area" and "regulated area" respectively. Permission from ASI to be obtained if protected/ archaeological monuments are involved.
The National Green Tribunal (NGT) Act, 2010	NGT provides effective and expeditious disposal of cases relating to environmental protection and conservation of forests and other natural resources including enforcement of any legal right relating to the environment and giving relief and compensation for damages to persons and property and for matters connected therewith. NGT has jurisdiction over matters related to Water Act, 1974; Water Cess Act, 1977; Forest (Conservation) Act, 1980; Air Act, 1981; Environment (Protection) Act, 1986; Public Liability Insurance Act, 1991; and Biodiversity Act, 2002. Consequently, no other court will have jurisdiction over the matters related to the environment falling under the above-referred Acts. Being a dedicated tribunal for environmental matters with the necessary expertise to handle environmental disputes. Stakeholders / affected persons may approach NGT to resolve project induced environmental issues
Supreme Court order	The Supreme Court order dt. 19.4.2021 on highly threated /critically endangered) covered under IUCN red list) avian sp. i.e. Great Indian Bustard (GIB) habitat putting restriction on overhead transmission/distribution lines in GIB habitat of Rajasthan and Gujarat for conserving the species from possible extinction. The order provides for restriction, mitigation measures or restriction on overhead lines in Priority and Potential area respectively.

Annexure-3: List of Participants in the Multi-Stakeholder Consultation Workshop

Below is the list of participants who participated in the multi-stakeholder consultation workshop organized at REC's Corporate and Regional Offices on June 06, 2023, to seek stakeholders' feedback and suggestions.

S.No	Participant Name	Designation	Organization / Location
1	Sh T. S. C. Bosh	ED(CP)	REC, Corporate Office Gurugram
2	Sh Sanjay Kulshreshth	ED(SOP)	REC, Corporate Office Gurugram
3	Sh Saurabh Rastogi	HoD (CP)	REC, Corporate Office Gurugram
4	Sh D B Londe	HoD (SOP)	REC, Corporate Office Gurugram
5	Sh Pradeep Fellows	CPM RO Bhopal	REC Regional Office, Bhopal
6	Sh R K Gupta	CPM RO Rajasthan	REC Regional Office, Rajasthan
7	Smt Saraswathi Chandrashekhar	CPM RO Mumbai	REC Regional Office, Mumbai
8	Sh Ashutosh Joshi	CCOA	JVVNL, Jaipur
9	Sh Umesh Gupta	ACE	JVVNL, Jaipur
10	Sh Yogesh Joshi	XEN	JVVNL, Jaipur
11	Sh Brijendra Kumar	SE	AVVNL, Jaipur
12	Sh P S choudhary	SE	JDVVNL, Jaipur
13	Dr. Shailesh Kardam	Dy. Director (Accounts Tax & Tariff)	MPPsKVVCL, Indore
14	Sh. Fahad Khan	NGO	Small Mountain Education and Cultural Welfare Society, Bhopal
15	Sh N. R Biwalkar	CFO	MPPsKVVCL, Indore
16	Sh Manoj Kumar Jain	CFO	MPMKVVCL, Bhopal
17	Sh Mukul Mehrotra	CFO	MPPoKVVCL, Jabalpur
18	Sh.Muktesh Sahu	NGO	Madya Seva Association, Bhopal
19	Sh Gaurav Upadhyay	Energy Consultant	New Delhi
20	Sh Sudhanshu Mishra	Expert	Cities Forum
21	Sh. Satish Suresh Dighe	Jt. Director	MPPMCL, Bhopal
22	Sh. Aurabh Shrivastava	Sccretary(PDTC)	MPMKVVCL, Bhopal
23	Smt Christie	Consultant	TERI, New Delhi
24	Tattaiya Bhattacharjee	Research Associate	TERI, New Delhi
25	Sh. Manvir Singh	NGO	Green Earth, Bhopal
26	Sh Manish Wat	Chief Eng.	MSEDCL, Mumbai
27	Sh Kalekar	CGM Finance	MSEDCL, Mumbai
28	Sh Nitin Aggarwal		

S.No	Participant Name	Designation	Organization / Location
29	Sh Jayant Mitra		
30	Jincy		
31	Himanshu		
32	Sh Satyaban Sahoo	GM (SOP)	REC, Corporate Office Gurugram
33	Sh Sunil Aggarwal	CM (CP)	REC, Corporate Office Gurugram
34	Smt Monica Priyadarshini	Manager (SOP)	REC, Corporate Office Gurugram
35	Sh Killi Madhu	AM (CP)	REC, Corporate Office Gurugram
36	Sh Haseeb M Ahmed	DO (CP)	REC, Corporate Office Gurugram
37	Sh Venkata Rao Bayana	Senior Social Development Specialist	The World Bank
38	Sh Avijit Ghosh	Senior Environmental Specialist	The World Bank
39	Sh Amol Gupta	Senior Energy Specialist	The World Bank
40	Sh Rohit Mittal	Senior Energy Specialist	The World Bank
41	Sh Amol Gupta	Senior Energy Specialist	The World Bank
42	Smt Kavita Saraswat	Senior Power Engineer	The World Bank
43	Sh Sandeep Goel	Energy Specialist	The World Bank
44	Sh Ranjan B. Verma	Social Development Consultant	The World Bank
45	Sh Shuvam Sarkar Roy	Energy Consultant	The World Bank