



# Facility Administration Manual

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Project Number: 39630  
Loan Number: 2415  
June 2008

## **Multitranche Financing Facility: National Power Grid Development Investment Program - Tranche 1**

**(Loan No. 2415-IND)**

The Facility Administration Manual is an active document, progressively updated and revised as necessary, particularly following any changes in project or program costs, scope, or implementation arrangements. This document, however, may not reflect the latest project changes.

Asian Development Bank

## CURRENCY EQUIVALENTS

(as of 21 February 2008)

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

Re1.00 = \$0.025

\$1.00 = Rs40.0

## ABBREVIATIONS

ADB	–	Asian Development Bank
CEA	–	Central Electricity Authority
CERC	–	Central Electricity Regulatory Commission
CPTD	–	compensation plan for temporary damages
EARF	–	environment assessment and review framework
EIA	–	environmental impact assessment
EMP	–	environmental management plan
ESPP	–	environment and social policy and procedures
FFA	–	framework financing agreement
HVDC	–	high voltage direct current
IEE	–	initial environmental examination
IEP	–	Integrated Energy Policy
IPDF	–	indigenous peoples development framework
IPDP	–	indigenous peoples development plan
LIBOR	–	London interbank offered rate
MFF	–	multitranches financing facility
MOEF	–	Ministry of Environment and Forests
MOP	–	Ministry of Power
PFR	–	periodic finance request
POWERGRID	–	Power Grid Corporation of India Ltd
RF	–	Resettlement Framework
RP	–	Resettlement Plan
SEB	–	state electricity board

## WEIGHTS AND MEASURES

ckm	–	circuit kilometer
GWh	–	gigawatt-hour
kV	–	kilovolt, 1,000 volts
kWh	–	kilowatt-hour
MVA	–	megavolt-ampere
MW	–	Megawatt

## NOTES

- (i) The fiscal year (FY) of POWERGRID ends on 31 March. FY before a calendar year denotes the year in which the fiscal year ends, e.g., FY2008 ends on 31 March 2008.
- (ii) In this report, "\$" refers to US dollars.

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## LOAN PROCESSING HISTORY

	<b>Date(s)</b>
a. Approval of Project Preparatory Technical Assistance (PPTA)	(PPTA not required)
b. Fact-Finding Mission	20 Nov – 5 Dec 2006
c. Management Review Meeting (MRM)	12 February 2007
d. Appraisal Mission	12 – 20 March 2007
e. Staff Review Committee (SRC)	28 August 2007
f. Loan Negotiations	27 – 28 February 2008
g. Board Circulation	07 March 2008
h. Board Approval	28 March 2008
i. Loan Agreement Signing	28 March 2008
j. Loan Effectiveness	Not yet effective
k. Physical Completion Date – (Loan 2415-IND)	31 December 2012
l. Loan Closing Date	30 June 2013

## DESIGN AND MONITORING FRAMEWORK

### A. Investment Program

Design Summary	Performance Targets/Indicators	Data Sources/Reporting Mechanisms	Assumptions and Risks
<p><b>Impact</b> Increased transmission capacity and affordable and reliable power supply for sustained economic growth</p>	<ul style="list-style-type: none"> <li>• 78,600 MW of generation capacity addition during the 11th Plan period (FY2008–FY2012) to reach the total national generation capacity of 210,929 MW</li> <li>• Access to electricity by rural households from 43.5% in 2006 to 100.0% in 2012</li> </ul>	<ul style="list-style-type: none"> <li>• Government economic statistics and reports</li> <li>• National statistics on power supply</li> <li>• Program and project completion reports</li> </ul>	<p><b>Assumptions</b></p> <ul style="list-style-type: none"> <li>• Government's continued support and commitment to power sector reforms and development of the national electricity market</li> <li>• Timely and transparent implementation of the Electricity Act, 2003</li> <li>• Stable economic growth in India</li> </ul>
<p><b>Outcome</b> National Power Grid strengthening and augmentation/expansion with transmission bottlenecks removed and losses reduced</p>	<ul style="list-style-type: none"> <li>• Development of an integrated national power grid with additional 60,000 ckm transmission lines by 2012</li> <li>• Increased interregional transmission capacity from 17,000 MW in March 2008 to more than 37,000 MW by 2012</li> <li>• Maintain transmission system availability at not less than 99.0%</li> <li>• Maintain transmission losses in the range of 3-4% at par with international standards</li> </ul>	<ul style="list-style-type: none"> <li>• Annual report of POWERGRID</li> <li>• Regulation statistics of NLDC</li> <li>• Quarterly project progress reports</li> <li>• ADB's project review missions</li> <li>• Program completion reports</li> </ul>	<p><b>Assumptions</b></p> <ul style="list-style-type: none"> <li>• Timely development of envisaged generation projects by other utilities</li> <li>• Load growth and system expansion as forecast</li> </ul> <p><b>Risks</b></p> <ul style="list-style-type: none"> <li>• Mismatch between generation and transmission network upgrades</li> <li>• Delays in project implementation</li> </ul>
<p><b>Outputs</b> Upgrading transmission corridor from Uttaranchal</p> <p>±800kV HVDC North-eastern – Northern / Western Inter-connector</p>	<ul style="list-style-type: none"> <li>• Addition of 14 km of 400 kV S/C transmission line and 103 km of 400kV D/C transmission line by 2011</li> <li>• Establishment of 800 kV switchyards at Tehri-II Pooling Station (GIS) and Meerut Sub-station by 2011</li> <li>• Additional transmission capacity of 765/400kV, 5,000MVA by 2011</li> </ul> <ul style="list-style-type: none"> <li>• About 1,800 km of ±800 kV, 6,000 MW HVDC bipole line by 2012</li> <li>• About 860 km of 400 kV D/C transmission line by 2012</li> <li>• About 22 km of 132 kV S/C transmission line by 2012</li> <li>• Addition of 400/220/33 kV, 315 MVA transmission capacity by 2012</li> <li>• HVDC rectifier module of 3,000 MW at Biswanath Chaiyali and inverter module of 3,000 MW at Agra by 2012</li> </ul>	<ul style="list-style-type: none"> <li>• Annual report of POWERGRID</li> <li>• Regulation statistics of NLDC</li> <li>• Quarterly project progress reports</li> <li>• ADB's project review missions.</li> <li>• Field visits</li> <li>• Program completion report</li> </ul>	<p><b>Assumptions</b></p> <ul style="list-style-type: none"> <li>• Government's timely approval of the required investment programs</li> <li>• Counterpart funds mobilized on time</li> <li>• POWERGRID's full ownership of the transmission sector development program</li> </ul> <p><b>Risks</b></p> <ul style="list-style-type: none"> <li>• Unexpected increase in prices of commodities and raw materials, and construction delays</li> </ul>

<b>Activities with Milestones</b>	<b>Inputs</b>
<ol style="list-style-type: none"> <li>1. Advance procurement on tranche 1 projects initiated by June 2007</li> <li>2. PFR for tranche 1 submitted by March 2008</li> <li>3. PFR for tranche 2 submitted and approved by June 2009</li> <li>4. Field surveys for Project 1 completed by December 2007</li> <li>5. Bidding for civil works and procurement of goods for Project 1 completed by March 2009</li> <li>6. Construction of Project 1 commenced by July 2009</li> <li>7. Construction completion of Project 1 by March 2012</li> <li>8. Field survey for Project 2 completed by August 2008</li> <li>9. Bidding for civil works and procurement of goods for Project-2 completed By May 2009</li> <li>10. Construction of Project 2 commenced by April 2009</li> <li>11. Construction of Project 2 completed by December 2012</li> </ol>	<ul style="list-style-type: none"> <li>• ADB -MFF: \$600 million</li> <li>• POWERGRID: \$762.6 million</li> <li>• Other Financial Institutions: \$1,180.0 million</li> </ul>

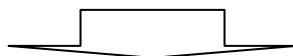
CKM = circuit kilometer; D/C = double conductor, HVDC = high voltage direct current, kV = kilovolt, 1,000 volts, MFF = multitranche financing facility, MVA = megavolt-ampere, MW = megawatts, NLDC = National Load Dispatching Center, PFR = periodic finance request, POWERGRID = Power Grid Corporation of India Ltd., S/C = single conductor.

Source: Asian Development Bank estimates.

## B. Sector Road Map

### Power Transmission Sector Road Map

**Goal: Power for All by 2012**



Impact	Outcome	Performance Target	Measurement
1. Constituent member consumers have access to power from the national grid	Expand coverage of transmission network	<ul style="list-style-type: none"> <li>Develop an integrated National Grid with additional 60,000 ckm transmission lines by 2012</li> <li>Increase interregional transmission capacity to more than 37,000MW by 2012</li> </ul>	<p>Reports by MOP</p> <p>Reports by MOP</p> <p>Reports by MOP</p>
2. Constituent member consumers provided with stable quality of electric power supply	Improve reliability of transmission network	<ul style="list-style-type: none"> <li>Maintain system availability at not less than 99.0% with initiatives, e.g., Hot Line Maintenance and Emergency restoration System.</li> </ul>	Annual Report of POWERGRID
		<ul style="list-style-type: none"> <li>Maintain transmission losses in the range of 3-4%at par with international standards</li> <li>Nationwide real-time grid operation</li> </ul>	<p>Annual Report of POWERGRID</p> <p>Annual Report of POWERGRID</p>
3. Constituent member consumers provided with electricity at affordable cost	Enhance sustainability and efficiency of the transmission sector	<ul style="list-style-type: none"> <li>Enhance financial viability by implementing financial management and corporate governance strategy</li> <li>Enhance institutional capacity through implementation of human resource development strategy and introduction of full-fledged ERP</li> <li>Implement cost reduction strategies</li> <li>Application of tariff based bidding for new transmission projects</li> <li>Strengthening capacity of state transmission utilities with technical and managerial assistances by POWERGRID</li> </ul>	<p>Financial ratio/indicators in Annual Report</p> <p>Obtain foreign long-term currency credit rating by international rating agencies</p> <p>Ckt. Km. per Employee</p> <p>Benchmarking unit cost analysis by POWERGRID</p> <p>Reports by MOP</p> <p>Reports by MOP</p>

ckm = circuit kilometer; ERP = enterprise resource planning; NLDC = National Load Dispatching Center; MOP = Ministry of Power; MW = megawatt; POWERGRID = Power Grid Corporation of India Limited

## I. PROJECT DESCRIPTION

### A. Project Area and Location

1. Power Grid Corporation of India Limited (POWERGRID) and India have entered a framework financing agreement (FFA) with ADB on 28 February 2008, which satisfies the requirements set forth in ADB's relevant policy.<sup>1</sup> Subsequently on 28 March 2008, ADB approved a multitranche financing facility (the Facility) of \$600 million for POWERGRID for National Power Grid Development Investment Program (the Investment Program), consisting of (i) Project 1: Upgradation of Transmission Capacity from Uttarakhand; and (ii) Project 2:  $\pm 800$ kV High Voltage Direct Current (HVDC) Northeastern-Northern/Western Interconnector. On the same day, ADB also approved the first Periodic Financing Request (PFR) for tranche 1 (Tranche 1) submitted by POWERGRID under the Facility, requesting \$400 million to cover payment for substation contract packages of Project 1 and transmission line contract packages of Project 2.

2. This Facility Administration Manual (FAM) covers the first PFR under the Facility, which will focus on establishment and augmentation of substations in the State of Uttarakhand and construction of  $\pm 800$ kV HVDC transmission line that connects from northeastern to northern/western region of India.

### B. Impact and Outcome

3. The Investment Program is to promote sustained social and economic prosperity and growth in India by providing an adequate and reliable power supply. The outcome of the Investment Program is enhanced transmission network reliability and efficiency through expansion and augmentation of the national transmission grid. This, in turn, will lead to improved quality of supply in the major demand centers of the northern and western regions of the country. Through the development of a sophisticated national grid to be linked with untapped natural resources, the Investment Program will also contribute to enhancing regional and national energy security and energy efficiency as well as reducing greenhouse gas emissions. The Investment Program is part of the least-cost development plan for the power sector, and supports the Government's goal of Power for All by 2012.

### C. Technical Justification and Selection Criteria

4. Central Electricity Authority (CEA) carries out least-cost generation expansion and long-term transmission planning studies for the country using an integrated resource planning approach to ensure optimum use of national power resources. Based on these studies, POWERGRID, as the central transmission utility, formulated its investment plan for the 11th Five-Year Plan period through exhaustive engineering design calculations. POWERGRID employs state-of-the-art commercially available power system simulation software packages to perform detailed power flow studies, short-circuit calculations, and dynamic and transient stability analyses to ensure a robust yet optimal national transmission grid based on internationally proven extra-high voltage alternating current and HVDC transmission technologies.

5. All projects under the Investment Program have been subjected to a rigorous and strict scrutiny process. The projects have been selected based on criteria, which include the following.

- (i) The project is technically feasible and is part of the least-cost development plan.
- (ii) The project is part of the Government of India's 11th Five-Year Plan.
- (iii) The project is economically viable.

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<sup>1</sup> ADB. 2005. *Innovation and Efficiency Initiative: Pilot Financing Instruments and Modalities*. Manila.

- (iv) The project is socially sound and will include measures to mitigate any adverse social impacts, if any.
- (v) Sufficient counterpart funding will be allocated to implement the project as scheduled.
- (vi) All necessary central and state government approvals will be obtained for the project in a timely manner.
- (vii) The state electricity board (SEB) or other beneficiary of the project has a satisfactory payment record with POWERGRID, i.e., POWERGRID will maintain accounts receivable at a level not exceeding an amount equivalent to the income proceeds of its transmission services for the preceding 3 months of billable amount as allowed by Central Electricity Regulatory Commission (CERC).

#### **D. Outputs**

6. The Investment Program comprises two projects for funding under the Facility.
  - (i) **Project 1: Upgradation of Transmission Capacity from Uttarakhand.** This project will provide adequate transmission capacity for reliable transfer of power generated in the Tehri Valley in Uttarakhand to constituents of the northern region, by (i) establishment of 765/400 kV, 10 x 500 MVA transformation capacity each at Tehri Pooling Station and Meerut substation within the existing substation site, (ii) construction of 103 km of loop-in-loop-out of Bareilly–Mandaula 400 kV double-circuit transmission line at Meerut (54km of loop-in and 49km of loop-out), and (iii) modification of series capacitors for operation at 765 kV level. ADB is funding the substations only.
  - (ii) **Project 2: ±800kV High Voltage Direct Current Northeastern–Northern/Western Interconnector.** This project aims to deliver bulk power generated from hydropower stations in the northeastern region to the power-deficit areas of the northern and western regions through construction of about 1,800 km of ±800 kV HVDC transmission systems from Biswanath Chariyali to Agra, including 800 kV converting and inverting stations at both ends, and construction of 400 kV connecting transmission lines at Biswanath Chariyali for transfer of power from various power plants in the northeastern region. ADB funding is for the ±800 kV HVDC transmission lines only.

## **II. COST ESTIMATES AND FINANCING PLAN**

### **A. Detailed Cost Estimates and Financing Plan**

7. The Investment Program is estimated to cost the equivalent of about \$2,542 million including taxes, duties, and interest and other charges on the loans from ADB during construction (Table 1). The detailed cost estimates of the Investment Program are provided in Appendix 1.

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

<b>Item</b>	<b>Total</b>
<b>A. Base Cost<sup>a</sup></b>	
Project 1. Upgradation of Transmission Capacity from Uttarakhand	305.1
Project 2. ±800KV High Voltage Direct Current Northeastern–Northern/Western Interconnector	1,860.9
<b>Subtotal (A)</b>	<b>2,166.0</b>
<b>B. Contingencies</b>	<b>176.2</b>
<b>C. Financing Charges During Implementation<sup>b</sup></b>	<b>200.4</b>
<b>Total (A+B+C)<sup>c</sup></b>	<b>2,542.6</b>

KV = kilovolt.

<sup>a</sup> In 4th quarter 2006 prices.

<sup>b</sup> Includes interest, commitment charges, interest during construction has been computed using the 5-year forward London interbank offered rate plus a spread of 0.4%

<sup>c</sup> Includes taxes and duties of \$88.6 million.

Source: Asian Development Bank estimates.

8. The Investment Program will be financed under the Multitranches Financing Facility, in accordance with the ADB policy. The Multitranches Financing Facility will extend multiple loans of no less than \$100 million to finance part of the costs of the two projects constituting the Investment Program. Additional projects may be added if necessary. These will be subject to submission of related PFRs by POWERGRID and India, and the execution of the related loan and guarantee agreements.

9. The provisions of the ordinary operations loan regulations applicable to ADB's London interbank offered rate (LIBOR)-based loans will apply to each loan under the Facility, subject to modifications, if any, that might be included under each loan agreement. The specific terms of each loan will be based on the related PFR, with interest to be determined in accordance with ADB's LIBOR-based lending facility.

10. POWERGRID will bear the foreign exchange risk, and the cost of the guarantee provided by India. The financing plan for the Investment Program is in Table 2.

**Table 2: Financing Plan**  
(\$ million)

<b>Item</b>	<b>Total</b>	<b>%</b>
ADB (sovereign-guaranteed MFF)	600.0	23.6
Other Financial Institutions	1,180.0	46.4
POWERGRID	762.6	30.0
<b>Total</b>	<b>2,542.6</b>	<b>100.0</b>

ADB = Asian Development Bank, MFF = multitranches financing facility, POWERGRID = Power Grid Corporation of India Ltd.

Source: Asian Development Bank estimates.

11. The last date on which any loan agreement for a tranche under the Facility may become effective will be 2015 or any other date mutually agreed between POWERGRID and ADB. Each specific loan will have its own closing date to match its implementation period.

## B. Project Cost Estimate and Time-Slicing Financing

12. Project 1 is estimated to cost the equivalent of about \$371.8 million and Project 2 about \$2,170.8 million, including taxes, duties, and interest and other charges. The first PFR for tranche 1 amounting to \$400 million will cover payment for substation contract packages of Project 1 and transmission line contract packages of Project 2. The loan will have a term of 25 years, including a grace period of 5 years. It will have an interest rate determined in accordance with ADB's LIBOR-based lending facility, a commitment charge of 0.15% per year on full undisbursed amount, and such other terms and conditions as agreed in the Loan Agreement.

13. Each project will consist of one or more components. POWERGRID will ensure that the entire Project meets the project selection criteria as well as ADB's safeguard policy requirements when any component under the Project is proposed for funding under the Facility. A component may include one or more contract packages. In case a component or a contract package is financed by multiple loans under the Facility, ADB will ensure that the entire component or contract package is in compliance with ADB's safeguard policy requirements when any loan is requested.

14. Along with the first PFR, POWERGRID has submitted to ADB a component-wise financing plan under the Facility and a contract-wise financing plan under the first Tranche. The second and subsequent PFRs may include a revised component-wise financing plan and a contract-wise financing plan for subsequent tranches.

15. The financing plan for Project 1 and 2 is further detailed in Table 3.

**Table 3 – Financing Plan for Project 1 and Project 2**  
(\$ million)

	Project 1	Project 2	Total Cost	%
ADB (MFF)	285.0	315.0	600.0	23.6
(Under the first PFR)	(285.0)	(115.0)	(400.0)	
POWERGRID	86.8	675.8	762.60	30.0
Other Financial Institutions	-	1,180.0	1,180.0	46.4
Total	371.8	2,170.8	2,542.6	100.0

## C. Allocation of Loan Proceeds

16. Loan proceeds for Tranche 1 have been allocated as detailed in Schedule 3 of the Loan Agreement. The Loan proceeds will be withdrawn from the Loan account on the basis of the percentages provided in Table 4.

**Table 4: Allocation and Withdrawal of Loan Proceeds**

CATEGORY			ADB FINANCING
Number	Item	Amount Allocated \$	Percentage and Basis for Withdrawal from the Loan Account
01A	Civil Works – Project 1	15,000,000.00	100 percent of total expenditure claimed
01B	Civil Works – Project 2	8,000,000.00	100 percent of total expenditure claimed
02A	Equipment – Project 1	237,000,000.00	100 percent of total expenditure claimed
02B	Equipment – Project 2	90,000,000.00	100 percent of total expenditure claimed
03A	Unallocated – Project 1	33,000,000.00	
03B	Unallocated – Project 2	17,000,000.00	
	Total	400,000,000.00	

- Excluding taxes and duties imposed within India.

17. The investment project under Tranche 1 is expected to be completed by 31 December 2012. No disbursement from the loan account will be requested or made later than 30 June 2013, or any other date mutually agreed between POWERGRID and ADB.

### III. IMPLEMENTATION ARRANGEMENTS

#### A. Executing Agency and Project Management Unit

18. POWERGRID will be the Executing Agency for the Investment Program. A program management unit (PMU) headed by the executive director (corporate planning) has been set up at its headquarters. The unit, through the related functional departments of POWERGRID, will be responsible for processing and implementing the Investment Program. POWERGRID has nine regional offices headed by an executive director or general manager to implement the projects under their respective jurisdictions. The additional general manager or deputy general managers in the region responsible for construction and commissioning of subprojects will report to their respective regional heads. The regional heads will facilitate submission of the implementation progress reports. The management of POWERGRID will receive monthly progress reports and review each project in quarterly review meetings. The PMU will maintain regular consultations with ADB and other funding agencies for implementation of the projects.

19. The Investment Program will follow MFF implementation procedures. POWERGRID will appraise all projects and be responsible for processing and implementing them. In case of additional projects, if any, POWERGRID will prepare a project appraisal report that will include (i) the rationale for each project, (ii) the scope and components, (iii) a technical description and analysis, (iv) the cost estimates and financing plan, (v) an environmental assessment, (vi) a resettlement plan, (vii) an indigenous peoples development plan, and (viii) the implementation arrangements along with financial, economic, and institutional analyses. POWERGRID will be supported by technical experts funded by POWERGRID in preparation of technical specifications and bidding documents, bidding and evaluation, construction supervision, and testing and commissioning of Project 2.

### IV. IMPLEMENTATION SCHEDULE

20. The Facility will be implemented over 7 years, inclusive of procurement and construction activities, and is expected to be completed by March 2015. The implementation schedule of Projects 1 and 2 is provided in Appendix 2. Tranche 1 is expected to be completed by 31 December 2012.

### V. PROCUREMENT

21. Procurement of goods and services to be financed under the Investment Program will be carried out in accordance with ADB's *Procurement Guidelines* (2007, as amended from time to time). For such procurement, bid specifications will be prepared in a manner to ensure maximum competition under international competitive bidding. A procurement plan and indicative contract packages for Tranche 1 is in Appendix 3. Procurement plans will be prepared for each PFR.

22. To further facilitate procurement process, POWERGRID will initially prepare a model bidding document for each of the three (3) types of contract packages under the Facility, i.e. (i) supply only packages (viz. conductors, insulators, hardware fittings & accessories, spacer dampers & rigid spacers), (ii) supply packages with incidental services of erection, testing & commissioning (viz. transformers, reactors, etc.), and (iii) supply cum erection packages (viz. transmission towers and substations, etc.). POWERGRID will seek approval from ADB for such

model bidding documents for each of the three types of contract packages. In preparing such model bidding documents, POWERGRID will follow the latest ADB's *Standard Bidding Document for Procurement of Goods* (October 2006, as amended from time to time) for the said contract packages of type (i) & (ii) and ADB's *Standard Bidding Document for Procurement of Plant-Design, Supply and Install* (October 2006, as amended from time to time) for contract packages of type (iii). Once ADB's approval of the model bidding documents of any one of the packages under each type is accorded, POWERGRID will be exempted from ADB's prior approval of its bidding documents for other similar packages provided that (i) such documents are in line with the corresponding model bidding document, and at the time of release of invitation for bid, they are forwarded to ADB for post-facto approval, and (ii) POWERGRID issues amendments to such documents based on comments made by ADB, if any, during the bidding period. Further, POWERGRID may also award contracts of value less than \$10 million in each case without seeking prior approval of ADB, provided that the lowest priced bidder at bid opening is also the recommended bidder for contract award. All cases involving unusual issues shall be submitted to ADB for prior review, and ADB shall retain the right to disallow utilization of loan proceeds in case it is unable to agree with POWERGRID on either the bidding documents or the bid evaluation report. Any contract variations during contract execution beyond the limit specified in the corresponding bidding document will require ADB's prior approval.

23. Before commencement of any procurement activity under national competitive bidding, ADB, the Government of India, and the Borrower will review the public procurement rules and regulations of the Government of India, and the Borrower's Works & Procurement Policy and Procedures to ensure consistency with the *Procurement Guidelines*. Any necessary modifications or clarifications will be reflected in the procurement plan.

24. ADB approved retroactive financing for all projects under the Facility up to 20% of the proceeds from individual loans under the MFF provided that expenditures are in accordance with the *Procurement Guidelines* and safeguard policies, and were incurred during the 12 months before the signing of the corresponding individual loan agreement.

## **VI. DISBURSEMENT PROCEDURES**

25. The Loan proceeds will be disbursed in accordance with ADB's *Loan Disbursement Handbook* (2007, as amended from time to time) and detailed arrangements agreed upon by POWERGRID and ADB. The disbursement handbook can be downloaded from ADB's website: [http://www.adb.org/Documents/Handbooks/Loan\\_Disbursement/default.asp](http://www.adb.org/Documents/Handbooks/Loan_Disbursement/default.asp) . No imprest account will be required for disbursement under the Facility.

## **VII. PROJECT MONITORING AND EVALUATION**

26. ADB will monitor implementation of all components of the projects through (i) quarterly progress reports; (ii) ADB's review missions and midterm review mission. POWERGRID will undertake periodic project performance review under each individual tranche of the Facility, and also for the Investment Program to evaluate the scope, implementation arrangements, progress, and achievements of objectives of the related project and the overall Investment Program.<sup>2</sup> Performance will be evaluated based on indicators and targets stipulated in the design and monitoring framework.

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<sup>2</sup> POWERGRID has a Corporate Monitoring Department headed by an executive director. The department has sufficient capacity and systems to monitor individual projects as well as the entire investment program.

### **A. Inception Mission**

27. An inception mission was fielded from 25 May to 3 June 2008 to discuss this PAM, and to ensure that all administrative matters pertaining to the projects are properly in place and working relationships are established between concerned ADB staff and POWERGRID staff. Details relating to report requirements, accounting system, compliance with loan covenants, disbursement procedures and withdrawal applications were clarified during the mission.

### **B. Review Mission**

28. Review missions will be conducted to monitor overall progress of the projects and discuss the progress of the individual project and any changes to implementation arrangements. The review missions will review expenditures and cost estimates and most importantly discuss problems and issues causing delays in project implementation, if any, and remedial measures required to be undertaken towards achieving the objectives of the projects and the Investment Program. The first review mission is tentatively set in November 2008. Succeeding review missions will be fielded by ADB as and when required but at least twice a year.

### **C. Midterm Review Mission**

29. In addition to the normal periodic reviews, a midterm review will be carried out 2 years after the loan effectiveness, focusing on the engineering, resettlement, and environmental aspects of the Investment Program, and reviewing the financial status of POWERGRID. Representatives of ADB and POWERGRID will take part in the review, which will allow for any necessary midcourse corrections to ensure successful project implementation and achievement of objectives.

## **VIII. REPORTING REQUIREMENTS**

### **A. Quarterly Progress Report**

30. POWERGRID will prepare progress reports and submit these to ADB on a quarterly basis within 45 days from the end of each quarter. Each report will provide (i) a narrative description of progress made during the period, (ii) changes in the implementation schedule, (iii) problems or difficulties encountered, and (iv) the work to be carried out in the next period. The progress reports will also include a summary financial account for the project loan components, consisting of project expenditures for the year to date and total expenditure to date, and a contract-wise financing plan. The first quarterly progress report will be prepared for quarter ending 30 September 2008 and shall be submitted to ADB by 14 November 2008. A sample format of the report is in Appendix 4.

### **B. Quarterly Contract Awards and Disbursement Projections**

31. POWERGRID will prepare annually the forecast for contract awards and disbursement under the projects on a quarterly basis for one year ahead in the format shown in Appendix 5. This will be submitted to ADB by 31 December of each year.

### **C. Audited Financial Reports**

32. POWERGRID shall (i) have its accounts and financial statements (balance sheet, statement of income and expenses, and related statements) audited annually, in accordance with appropriate auditing standards consistently applied, by independent auditors whose qualifications, experience and terms of reference are acceptable to ADB; and (ii) furnish to ADB,

as soon as available but in any event not later than 6 months after the end of each related fiscal year, certified copies of such audited accounts and financial statements and the report of the auditors relating thereto (including the auditors' opinion on the use of the loan proceeds and compliance with the financial covenants).

#### **D. Project Completion Reports**

33. POWERGRID will submit to ADB a project completion report within 6 months of physical completion of the projects, and a facility completion report within 6 months of physical completion of the Investment Program. These reports will cover a detailed evaluation of projects and the Facility, covering the design, costs, contractors' and consultants' performance, social, environmental, and economic impact, economic rate of return, and other details for each project and the Facility as may be requested by ADB. A sample format is in Appendix 6.

### **IX. AUDITING REQUIREMENTS**

34. POWERGRID will continue the current practice of hiring independent chartered accountants as statutory auditors to audit its annual financial statements and annual project accounts, together with the memorandum on issues identified during the audit process. These will be submitted with the respective reports. The accounts will be prepared using accounting standards issued by the Institute of Chartered Accountants of India, and consistently applied, as amended from time to time. The auditors will be required to provide an opinion on POWERGRID's compliance with ADB's financial covenants and indicate the details of the actual calculations for all ratios, in conformity with the definitions contained in the Loan Agreement. The first audited project accounts and audited financial statements are due for Fiscal Year 2009 and should be submitted to ADB no later than 30 September 2009. POWERGRID should ensure timely submission of audited accounts. In accordance with ADB's policy, when submission of audited project accounts and financial statements is delayed by more than six months, ADB may suspend processing applications for reimbursement and approval of the award of new contracts.

### **X. MAJOR LOAN COVENANTS**

35. In addition to the standard assurances, POWERGRID, and ADB agreed to the additional assurance as shown in Appendix 7.

### **XI. KEY PERSONS INVOLVED IN THE FACILITY**

36. The key persons responsible for the implementation/administration of the Facility are shown in Appendix 8.

### **XII. ANTICORRUPTION**

37. ADB's policy on *Anticorruption* (1998, as amended to date) was explained to and discussed with the Government and EAs. All contracts financed by ADB in connection with the investment components shall include provisions specifying the right of ADB to audit and examine the records and accounts of the EAs and all contractors, suppliers, consultants, and other service providers as they relate to the Facility. Anyone coming across evidence of fraud or corruption associated with the Investment Program may contact the Anticorruption Unit at the following address and contact nos.:

Integrity Division (OAGI)  
Office of the Auditor General  
Asian Development Bank  
6 ADB Avenue, Mandaluyong City  
0401 Metro Manila, Philippines

Postal Address: P.O. Box 789  
0980 Manila, Philippines  
Telephone : (63-2) 632 5008  
(63-2) 632 2152  
Email : [anticorruption@adb.org](mailto:anticorruption@adb.org) or  
[integrity@adb.org](mailto:integrity@adb.org)

### **XIII. CONCURRENCE**

38. We have reviewed the FAM and concur to implement the Facility according to the agreed requirements.

(SGD)  
Mr. I. C. Jaiswal  
Executive Director, Corporate Planning  
and Environmental and Social Management  
Power Grid Corporation of India Limited

(SGD)  
Mr. Pil-Bae Song  
Head, Project Implementation Unit  
Asian Development Bank

Date: 2 June 2008

## DETAILED COST ESTIMATES

### Detailed Cost Estimates for Upgradation of Transmission Capacity from Uttarakhand (Project 1) by Expenditure Category

Item	Rs Million			\$ Million			% of Total Cost
	Foreign	Local	Total	Foreign	Local	Total	
	Exchange	Currency	Cost	Exchange	Currency	Cost	
<b>A. Equipment</b>							
Component 1: Substations	10,570.7	1,013.6	11,584.3	260.6	25.0	285.6	94
Component 2: Transmission Lines	698.4	75.8	774.3	17.2	1.9	19.1	6
<b>Subtotal (A)</b>	11,269.2	1,089.4	12,358.6	277.8	26.9	304.7	100
<b>B. Environment Mitigation and Monitoring</b>	0.0	3.2	3.2	0.0	0.1	0.1	0
<b>C. Resettlement</b>	0.0	11.0	11.0	0.0	0.3	0.3	0
<b>Subtotal Base Costs</b>	11,269.2	1,103.6	12,372.8	277.8	27.2	305.1	100
Physical Contingencies	563.4	45.8	609.2	13.9	1.1	15.0	5
Price Contingencies	580.0	118.8	698.8	14.3	2.9	17.2	6
<b>Total Project Costs</b>	12,412.6	1,268.3	13,680.9	306.0	31.3	337.3	
Commitment Charges	110.7	0.0	110.7	2.7	0.0	2.7	1
Interest During Implementation	1,289.8	0.0	1,289.8	31.8	0.0	31.8	10
<b>Total Costs</b>	<b>13,813.1</b>	<b>1,268.3</b>	<b>15,081.4</b>	<b>340.6</b>	<b>31.3</b>	<b>371.8</b>	<b>122</b>

Source: Asian Development Bank estimates.

## DETAILED COST ESTIMATES

### Detailed Cost Estimates for ±800kV High Voltage Direct Current (HVDC) Northeastern - Northern/Western Inter-Connector (Project 2) by Expenditure Category

Item	(Rs million)			(\$ million)			% of Total
	Foreign	Local	Total	Foreign	Local	Total	
	Exchange	Currency	Cost	Exchange	Currency	Cost	
<b>A. Equipment</b>							
Component 1: HVDC Transmission Lines	26,495.4	9,139.8	35,635.2	653.2	225.3	878.6	47
Component 2: Substations	24,865.7	748.3	25,614.5	613.1	18.5	631.5	34
Component 3: A/C Transmission Lines	5,417.6	3,729.5	9,147.1	133.6	92.0	225.5	12
<b>Subtotal Equipment</b>	<b>56,778.7</b>	<b>13,617.6</b>	<b>70,396.7</b>	<b>1,399.9</b>	<b>335.7</b>	<b>1,735.6</b>	<b>93</b>
<b>B. Civil Works, including erection &amp; stringing</b>	0.0	265.7	265.7	0.0	6.6	6.6	0
<b>C. Project Management and Construction Supervision</b>	176.4	3,651.2	3,827.6	4.4	90.0	94.4	5
<b>D. Environment Mitigation and Monitoring</b>	0.0	66.9	66.9	0.0	1.7	1.7	0
<b>E. Resettlement</b>	0.0	922.7	922.7	0.0	22.8	22.8	1
<b>Subtotal Base Costs</b>	<b>56,955.2</b>	<b>18,524.2</b>	<b>75,479.7</b>	<b>1,404.2</b>	<b>456.7</b>	<b>1,860.9</b>	<b>100</b>
Physical Contingencies	2,847.8	926.4	3,774.2	70.2	22.8	93.1	5
Price Contingencies	1,139.3	926.4	2,065.6	28.1	22.8	50.9	3
<b>Total Project Costs</b>	<b>60,942.2</b>	<b>20,376.9</b>	<b>81,319.6</b>	<b>1,502.5</b>	<b>502.4</b>	<b>2,004.9</b>	
Commitment Charges	567.8	0.0	567.8	14.0	0.0	14.0	1
Interest During Implementation	6,158.6	0.0	6,158.6	151.8	0.0	151.8	8
<b>Total Costs</b>	<b>67,668.7</b>	<b>20,376.9</b>	<b>88,046.0</b>	<b>1,668.4</b>	<b>502.4</b>	<b>2,170.8</b>	<b>117</b>

Source: Asian Development Bank estimate

### IMPLEMENTATION SCHEDULE

Description	2007					2008					2009					2010					2011					2012																			
	J	F	A	M	J	J	A	S	O	N	D	J	F	A	M	J	J	A	S	O	N	D	J	F	A	M	J	J	A	S	O	N	D	J	F	A	M	J	J	A	S	O	N	D	
<b>Project 1: Upgradation of Transmission Capacity from Uttarakhand</b>																																													
Technical Specification																																													
Bidding																																													
Engineering																																													
Civil Work																																													
Supply of Equipment																																													
Erection																																													
Testing/Commissioning																																													
<b>Project 2: ±800kV HVDC Northeastern - Northern/Western Region</b>																																													
Technical Specification																																													
Bidding																																													
Engineering																																													
Supply of Equipment																																													
Erection																																													
Testing/Commissioning																																													

kV = kilovolt.  
Sources: ADB estimates.

## PROCUREMENT PLAN

<b>Project Information</b>	
Country	India
Name of Borrower	Power Grid Corporation of India Limited
Project Name	National Power Grid Development Investment Plan
Loan Reference	2415-IND
Date of Effectiveness	(to be indicated after the loan effectiveness)
Amount	\$400 million
Executing Agency	Power Grid Corporation of India Limited
Approval date of Original Procurement Plan	28 March 2008
Period covered by this plan	Up to 18 months after loan approval

### Project Procurement Thresholds

<b>Procurement of Works and Goods &amp; Related Services</b>	
<b>Method</b>	<b>Threshold</b>
International Competitive Bidding (ICB) Works	\$1,000,000 and above
ICB – Goods, Supply and Installation	\$500,000 and above

### ADB Prior or Post Review

<b>Procurement of Works and Goods &amp; Related Services</b>	
<b>Method</b>	<b>Prior or Post Review</b>
International Competitive Bidding	<p>A. Bidding documents:</p> <ul style="list-style-type: none"> <li>- Prior review of a model bidding document for each type of contract package under the Facility, such as (i) supply only packages (conductors, insulators, hardware fittings &amp; accessories, spacer dampers &amp; rigid spacers); (ii) supply packages with incidental services of erection, testing and commissioning (transformers, reactors, etc.); and (iii) supply and erection packages (transmission towers and substations, etc.).</li> <li>- Upon ADB's approval of the model bidding documents, POWERGRID will be exempted from ADB's prior approval of its bidding documents for other similar packages provided that (i) such bidding documents are in line with the corresponding model bidding document, and at the time of release of IFB (Invitation for Bid), they are forwarded to ADB for post-facto approval, and (ii) POWERGRID issues amendments to such documents based on comments made by ADB, if any, during the bidding period.</li> </ul> <p>B. Bid evaluation and award:</p> <ul style="list-style-type: none"> <li>- Prior review, except that post-facto review is allowed for contract of value less than \$10 million in each case, provided that the lowest priced bidder at bid opening is also the recommended bidder for contract award.</li> </ul> <p>C. All cases involving unusual issues shall be submitted to ADB for prior review.</p>

### Indicative Contract Package List

#### Project 1: Upgradation of Transmission Capacity from Uttarakhand

Bidding Document No	Package No	Contract Description	Contract Type	Procurement Mode	Estimated Contract Value (\$ million)
					<b>1 \$ = Rs. 39.5</b>
I		Construction of new 800kV gas-insulated substation (GIS) switchyard and extension of existing 400kV GIS switchyard at Tehri Pooling station covering supply, erection, testing and commissioning of equipment, control and relay panels, automation system, PLCC, structures, cables, electrical and mechanical auxiliaries, bus-bar materials, earthing, lighting etc., and civil works	S+E+C	ICB	176.00
II		Construction of new 800kV switchyard, extension of existing 400kV switchyard and modification of existing 400kV FSC to operate at 765kV, at Meerut Substation covering supply, erection, testing and commissioning of equipment, control and relay panels, automation system, PLCC, structures, cables, electrical and mechanical auxiliaries, bus-bar materials, earthing, lighting etc., and civil works	S+E+C	ICB	32.90
III		<u>Auto-Transformers</u> Supply, erection, testing and commissioning of: (i) 10 nos, 765/400/33kV, 500 MVA Auto Transformers (1-phase) at Tehri Pooling Station (ii) 10 nos, 765/400/33kV, 500 MVA Auto Transformers (1-phase) at Meerut Substation	S+E+C	ICB	97.98
		<u>Shunt Reactors</u> Supply, erection, testing and commissioning of: (i) 4 nos, 765kV, 80MVAR Bus Reactors (1-phase) at Tehri Pooling Station (ii) 6 nos, 765kV, 80MVAR Shunt Reactors (1-phase) along with SA and NGR at Meerut Sub-station (iii) 4 nos, 765kV, 80MVAR Bus Reactors (1-phase) at Meerut Substation	S+E+C	ICB	22.02
		<b>Total</b>			328.90

GIS = gas-insulated substation, ICB = International competitive bidding, S+E+C = supply, erection, and commissioning.

### Indicative Contract Package List

#### Project 2: ±800kV High Voltage Direct Current (HVDC) Northeastern - Northern/Western Inter-Connector

Bidding Document No	Package No	Contract Description	Contract Type	Procurement Mode	Estimated Contract Value (\$ million)
I	C1	ACSR LAPWING and ZEBRA Conductor package (3680 km + 406 Km)	S	ICB	38.36
II	I1	210/300/400 KN HVDC Insulator package	S	ICB	46.08
III	H1	Hardware Fittings & Accessories except Spacer Damper & Rigid Spacer	S	ICB	11.37
	S1	Spacer Damper & Rigid Spacer	S	ICB	4.71
		<b>Total</b>			<b>100.52</b>

HVDC = High Voltage Direct Current, ACSR = Aluminium Conductor Steel Reinforced, ICB = International competitive bidding, S+E+C = supply, erection, and commissioning

## **SUGGESTED FORMAT OF PROGRESS REPORT**

### **A. Introduction and Basic Data**

Provide the following:

- ADB loan number, project title, borrower, executing agency(ies), implementing agency(ies);
- total estimated project cost and financing plan;
- status of project financing including availability of counterpart funds and cofinancing;
- dates of approval, signing, and effectiveness of ADB loan;
- original and revised (if applicable) ADB loan closing date and elapsed loan period based on original and revised (if applicable) loan closing dates; and
- date of last ADB review mission.

### **B. Utilization of Funds (ADB Loan, Cofinancing, and Counterpart Funds)**

Provide the following:

- cumulative contract awards financed by the ADB loan, and comparison with time-bound projections (targets);
- cumulative disbursements from the ADB loan and cofinancing, and counterpart funds (expenditure to date to be reported usually in the third quarter progress report), and comparison with time-bound projections (targets); and
- reestimated costs to completion, need for reallocation within ADB loan categories, and whether an overall project cost overrun is likely, if any.

### **C. Project Purpose**

Provide the following:

- status of project scope/implementation arrangements compared with those in the report and recommendation of the President (RRP), and whether major changes have occurred or will need to be made;
- an assessment of the likelihood that the immediate development objectives (project purpose) will be met in part or in full, and whether remedial measures are required based on the current project scope and implementation arrangements;
- an assessment of changes to the key assumptions and risks, if any, that affect attainment of the development objectives; and
- other project developments, including monitoring and reporting on environmental and social requirements that might adversely affect the project's viability or accomplishment of immediate objectives, if any.

### **D. Implementation Progress**

Provide the following:

- progress or achievements in implementation since the last progress report;

- assessment of the progress of each project component, such as,
  - procurement of goods and works (from preparation of detailed designs and bidding documents to contract awards); and
  - the performance of suppliers, manufacturers, and contractors for goods and works contracts;
- assessment of progress in implementing the overall project to date in comparison with the original implementation schedule—quantifiable and monitorable target, (include simple charts such as bar or milestone to illustrate progress, a chart showing actual versus planned expenditure); and

#### **E. Compliance with Covenants**

Provide the following:

- the borrower's compliance with policy loan covenants such as sector reform initiatives and EA reforms, and the reasons for any noncompliance or delay in compliance;
- the borrower's and EA's compliance with financial loan covenants including the EA's financial management, and the provision of audited project accounts or audited agency financial statements; and
- the borrower's and EA's compliance with project-specific loan covenants associated with implementation, environment, and social dimensions.

#### **F. Major Project Issues and Problems**

Summarize the major problems and issues affecting or likely to affect implementation progress, compliance with covenants, and achievement of immediate development objectives. Recommend actions to overcome these problems and issues (e.g., changes in scope, changes in implementation arrangements, and reallocation of loan proceeds).



## FORMAT OF PROJECT COMPLETION REPORT

### I. PROJECT DESCRIPTION

- A. Objectives
- B. Components (or subprojects for sector and multiprojects)
- C. Implementation methods
- D. Description and justification of changes in components (or subproject appraisal criteria) or implementation methods

### II. PROJECT IMPLEMENTATION

- A. Compare original and actual implementation schedules. Indicate delays, length and causes of delays, and remedial action taken.
- B. Compare cost estimates made during appraisal and actual costs (foreign and local). Local currency costs incurred, appropriate exchange rates for their conversion into US dollars, and the foreign exchange costs financed by cofinanciers must be compiled correctly with reference to audited project accounts. Indicate factors that contributed to any significant overruns or underruns, if any.
- C. State problems or difficulties in recruiting consultants, with reference to ADB procedures. Assess the consultant's work and the working relationship between the executing agency (EA) and the consultant. Use of a logical framework is strongly recommended.
- D. State problems or difficulties encountered in procuring goods and services (including civil works) with reference to ADB procedures. Assess the supplier's or contractor's performance under the contract.
- E. Give the extent of compliance of the borrower and EA with loan covenants, with reasons for noncompliance or delays in compliance, if any, and the remedial actions taken.
- F. State reasons for any delays in loan utilization. Evaluate the appropriateness of the disbursement methods used. Justify the reallocation of loan proceeds.
- G. State problems or difficulties with subproject appraisal.

### **III. INITIAL OPERATIONS**

- A. Describe initial operations of the project and transitional problems encountered from project completion to initial operations.
- B. Describe measures taken to ensure continued smooth operation of the project relative to management, staffing, funding, and maintenance of project facilities.
- C. Analyze the prospects of the project benefits being realized.

### **IV. EVALUATION OF THE ASIAN DEVELOPMENT BANK'S PERFORMANCE**

- A. Assess ADB's performance in supervising project implementation. Include comments on the adequacy of the consultants' terms of reference and appropriateness of specifications in tender documents. Evaluate the effectiveness and timeliness of assistance extended by ADB to solve implementation problems.
- B. Comment on problems encountered with ADB's procedures. Note the measures taken to resolve these problems and suggest changes in procedures and requirements.

**LOAN 2415-IND: NATIONAL POWER GRID DEVELOPMENT INVESTMENT PROGRAM  
(TRANCHE 1)  
MAJOR LOAN COVENANTS**

<b>Project Specific Covenants</b>	<b>Reference</b>	<b>Status of Compliance</b>
<b>Project Implementation</b>		
1. The Borrower shall ensure that each of projects 1 and 2 as described in paragraph 2 of Schedule 1 of the Loan Agreement shall at all times conform to the criteria set out in Schedule 4 to the FFA.	LA, Sch. 5, para. 3	
2. The Borrower shall not award any Works contract financed under the Loan in respect of any project under the Facility unless the related RP, provisional CPTD, IEE/EIA (with EMP), IPDP, as applicable, are submitted to ADB.	LA, Sch. 4, para. 6	
3. The Borrower shall ensure that subsequent to award of civil works contract in respect of each project under the Facility, no civil works are started by the contractor unless the applicable provision of the RF, RP, CPTD, EARF and EMP, as approved by ADB, have been complied with.	LA, Sch. 5, para. 20	
4. The Borrower shall cause the contractors to undergo detailed survey of the affected persons during transmission line alignment finalization under the Project. The Borrower shall prepare provisional CPTDs which meet ADB's requirements, based upon the detailed design information during the survey carried out by civil work contractors. The implementation of the related civil work.	LA Sch. 5, para. 21	
5. Any changes to the location, land alignment, or environment impacts on account of detailed designs of the related project under the Facility shall be subject to prior approval by ADB in accordance with the project selection criteria and procedures included in Schedule 4 of the FFA, before further activities are undertaken in the related civil works contract for substations and commencement of civil works for transmission lines under the Project.	LA Sch. 5, para. 22	
6. The Borrower shall ensure that for procurement of Goods, Works and consulting services, if any, the contractors, subcontractors and consultants will comply with the applicable labor legislations of the Guarantor, and the relevant States, (e.g. safe working conditions, etc.), as well as with the Core Labor Standards (i) elimination of force or compulsory labor; (ii) abolition of child labour; (iii) elimination of discrimination in respect of employment; and (iv) freedom of association).	LA. Sch. 5, para. 23	
<b>Financial and Governance</b>		
1. The Borrower shall ensure that: a) accounts receivable are maintain at a level not exceeding an amount equivalent to the income proceeds of its transmission services for the preceding three months of billable amount as allowed by CERC;  b) it obtains irrevocable letters of credit from the state electricity boards and other beneficiaries, in an aggregate amount based on average monthly billings of the previous financial year, as deemed acceptable by the Borrower and as allowed by CERC;	LA, Sch. 5, para. 26	

Project Specific Covenants	Reference	Status of Compliance
<p>c) it maintains at all times a debt-equity ratio of 80:20, and a self financing ratio of at least 20% from 2007 onwards;</p> <p>d) it exercises, inter alia, its rights promptly to effect the reduction/stoppage in supply under the commercial agreements with state electricity boards or other beneficiaries as well as under the tripartite agreements with the Government, state governments and Reserve Bank of India; and</p> <p>e) it forwards to ADB, with each set of audited financial statements, a compliance certificate signed by its statutory auditors and/or director-finance setting out computations as to compliance with the financial covenants described above.</p>		
<p>2.. The Borrower shall ensure that its financial accounts are maintained in accordance with Indian GAAP i.e. accounting standards issued by the Institute of Chartered Accountants of India, and consistently applied, as amended from time to time. The Borrower shall keep ADB intimated of any changes in accounting practices.</p>	LA, Sch. 5, para. 24	
<p>3. In addition to the requirements of Section 4.05 of the Loan Agreement, the Borrower shall continue the existing practice of engaging independent chartered accountants as statutory auditors to audit its annual Project accounts, together with the memorandum on issues identified during the audit process.</p>	LA, Sch. 5, para. 25	
<p><b>Environmental</b></p>		
<p>1. The Borrower shall ensure that each of the projects under the Facility, and all Project facilities are assessed, designed, implemented, constructed, operated, maintained, and monitored in accordance with all applicable environmental laws and regulations of the Guarantor, relevant States, ADB's Environment Policy (2002).</p>	LA, Sch 5, para 4.	
<p>2. The Borrower shall ensure that:</p> <p>(a) EMP and the mitigation measures included therein, as specified in the IEE, EIAs, and EARF, as applicable, are properly and promptly implemented;</p> <p>(b) the EMP and mitigation measures included therein are updated at the engineering design stage and incorporated into the bidding documents and civil works / supply contracts;</p> <p>(c) any adverse impact on the environment that may arise from project implementation activities is promptly mitigated or minimized in accordance with the EMP;</p> <p>(d) any major accidents, including any safety breaches, violation of environmental standards, and corrective measures taken thereto, are reported forthwith to ADB;</p> <p>(e) at least semiannual reports on the implementation of the EMP are submitted to ADB, and ADB is allowed to conduct annual environmental reviews;</p>	LA, Sch. 5, para. 5	

Project Specific Covenants	Reference	Status of Compliance
(f) reports and information are provided to ADB on request to enable it to verify that the goods and services, if any, financed out of the proceeds of the loan have been produced in a responsible manner with a view to resource efficiency, waste minimization, and other environmental considerations.		
<p>3. The Borrower shall ensure that:</p> <p>(a) the Project and/or Project facilities are not located within national parks, wild and planted forest, and wildlife sanctuaries, unless prior environmental clearances are obtained from the relevant government agencies, and</p> <p>(b) monuments of cultural or historical importance are avoided.</p>	(LA, Sch. 5, para. 6)	
<b>Social and Resettlement</b>		
1. The Borrower shall, subject to compliance with RF, RP, and CPTD, as agreed with ADB, and in accordance with all applicable laws, regulations, and policies of the Guarantor, and the relevant State, acquire or make available the land and rights to land free from any encumbrances, and clear the utilities, trees and any other obstruction from such land by providing adequate compensation and assistance required for commencement of construction activities in accordance with the schedule agreed under the related civil works contract.	LA, Sch. 5, para. 7	
2. The Borrower shall ensure that land acquisition and resettlement is undertaken in accordance with applicable laws, regulations and policies of the Guarantor, the relevant State, ADB's Involuntary Resettlement Policy (1995), ESPP, as well as in accordance with the RF RP, and CPTD for each project under the Facility.	LA, Sch.5, para. 8	
3. The Borrower shall (i) prepare and implement RPs for each project under the Facility that entails permanent losses, and CPTDs for each project under the Facility that entails only temporary losses, including any revisions thereto due to detailed designs, in accordance with ADB's Involuntary Resettlement Policy (1995), ESPP, and the RF and (ii) disclose the RP and CPTDs to affected persons in a form and language easily comprehended by the affected persons prior to submission to ADB for review.	LA, Sch. 5, para. 9	
4. The Borrower shall ensure that prior to commencement of civil works under each project under the Facility, (i) full compensation based on replacement costs in accordance with the related RP is paid to the affected persons such that their living standards are not adversely affected, and (ii) resettlement assistance, grievance redress mechanisms, and monitoring systems are fully implemented. The Borrower shall implement additional activities, such as income generating programs, within 12 and 18 months of the commencement of civil works.	LA, Sch. 5, para. 10	

Project Specific Covenants	Reference	Status of Compliance
5. The Borrower shall submit progress and completion reports on land acquisition and resettlement under the quarterly progress reports for the Project. In addition, the Borrower shall forward external monitoring report to ADB on a semi-annual basis for review.	LA, Sch. 5, para. 11	
6. Prior to any land acquisition and resettlement for each project under the Facility, the Borrower shall ensure that RPs and CPTDs, including their updates, based on consultation with the affected persons are submitted to ADB for its approval, and uploading on ADB's website.	LA, Sch. 5, para. 12	
7. The Borrower shall ensure that essential public infrastructure that may be affected under land acquisition and resettlement is replaced, as appropriate, in an expeditious manner in accordance with the related RP.	LA, Sch. 5, para. 13	
8. The Borrower shall ensure that construction contracts contain binding requirements for construction contractors to fully reinstate pathways, other local infrastructures, and agricultural land to at least their pre-project condition upon construction completion; and provision is made for adequate recording of the condition of roads, agricultural land and other infrastructure prior to transport of material and construction commencement.	LA, Sch. 5, para. 14	
9. In the event irrigation supplies are disrupted and adjacent farmers experience losses, the Borrower shall ensure that provision will be made for independent valuation of the losses and timely compensation in respect thereof.	LA, Sch. 5, para. 15	
10. The Borrower shall ensure timely provision of budget for land acquisition, resettlement and other activities outlined in the related RPs and shall meet any unforeseen obligations in excess of the RP budget estimate in order to satisfy the requirements of the RPs.	LA, Sch. 5, para. 16	
11. Within 3 months of the effective date the Borrower shall engage an independent external expert/agency acceptable to ADB for monitoring and verification of the Resettlement Plan implementation for each Project under the Facility that will be responsible for providing ADB through the Borrower quarterly monitoring and evaluation reports on resettlement implementation in accordance with the Resettlement Plans.	LA, Sch. 5, para. 17	
12. Within 3 months of the effective date of the related loan agreement, it establishes a grievance redress committee with representation from all the stakeholders to address any grievances from affected persons concerning resettlement and other social issues in a timely manner.	LA, Sch. 5, para. 18	
13. In the event of any significant or related impacts on indigenous peoples under any project under the Facility, the borrower shall prepare and implement the IPDP in accordance with IPDF, ADBs Policy on Indigenous Peoples (1998), the applicable law, regulation, and policy of the Guarantor, and the relevant State. In the event of non-significant impact on indigenous peoples, the Borrower shall comply with the requirement set out in the related RP or CPTD.	LA, Sch. 5, para. 19	

<b>Project Specific Covenants</b>	<b>Reference</b>	<b>Status of Compliance</b>
<b>Others</b>		
1. The Borrower shall prepare progress reports for the Project and submit these to ADB on a quarterly basis within 45 days from the end of each quarter.	LA, Sch 5, para. 30	
2. Within 6 months of completion of the Project, the Borrower shall furnish to ADB a Project Completion Report.		

## KEY PERSONS INVOLVED IN THE FACILITY

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#### Project Executing Agency:

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