



# Periodic Financing Request Report

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Project Number: 47101-003  
MFF Number: 0083  
November 2015

## India: Assam Power Sector Investment Program (Tranche 2)

This document is being disclosed to the public in accordance with ADB's Public Communications Policy 2011.

## CURRENCY EQUIVALENTS

(as of 31 October 2015)

Currency Unit – Indian rupee/s (Re/Rs)

Re1.00 – \$0.0152  
\$1.00 – Rs65.4040

## ABBREVIATIONS

ADB	–	Asian Development Bank
AERC	–	Assam Electricity Regulatory Commission
APDCL	–	Assam Power Distribution Company Limited
ASEB	–	Assam State Electricity Board
DPR	–	detailed project report
EMP	–	environmental management plan
ERP	–	enterprise resource planning
FFA	–	framework financing agreement
GOA	–	Government of Assam
IEE	–	initial environmental examination
LIBOR	–	London interbank offered rate
MFF	–	multitranches financing facility
PAM	–	project administration manual
PFR	–	periodic financing request
PIU	–	project implementation unit
PMU	–	project management unit

## WEIGHTS AND MEASURES

GWh	–	gigawatt-hour
km	–	kilometer
kV	–	kilovolt
kWh	–	kilowatt-hour
MVA	–	megavolt-ampere
MW	–	megawatt

## NOTES

- (i) The fiscal year (FY) of the Government of India and its agencies begins on 1 April and ends on March 31. “FY” before a calendar year denotes the year in which the fiscal year ends, e.g., FY2014 begins on 1 April 2013 and ends on 31 March 2014.
- (ii) In this report, “\$” refers to US dollars.

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## TRANCHE AT A GLANCE

<b>1. Basic Data</b>		<b>Project Number: 47101-003</b>	
<b>Project Name</b>	Assam Power Sector Investment Program - Tranche 2	<b>Department /Division</b>	SARD/SAEN
<b>Country Borrower</b>	India India	<b>Executing Agency</b>	Assam Power Distribution Company Ltd.
<b>2. Sector</b>	<b>Subsector(s)</b>	<b>ADB Financing (\$ million)</b>	
✓ Energy	Electricity transmission and distribution		30.00
	Energy efficiency and conservation		18.00
		<b>Total</b>	<b>48.00</b>
<b>3. Strategic Agenda</b>	<b>Subcomponents</b>	<b>Climate Change Information</b>	
Inclusive economic growth (IEG)	Pillar 1: Economic opportunities, including jobs, created and expanded	Mitigation (\$ million)	18.00
Environmentally sustainable growth (ESG)	Global and regional transboundary environmental concerns	CO <sub>2</sub> reduction (tons per annum)	152,000
		Climate Change impact on the Project	Medium
<b>4. Drivers of Change</b>	<b>Components</b>	<b>Gender Equity and Mainstreaming</b>	
Governance and capacity development (GCD)	Client relations, network, and partnership development to partnership driver of change Institutional development Organizational development	No gender elements (NGE)	✓
<b>5. Poverty Targeting</b>		<b>Location Impact</b>	
Project directly targets poverty	No	Rural	Medium
		Urban	High
<b>6. Risk Categorization:</b>	Low		
<b>7. Safeguard Categorization</b>	Environment: B Involuntary Resettlement: B Indigenous Peoples: C		
<b>8. Financing</b>			
<b>Modality and Sources</b>		<b>Amount (\$ million)</b>	
<b>ADB</b>		<b>48.00</b>	
Sovereign MFF-Tranche (Loan): Ordinary capital resources		48.00	
<b>Cofinancing</b>		<b>0.00</b>	
None		0.00	
<b>Counterpart</b>		<b>12.00</b>	
Government		12.00	
<b>Total</b>		<b>60.00</b>	
<b>9. Effective Development Cooperation</b>			
Use of country procurement systems		No	
Use of country public financial management systems		Yes	

## TRANCHE AT A GLANCE

Date of Receipt by ADB of PFR: 13 May 2015

Tranche Number: 2

### 10. Country Operations Business Plan

CPS

<http://www.adb.org/documents/india-country-partnership-strategy-2013-2017>

COBP

<http://www.adb.org/documents/india-country-operations-business-plan-2015-2017>

### 11. Tranche Summary

Tranche 2 will finance the expansion and upgrading of power distribution system in the state of Assam, and strengthen institutional capacity of Assam Power Distribution Company Limited (APDCL). It covers part of the state's power sector road map for enhancing the sub-transmission and distribution capacities to improve operational efficiency and electricity service to end users. Output 1 includes: (i) one new 33 kV/11 kV substation and associated lines; (ii) 137 km of 33 kV lines; (iii) 33 kV railway line and river crossings; (iv) 7 km of 11 kV lines; (v) installation of seventeen 33 kV bays; (vi) re-conductoring and refurbishing of 955 km of 33 kV lines; (vii) 1,000 km of 11 kV lines; (viii) 1,555 km of low voltage lines; (ix) replacement of 204 distribution transformers; and (x) replacement of 14 km 11 kV overhead lines with underground cables. Output 2 includes: (i) establishing two area load dispatch centers; (ii) setting up of an independent meter testing laboratory; (iii) establishing one IT module to expand the centralized uniform revenue billing system for 1.2 million customers; and (iv) project management, supervision and implementation support.

**Impact and Outcome:** The impact will be enhanced quality and expanded service delivery of electricity in Assam. The outcome will be increased efficiency and capacity of power distribution system in Assam.

**Outputs:** (i) Distribution system expanded and upgraded., and (ii) Institutional capacity of APDCL strengthened.

**Implementation Arrangements:** Assam Power Distribution Company Ltd. will be the executing agency.

**Project Readiness:** APDCL's board of directors has approved the detailed project report (DPR) comprising the project scope and design, and demonstrating the project's technical, financial, and economic viability. No other GOA or Government of India approvals are required. Project procurement plan includes five procurement packages. Evaluation of the price proposals for the main two packages is ongoing and the contracts will be awarded in the first quarter of 2016. Technical proposals for another two packages are being evaluated and the bid evaluation reports will be submitted for ADB's concurrence in the fourth quarter of 2015. Bidding documents for the remaining fifth package are being prepared and invitation for bids will be advertised in fourth quarter of 2015. The PMU and PIU have been established and are fully functional. The resettlement plans (RP) and initial environmental examination (IEE) were disclosed on 12 May 2015. No private land acquisition is required because new substations will be built on government-owned land. A land acquisition procedure has been initiated to transfer the land to APDCL. No land is required for other project components.

### 12. Significant Developments in the MFF and Previous Tranches

Tranche 1 (Loan 3140) was approved on 11 July 2014 and signed on 20 February 2015. The readiness of project 1 was high at the time of ADB's approval of the MFF and tranche 1. However, loan signing was delayed by an unexpected delay in awarding the contract for the main procurement package with an estimated contract amount of \$45 million. During the bidding process, the executing agency committed procedural mistakes and ADB's Procurement Committee recommended re-bidding of the procurement package. The new bids were evaluated and the EA obtained ADB's "no-objection" to award the contract for this procurement package. Project 1 also has three major nonphysical subcomponents: (i) project preparation and implementation support, (ii) enterprise resource planning (ERP) support, and (iii) capacity building and training. Eight consultancy packages cover these activities, out of which contracts for five packages have been awarded. The remaining packages are expected to be contracted on time, in the fourth quarter of 2015.

The government and executing agency for project 1 are compliant with most of the FFA undertakings and with the loan covenants set forth in the loan agreement for project 1. Certain undertakings and covenants are not yet due, and the work for compliance with some other undertakings and covenants is ongoing.

### 13. Milestones

Estimated Approval	Estimated Effectiveness	Estimated Completion <sup>a</sup>
20 November 2015	29 February 2016	31 December 2019

### 14. Linked Documents

	Required Document	Disclosure Date
(i) Environment	IEE - Initial Environment Examination	
Weblink:	<a href="http://www.adb.org/projects/documents/ind-assam-power-sector-investment-prog-t2-iee">http://www.adb.org/projects/documents/ind-assam-power-sector-investment-prog-t2-iee</a>	12 May 2015
(ii) Involuntary resettlement	RP - Resettlement Plan	
Weblink:	<a href="http://www.adb.org/projects/documents/assam-power-sector-investment-program-tranche-2-rp">http://www.adb.org/projects/documents/assam-power-sector-investment-program-tranche-2-rp</a>	12 May 2015
(iii) Indigenous peoples		
Weblink:		

<sup>a</sup> For Tranches, this refers to the financial closing date.

## I. BACKGROUND

1. The Asian Development Bank (ADB) and India signed a framework financing agreement (FFA) on 13 May 2014 for the Assam Power Sector Investment Program. On 3 July 2014, ADB's Board of Directors approved the provision of a multitranche financing facility (MFF) to India for an aggregate facility amount of \$300 million.<sup>1</sup> On 11 July 2014, ADB's Management approved the first tranche of the MFF for up to \$50 million for the retrofitting of Lakwa gas-fired power plant and for capacity building of power utility companies, including resources for the preparation of subsequent tranches and project implementation support. The loan and project agreements for tranche 1 were signed on 20 February 2015.

2. The expected impact of the investment program is increased availability of electricity in Assam. The expected outcome is increased capacity and efficiency of energy generation and distribution systems in Assam. The investment program is financing (i) augmentation of in-state generation capacity through retrofitting of the less-efficient gas-fired generating plant at Lakwa and construction of a new hydropower plant at Lower Kopili; and (ii) distribution loss reduction and efficiency improvement through upgrading and expansion of the distribution system. The investment program will also finance nonphysical components to achieve long-term institutional and financial sustainability of the power utilities in Assam, and to improve customer services. In addition, the investment program includes resources for the preparation and implementation support of subsequent tranches.

3. Despite government efforts and ADB support,<sup>2</sup> Assam's power sector faces serious challenges, including (i) only about 37% of households have access to grid-supplied electricity;<sup>3</sup> (ii) power cuts occur, lasting about five hours per day; (iii) the peak demand–supply gap is about 22%; (iv) only about 30% of demand is met by in-state generation; (v) distribution losses are high, at about 25% (FY2013); (vi) the power companies are financially unsustainable, particularly Assam Power Distribution Company Limited (APDCL); and (vii) power sector agencies have limited capacity to use modern technology and management systems. APDCL's financial losses are mainly due to its inability to meet the targeted loss reductions prescribed by Assam Electricity Regulatory Commission (AERC), and purchase of about 15% of power from other states and independent power producers at very high costs.

4. The Government of Assam (GOA) continues to take various steps to solve problems in the power sector. Assam does not have adequate resources to be self-sufficient in power generation. In addition to the development of new generating capacity, efficient operation and capacity enhancement of existing generation are crucial. Assam Power Generation Corporation is upgrading the Lakwa gas-fired power plant under tranche 1 of the MFF. Grid connectivity with the northeastern region is also important to transmit power within Assam. Assam Electricity Grid Corporation is improving grid connectivity under the Assam Power Sector Enhancement Investment Program. Under tranches 3 and 4 of the power sector enhancement investment

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<sup>1</sup> ADB. 2014. *Report and Recommendation of the President to the Board of Directors: Proposed Multitranche Financing Facility to India for the Assam Power Sector Investment Program*. Manila.

<sup>2</sup> ADB has been supporting Assam's energy sector since 2003 when the first loan for \$150 million (Loan 2036–IND) was approved to carry out power sector institutional reforms as well as investing in infrastructure. ADB. 2003. *Report and Recommendation of the President to the Board of Directors: Proposed Loans and Technical Assistance Grants to India for the Assam Power Sector Development Program*. Manila. On 18 November 2009, ADB's Board of Directors approved the provision of an MFF to India for an aggregate facility amount of \$200 million. Four loans have been approved under the investment program. ADB. 2009. *Report and Recommendation of the President to the Board of Directors: Proposed Multitranche Financing Facility and Technical Assistance Grant to India for the Assam Power Sector Enhancement Investment Program*. Manila.

<sup>3</sup> Detailed Project Report and load flow analysis prepared by APDCL.

program, APDCL is expanding and upgrading the 33 kilovolt (kV) and 11 kV distribution network to improve power quality and reduce losses—introducing a smart metering system to larger customers, and enhancing capabilities for system operation and maintenance.

5. APDCL has had some success in reducing losses: distribution losses decreased from about 40% in FY2001 to 25.2% in FY2013. However, loss reduction has stagnated as new power connections have been provided without system upgrades, with inadequate investment, and with poor management and metering practices. APDCL's inability to meet the loss reduction targets approved by the AERC has resulted in revenue shortfalls. APDCL petitioned for a distribution loss allowance of 23% for FY2014 and 22% for FY2016, while the allowed losses were 18.6% for FY2014 and 17.6% for FY2016.<sup>4</sup> Achieving these targets is a challenge for APDCL, and it requires capital investment and improvements in distribution system management.

6. GOA has prepared a power sector master plan with a sector road map that identifies \$3.5 billion of investments for 2012–2022 (about \$1.2 billion for generation, \$1.1 billion for transmission, and \$1.2 billion for distribution). ADB received the periodic financing request (PFR) for project 2 for \$48.0 million on 13 May 2015 (Appendix 1). The government's counterpart financing is proposed to be \$12.0 million. The investments under project 2 will cover part of GOA's power sector road map for enhancing distribution capacity to improve operational efficiency and electricity service to end users. The scope of project 2 is within the original scope of the MFF and is in compliance with the FFA. The proposed project 2 will focus on priority investment needs in the distribution network to expand and upgrade low-voltage lines and substations, upgrade the metering system, and improve capability to operate and monitor the distribution network.

## II. ASSESSMENT OF MFF IMPLEMENTATION

7. The readiness of project 1 was high at the time of ADB's approval of the MFF and tranche 1. However, loan signing was delayed by an unexpected delay in awarding the contract for the main procurement package with an estimated contract amount of \$45 million. During the bidding process, the executing agency committed procedural mistakes and ADB's Procurement Committee recommended re-bidding of the procurement package. The new bids were evaluated and the executing agency obtained ADB's "no-objection" to award the contract for this procurement package. Project 1 also has three major nonphysical subcomponents: (i) project preparation and implementation support, (ii) enterprise resource planning (ERP) support, and (iii) capacity building and training. Eight consultancy packages cover these activities, out of which contracts for five packages have been awarded. The remaining packages are expected to be contracted on time, in the fourth quarter of 2015.

8. The government and executing agency for project 1 are compliant with most of the FFA undertakings and with the loan covenants set forth in the loan agreement for project 1. Certain undertakings and covenants are not yet due, and the work for compliance with some other undertakings and covenants is ongoing. The current detailed status of compliance with the FFA undertakings and loan covenants is in Appendix 1.<sup>5</sup>

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<sup>4</sup> Government of India, Assam Electricity Regulatory Commission. 2014. *Tariff Order FY2014–FY2016*. Guwahati.

<sup>5</sup> The status of compliance with the FFA undertakings and loan covenants is in Annex 6 to the PFR for Tranche 2 submitted by India (available on request).



### III. PERIODIC FINANCING REQUEST

#### A. Impact and Outcome

9. The impact of the project will be enhanced quality and expanded service delivery of electricity in Assam. The outcome of the project will be increased efficiency and capacity of the power distribution system in Assam. The design and monitoring framework for project 2 is in Appendix 2.

#### B. Outputs

10. The proposed project 2 has two outputs: (i) expansion and upgrading of the distribution system, and (ii) strengthening the institutional capacity of APDCL. The expansion part of output 1 includes the construction of a new 33 kV/11 kV substation and associated lines, 137 kilometers (km) of 33 kV lines, 33 kV railway line and river crossings, 7 km of 11 kV lines, and installation of seventeen 33 kV bays to serve the 33 kV lines. The upgrading part includes (i) re-conductoring and refurbishing of 955 km of 33 kV lines, 1,000 km of 11 kV lines, and 1,555 km of low-voltage lines; (ii) replacement of 204 distribution transformers; and (iii) replacement of 14 km of 11 kV overhead lines with underground cables. Output 2 includes establishing two area load dispatch centers, setting up one independent meter testing laboratory, establishing one information technology module to expand the centralized uniform revenue billing system for 1.2 million customers, and project management and implementation support. Contribution to the ADB's results framework is in Appendix 3.

#### C. Investment and Financing Plans

11. The project is estimated to cost \$60.0 million (Table 1). Detailed cost estimates by expenditure category and financier are in the project administration manual (PAM) for project 2 (Appendix 4).

**Table 1: Tranche Investment Plan**  
(\$ million)

Item	Amount <sup>a</sup>
<b>A. Base Cost<sup>b</sup></b>	
1. Expansion and upgrading of the distribution system	36.60
2. Strengthening the institutional capacity of Assam Power Distribution Company	18.86
<b>Subtotal (A)</b>	<b>55.46</b>
<b>B. Contingencies<sup>c</sup></b>	<b>3.38</b>
<b>C. Financing Charges During Implementation<sup>d</sup></b>	<b>1.16</b>
<b>Total (A+B+C)</b>	<b>60.00</b>

<sup>a</sup> Includes taxes and duties of \$4.78 million to be financed from government resources.

<sup>b</sup> In Q4 2014 prices.

<sup>c</sup> Physical contingencies computed at 3% on total base costs. Price contingencies computed at 3.3% on foreign exchange costs and 2.8% on local currency costs; includes provision for potential exchange rate fluctuation under the assumption of a purchasing power parity exchange rate.

<sup>d</sup> Includes interest and commitment charges. Interest during construction for the Asian Development Bank (ADB) loan(s) has been computed at the 5-year forward London interbank offered rate (LIBOR) plus a spread of 0.5% and a maturity premium of 0.1%. Commitment charges for the ADB loan are 0.15% per year to be charged on the undisbursed loan amount (for LIBOR-based loans only).

Sources: Asian Development Bank and Assam Power Distribution Company.

12. The Government of India has requested a loan of \$48 million from ADB's ordinary capital resources to help finance the project. The loan will have a 25-year term, including a grace period of 5 years, straight-line repayment method, an annual interest rate determined in accordance with ADB's London interbank offered rate (LIBOR)-based lending facility,<sup>6</sup> a commitment charge of 0.15% per year, and such other terms and conditions set forth in the draft loan and project agreements (Appendixes 5 and 6). Based on this, the average loan maturity is 15.25 years and the maturity premium payable to ADB is 0.10% per annum.

13. The project's financing plan is in Table 2.

**Table 2: Financing Plan**

<b>Source</b>	<b>Amount (\$ million)</b>	<b>Share of Total (%)</b>
ADB (OCR)	48.0	80
Government of Assam	12.0	20
<b>Total</b>	<b>60.0</b>	<b>100</b>

ADB = Asian Development Bank, OCR = ordinary capital resources.

Source: Asian Development Bank estimates.

#### **D. Implementation Arrangements**

14. APDCL will serve as the executing agency and be responsible for overall project implementation. The APDCL chairperson and the commissioner and secretary of GOA Department of Power will co-chair the steering committee—the oversight body of the project. A project management unit (PMU) under the chair of APDCL, Assam Power Generation Corporation, and Assam Electricity Grid Corporation, headed by a project director, is already functioning. APDCL has an established project implementation unit (PIU) for the implementation of distribution projects.

15. Goods, equipment, and civil works to be financed under the project will be procured following ADB's Procurement Guidelines (2015, as amended from time to time). International competitive bidding will be used for all contract packages identified for the proposed project 2. Project implementation consultants will be recruited in accordance with ADB's Guidelines on the Use of Consultants (2013, as amended from time to time).

16. The implementation arrangements are summarized in Table 3 and described in detail in the PAM. The procurement plan for the proposed project 2 is in the PAM.

<sup>6</sup> The interest includes a maturity premium of 10 basis points. This is based on the above loan terms and the government's choice of repayment option and dates.

**Table 3: Implementation Arrangements**

Aspects	Arrangements		
Implementation period	October 2015–June 2019 (Loan closing in December 2019)		
Estimated completion date	30 June 2019 (Loan closing date: 31 December 2019)		
Management			
(i) Oversight body	Project steering committee: Commissioner and secretary, Department of Power, GOA (chair) Chairperson, APDCL (co-chair) Managing director, APDCL (member)		
(ii) Executing agency	APDCL		
(iii) Key implementing agencies	PIU with 9 staff established in APDCL		
(iv) Implementation unit	PMU with 11 staff established in APDCL		
Procurement	ICB	5 procurement contracts	\$48.5 million
Consulting services	QCBS	2 consulting contracts	\$1.5 million
Retroactive financing and/or advance contracting	Advance contracting, including preparation of bidding documents, inviting and receiving bids for contracts, and retroactive financing of up to 20% of the loan amount for expenditures incurred 12 months before loan signing.		
Disbursement	The loan proceeds will be disbursed in accordance with ADB's <i>Loan Disbursement Handbook</i> (2015, as amended from time to time) and detailed arrangements agreed upon between the government and ADB.		

ADB = Asian Development Bank, APDCL = Assam Power Distribution Company Limited, GOA = Government of Assam, ICB = international competitive bidding, PIU = project implementation unit, PMU = project management unit, QCBS = quality- and cost-based selection.

Source: Asian Development Bank.

## E. Project Readiness

17. APDCL's board of directors has approved the detailed project report (DPR)—comprising the project scope and design, and demonstrating the project's technical, financial, and economic viability. No other GOA or Government of India approvals are required. Project procurement plan includes five procurement packages. Evaluation of the price proposals for the main two packages is ongoing and the contracts will be awarded in the first quarter of 2016. Technical proposals for another two packages are being evaluated and the bid evaluation reports will be submitted for ADB's concurrence in the fourth quarter of 2015. Bidding documents for the remaining fifth package are being prepared and invitation for bids will be advertised in fourth quarter of 2015. The PMU and PIU have been established and are fully functional. The resettlement plans and initial environmental examination (IEE) were disclosed on 12 May 2015. No private land acquisition is required because new substations will be built on government-owned land. A land acquisition procedure has been initiated to transfer the land to APDCL. No land is required for other project components.

## F. Advance Contracting and Retroactive Financing

18. ADB approved advance contracting for procurement of goods and civil works (including the preparation of bidding documents; and inviting, receiving, and evaluating bids for project contracts) on 26 March 2015. Retroactive financing has been requested in the PFR for project 2 submitted by the Government of India. Retroactive financing will be available for up to 20% of the loan amount for eligible expenditures incurred 12 months before loan signing.

## IV. DUE DILIGENCE

### A. Technical

19. The distribution network in Assam is characterized by overloaded transformers and long distribution feeders, resulting in system losses in excess of targeted levels. The distribution network needs strengthening to improve power transfer efficiency from the grid to end users. APDCL prepared a DPR identifying the best options for design of the proposed distribution system enhancements. Power engineers in APDCL examined the proposed outputs for their technical, economic, and financial feasibility; and APDCL's Board of Directors, subsequently approved them. No other GOA or Government of India approvals are required for DPR. Substations, sub-transmission lines, and distribution lines were selected based on network analysis. The ADB project team and project preparatory consultants have reviewed the DPR prepared by the executing agency and the proposed investments under project 2. All selected subprojects meet the criteria listed in the FFA, Schedule 4. The ADB project team and project preparatory consultants have visited the major sites, reviewed all available reports, and undertaken comprehensive due diligence to determine that proposed investments are technically sound. The project will utilize proven technologies suitable to local conditions and the capacity of executing agency staff, following good engineering practices consistent with Indian standards for electricity distribution engineering.

### B. Economic and Financial

20. The project will benefit electricity consumers by reducing distribution system losses—diminishing load shedding and enabling more customers to be served. This will enable households and commercial establishments to improve their economic, commercial, educational, and social development opportunities. The economic viability of investment for project 2 components has been confirmed through a cost–benefit analysis conducted using ADB's *Guidelines for the Economic Analysis of Projects*.<sup>7</sup> The economic internal rate of return is estimated to be 21.5%. Sensitivity analysis and switching values show that the project economic benefits are stable against the major risk factors. The economic analysis for project 2 is in Appendix 7.

21. The financial assessment of project 2 components was carried out in accordance with ADB's *Financial Management and Analysis of Projects*.<sup>8</sup> All financial costs and benefits have been expressed in constant November 2014 prices. Cost streams used for estimating the financial internal rate of return reflect the costs incurred in delivering the estimated benefits. The estimated real post-tax financial internal rate of return of the investment is 27%, which compares favorably with the weighted average cost of capital of 5.5%, so the project is considered financially viable. Sensitivity analyses show that a 10% increase in capital costs, a 10% reduction in benefits, a 10% increase in power purchase costs, a 10% increase in operation and maintenance costs (assuming AERC does not allow these costs to be passed through as a tariff adjustment), a one year implementation delay and combined downside scenario, do not change the financial viability. The financial analysis for project 2 is in Appendix 8.

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<sup>7</sup> Asian Development Bank. 1997. *Guidelines for the Economic Analysis of Projects*. Manila.

<sup>8</sup> Asian Development Bank. 2005. *Financial Management and Analysis of Projects*. Manila.

### C. Climate Change Impact

22. Detailed screening of climate change risks identified a potential increased flood level and higher wind speed of tropical cyclones that may damage the distributions lines as the main risks to the project. The project was designed taking into account the flood risk as well as the risk of heavy winds during construction of the substation and lines. Appendix 9 summarizes the climate change risk screening report and adaptation options considered.

### D. Governance

23. Project-specific governance risks have been identified through financial management and procurement assessments of APDCL. The financial management assessment of APDCL draws on lessons learned from the implementation of two ongoing ADB-funded loans (footnote 2) administered by APDCL, as well as a comprehensive financial management assessment carried out during preparation of the investment program (footnote 1). The assessment identified low overall financial management capacity and high financial management risk. It cited the following major weaknesses: (i) weak internal controls over fixed assets, cash management, and payroll; (ii) weak internal audit; (iii) out-of-date accounting manuals and handbooks; and (iv) a manual accounting and financial management system. The investment program includes measures to correct these problems under its capacity building component. Specific undertakings have been included in the FFA to address financial management risks. Asset accounting has been completed and third-party verification is in progress. Consultants have been recruited to prepare accounting manuals and an ERP that will computerize asset management. Training programs under the capacity building component of the investment program will improve APDCL's financial management, accounting, and reporting capacity. A contract with the consulting firm for capacity building and human resource development was signed in June 2015. The ERP is scheduled to be implemented over the next 24 months. GOA has requested additional capacity building support from ADB to (i) identify possible measures for reduction of distribution system losses, (ii) undertake studies and develop a strategic plan to achieve financially viable power sector utilities in Assam,<sup>9</sup> and (iii) improve tariff petitioning and financial management of power utilities.

24. **Anticorruption.** ADB's Anticorruption Policy (1998, as amended to date) was explained to and discussed with the government and APDCL. The specific policy requirements and supplementary measures are described in the PAM.

### E. Poverty, Social, and Gender Dimensions

25. The summary of poverty reduction and social strategy is in Appendix 10. Reliable and adequate electricity supply promotes business expansion, increases employment opportunities, and improves living conditions, which all have positive contributions to poverty reduction. Reliable and good quality electricity supplies are necessary for meeting the basic human needs of health and education. Poor and vulnerable consumers, as well as public institutions such as public hospitals and schools, are often particularly disadvantaged by inadequate power supply, load shedding, and poor power quality. Project 2 will address these issues with respect to more reliable and better quality electricity supplies. Project 2 is classified as having no gender elements. The loan agreement includes standard assurances for core labor standards for

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<sup>9</sup> As one of the measures APDCL management inform ADB that they are committed to carry out financial restructuring of the company and submit it to GOA.

contractors (including equal pay for equal types of work) and an awareness program on HIV/AIDS and sexually transmitted infections.

## F. Safeguards

26. Safeguard reports, the IEE and the resettlement plan were prepared, outlining the environment and social safeguard principles and requirements.<sup>10</sup> The basis for the IEE and the resettlement plan was in accordance with the environmental assessment and review framework and resettlement framework agreed for the investment program. Pursuant to the indigenous peoples planning framework for the investment program, an indigenous peoples plan is not required. APDCL will implement the IEE and resettlement plan, and will submit semiannual reports on the implementation of the environmental management plan (EMP) and the resettlement plan.

27. **Environment.** Project 2 is classified environment category B. APDCL prepared an IEE (Appendix 11) including an EMP with cost estimates, describing the structure of the grievance redress mechanism, and undertook public consultations following ADB's Safeguard Policy Statement (2009). Environmentally sensitive areas (such as national parks, protected areas, wildlife sanctuaries, forests, and wetlands) have been avoided in selecting the site for the substation and power lines. No significant air, water, noise, or soil pollution will result from the project. However, potential adverse environmental impacts, which are temporary and of short duration, are expected during the construction phase of the project. These adverse environmental impacts can be mitigated using standard engineering and environmental practices, and are incorporated in the EMP. The executing agency endorsed the IEE for project 2 on 2 April 2015 and disclosed it on the ADB and APDCL websites on 12 May 2015. Project 2 has a budget of \$600,000 to cover environmental and social mitigation measures. The PMU has a dedicated staff responsible for monitoring environmental issues and implementing the EMP. This staff will be supported by the environmental consultant.

28. **Social assessment.** Project 2 is categorized B for involuntary resettlement and C for indigenous peoples, according to ADB's Safeguard Policy Statement. The resettlement plan (Appendix 12) describes the extent of involuntary resettlement impact, and outlines compensation and assistance provisions for the affected persons. The executing agency endorsed the resettlement plan on 2 April 2015 and disclosed it on the ADB website on 12 May 2015. Resettlement impacts have been minimized at the design stage through (i) selection of the substation site on government-owned land, requiring no resettlement; and (ii) scheduling construction and re-conductoring of lines during crop off-season. Guwahati Metropolitan Development Authority owns the land for the new substation. No land is required from a private owner. The total site is about 4.3 hectares, and the land required for the substation is about 0.13 hectares. APDCL obtained a no objection letter from Guwahati Metropolitan Development Authority on 1 February 2013. Temporary impacts on loss of crops in the right-of-way of distribution lines are foreseen, with minimum impacts. Construction of underground cable will temporarily affect 30 mobile vendors for the transect walk. Due diligence has verified that no informal dwellers or land users occupy the government and college lands to be used for the project. The PMU has a dedicated staff responsible for monitoring social matters and implementing the resettlement plan. This staff will be assisted by the social safeguard consultant. The PMU will confirm that the key milestones specified in Table 11 of the resettlement plan are achieved before commencement of civil works. Project 2 includes

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<sup>10</sup> An environmental assessment and review framework and a resettlement framework for the facility were prepared in September 2013.

construction of new distribution lines to be erected in lower Assam and rehabilitation of old lines located throughout Assam. The line work will not have any significant impact or possibility of displacement of indigenous peoples. These lines do not pass through any forest area, so no negative impact on indigenous peoples is anticipated. Public consultations have revealed that indigenous peoples in the impact zone of the transmission lines will receive a positive impact. In general, people have welcomed the project because it will improve the quality of electricity supply and will have a positive impact on other sectors such as education, small-scale industry, and agriculture.

## **G. Risks and Mitigating Measures**

29. Potential project-related risks include (i) power generation capacity does not increase sufficiently to match the expanded distribution system; (ii) an increase in the price of raw materials and equipment exceeds contingency and inflation forecasts; (iii) delays are possible in mobilizing counterpart funds; (iv) procurement is delayed; and (v) the executing agency's financial management capacity is poor and its financial viability is weak. These risks have been minimized to the extent possible in project formulation and implementation or are regarded as low, because: (i) projects 1 and 3 under the investment program support generation expansion; (ii) contingencies are considered adequate to cover foreseeable inflation and commodity market volatility, and a lower exchange rate was used in estimating the project cost; (iii) GOA and APDCL have provided assurances on the timely provision of counterpart funding; (iv) procurement processes have been commenced; (v) the investment program includes a number of measures including training and capacity building, preparation of accounting manuals, the introduction of a computerized management system, and undertakings and assurances to improve financial management; and (vi) ADB initiated a high-level policy dialogue with GOA to ensure that concrete steps will be taken to restore APDCL's financial health. ADB discussed and agreed with APDCL management and GOA officials that ADB assistance through cluster TA funds will be provided to (i) carry out studies for system loss reduction; (ii) formulate a loss reduction strategy; and (iii) to enhance the financial sustainability of APDCL by developing a financial restructuring plan for APDCL as a first and immediate measure.<sup>11</sup> ADB discussed and agreed several solutions with APDCL management and GOA officials to address this issue. GOA is committed to ongoing sector reforms, full financial independence of the power utility companies, and the operational independence of AERC. Overall, the integrated benefits and impacts are expected to outweigh the costs, given the likelihood of the risks. Major risks and mitigating measures are described in detail in the risk assessment and risk management plan (Appendix 13).

## **H. Risk Categorization**

30. Based on the loan amount, the executing agency's positive record with ADB and its reasonable capacity in administration of externally financed projects, as well as the safeguard categorization, the project is categorized low risk.

## **V. ASSURANCES**

31. The government, GOA, and APDCL have assured ADB that implementation of the project shall conform to all applicable ADB policies including those concerning anticorruption

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<sup>11</sup> Savings in amount of \$225,000 from the C-TA 003-IND: Advanced Project Preparedness for Poverty Reduction will top up the ongoing PPTA 8351-IND: Preparing the Second Power Sector Investment Project for Assam.

measures, safeguards, gender, procurement, consulting services, and disbursement as described in detail in the PAM and loan documents.

32. The government, GOA, and APDCL have agreed with ADB on certain covenants for the project, which are set forth in the loan agreement and project agreement.

## **VI. RECOMMENDATION**

33. On the basis of the approval by ADB's Board of Directors for the provision of loans under the MFF in an aggregate principal amount not exceeding \$300,000,000 to India for the Assam Power Sector Investment Program, it is recommended that the President approve the proposed tranche as described in para 12 and such other terms and conditions as are substantially in accordance with those set forth in the draft loan and project agreements for the proposed tranche.