Report and Recommendation of the President to the Board of Directors

Project Number: 47924
November 2013

Proposed Loan
BSES Rajdhani Power Limited
Delhi Electricity Distribution System Improvement Project
(India)

This is an abbreviated version of the document approved by ADB's Board of Directors that excludes information that is subject to exceptions to disclosure set forth in ADB's Public Communications Policy 2011.

Asian Development Bank

CURRENCY EQUIVALENTS
(as of 30 September 2013)

Currency unit	–	Indian rupee/s (Re/Rs)
Re1.00	=	$0.016
$1.00	=	Rs62.70

ABBREVIATIONS

ADB	–	Asian Development Bank
ATC	–	aggregate technical and commercial
BRPL	–	BSES Rajdhani Power Limited
DERC	–	Delhi Electricity Regulatory Commission
DPCL	–	Delhi Power Company Limited
ESMS	–	environmental and social management system
PPAC	–	power purchase adjustment cost
RARP	–	regulatory asset recovery plan

WEIGHTS AND MEASURES

GWh	–	gigawatt-hour
km	–	kilometer
kV	–	kilovolt
MW	–	megawatt

NOTES

(i) The fiscal year (FY) of BSES Rajdhani Power Limited ends on 31 March. FY before a calendar year denotes the year in which the fiscal year ends, e.g., FY2012 ends on 31 March 2012.

(ii) In this report, "$" refers to US dollars.

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CONTENTS

PROJECT AT A GLANCE

1. Project Name: Delhi Electricity Distribution System Improvement Project
2. Project Number: 47924

3. Country: India

4. Department/Division: Private Sector Operations Department
Infrastructure Finance Division 1

5. Sector Classification:

Sectors	Primary	Subsectors
	Energy	Electricity transmission and distribution, energy efficiency and conservation

6.Thematic Classification:

Themes	Primary	Subthemes
Economic growth		Promoting economic growth efficiency and enabling business environment
Environmental sustainability	X	Eco-efficiency
Private sector development		Private sector investment

6a. Climate Change Impact:

Adaptation	
Mitigation	X
Not applicable	

6b. Gender Mainstreaming:

Gender equity theme	
Effective gender mainstreaming	
Some gender benefits	
No gender benefits	X

7. Targeting Classification:

General Intervention	**Targeted Intervention**		
	Geographic dimensions of inclusive growth	Millennium development goals	Income poverty at household level
X			

8. Location Impact:

Rural	Low
Urban	High
National	Low
Regional	High

9. Nonsovereign Operation Risk Rating: NSO 9

10. Safeguard Categorization:

Environment	B
Involuntary resettlement	B
Indigenous peoples	C

11. ADB Financing:

Sovereign/Nonsovereign	**Modality**	**Source**	**Amount** ($ million)
Nonsovereign	Loan	OCR	$80 million equivalent

12. Cofinancing:

Financier	**Category**	**Amount**
Local commercial banks	Loan	$10 million
Total		$10 million

13. Counterpart Financing: Not Applicable

14. Aid Effectiveness: Not Applicable

I. THE PROPOSAL

1. I submit for your approval the following report and recommendation on a proposed loan of up to $80,000,000 (or in Indian rupee equivalent) to BSES Rajdhani Power Limited (BRPL) for the Delhi Electricity Distribution System Improvement Project in India.

II. THE PROJECT

A. Project Identification and Description

1. Project Identification

2. The electricity distribution sector in India has been characterized by chronic underinvestment, inadequate cost recovery, and inefficient operations—resulting in very high technical and commercial losses. Aggregate technical and commercial (ATC) losses at an all-India level were 26.15% in FY2011,[1] with some state distribution companies having ATC losses as high as 67.74%.[2] Financially and operationally viable distribution entities are the foundation of sustainable power sector reform. Efficiency improvements in distribution will reduce the electricity demand–supply gap in India and reduce the investment required in the upstream sector of electricity generation. In spite of the strong development rationale for intervention in the distribution sector, the participation of the Asian Development Bank (ADB) in this sector in India has been limited. In 2002, Delhi was one of the first states to initiate the reform of its electricity distribution business by privatizing its three distribution companies. BRPL is one of the three privatized distribution companies in Delhi and is responsible for providing electricity to south and west Delhi. BRPL is the largest of the three distribution companies in Delhi in terms of customers served and units of electricity supplied.

3. From initial discussions with BRPL, ADB gathered information on the key operational achievements of the company since 2002—including a reduction in ATC losses from 48.1% in FY2002 to 17.3%[3] in FY2013, and achieving a bill collection rate of 99.5%. While challenges persist regarding the recovery of historical receivables, the recent record of the independent regulator Delhi Electricity Regulatory Commission (DERC) in approving the required step-up in tariffs suggests political will to ensure the financial sustainability of the private distribution companies. ADB's assistance will help the company implement the next round of system improvement measures to reduce ATC losses by 3.5%, in line with the targets stipulated by DERC. Lessons from this financing will also help ADB structure funding instruments for other distribution companies in India and support the country's power sector reform programs.

2. Project Design

4. BRPL's capital expenditure plan for FY2014–FY2015 will improve, expand, and modernize the company's distribution network with the aim of increasing reliable electricity supply to residential and commercial consumers in its service area.

5. BRPL's system improvement plan targets a 3.5% reduction in ATC losses by FY2016. This will include a 2.3% reduction in technical losses and a 1.2% reduction in commercial losses. To reduce technical losses, the plan includes subprojects targeting rehabilitation of substations, augmentation or replacement of transformers, laying of extra high voltage cables,

[1] Government of India, Central Electricity Agency. 2013. *Highlights of the Power Sector (June).* New Delhi.
[2] Government of India, Ministry of Power. 2013. *State Distribution Utilities–First Annual Integrated Rating.* New Delhi.
[3] Provisional data.

and other system efficiency improvement measures. Commercial losses are expected to be curtailed through an expanded public awareness campaign complemented by strict vigilance and enforcement.

3. The Borrower and Sponsors

6. BRPL is owned 51% by the Reliance ADA Group and 49% by Delhi Power Company Limited (DPCL). The majority of the shareholding of the Reliance ADA Group in BRPL is held by Reliance Infrastructure Limited,[4] one of India's largest infrastructure companies with total revenues of Rs143.2 billion ($2.4 billion) for FY2013 and a market capitalization of Rs108 billion ($1.7 billion) as of 15 October 2013. DPCL is 100% owned by the Government of Delhi. DPCL was formed in 2002, when the Delhi power sector was restructured, with a view to holding the government's shareholding in generation, transmission, and distribution companies in Delhi and to settle the liabilities of the former state electricity board. DPCL has a shareholding of 21.96% in Indraprastha Power Generation Company Limited, 6.58% in Delhi Transco Limited, and 49.00% in each of three privatized electricity distribution companies in Delhi—BRPL, BSES Yamuna Power Limited, and North Delhi Power Limited. DPCL is not involved in the day-to-day operations of BRPL.

7. BRPL distributes power to 1.82 million customers spread over 750 square kilometers in south and west Delhi. BRPL has a diversified customer base. As of March 2013, domestic customers (households) accounted for 54% of the electricity consumption, commercial customers (schools, hospitals, petrol pumps, etc.) accounted for 30% of the electricity consumption, and industrial customers—including the airport and the metro— accounted for 16% of the electricity consumption. Peak demand for BRPL in FY2013 was 2,338 megawatts (MW). Total input energy was 11,226 gigawatt-hours (GWh). The total energy billed was 9,328 GWh with a 99.5% bill collection rate, resulting in ATC losses of 17.3% in FY2013. It is estimated that the ATC losses comprise technical losses of 13.3% and commercial losses and power theft of 4.0%.[5] BRPL provides 24x7 electricity supply to its consumers, with an average power outage in its area of service of less than 3 minutes per day in 2013.

8. Confidential information deleted.

9. **Regulatory assets.** The electricity distribution business in Delhi is regulated by DERC on a cost-plus basis. DERC determines the retail tariffs to ensure recovery of BRPL's uncontrollable costs, reasonable controllable costs, and the eligible return on investment. The rapid increase in prices of coal and other fossil fuels caused the power purchase cost of BRPL to increase by 92% during FY2008–FY2013. To smooth the increase in retail tariffs to the consumer, DERC decided to spread out the recovery of these costs over subsequent years, resulting in a revenue gap. DERC recognized this income receivable as a regulatory asset. On 31 March 2013, BRPL's regulatory assets were estimated at Rs66 billion. To prevent a future buildup of regulatory assets, DERC approved and notified a power purchase adjustment cost (PPAC) mechanism in July 2012 that provides for a quarterly revision in retail tariffs to reflect changes in power purchase cost. The PPAC surcharge for BRPL was 3.0% in the third quarter (Q3) of FY2013 and 4.5% in Q4 FY2013. In addition to the PPAC, in July 2012 DERC approved and notified an 8% surcharge on retail tariffs toward the recovery of accumulated regulatory assets. Pursuant to these reforms, recent tariff notifications by DERC have reflected a more complete pass-through of costs to consumers. Tariffs have been increased by 45% during

[4] Confidential information deleted.
[5] Provisional data.

FY2011–FY2013. DERC, along with the Government of Delhi, is drafting a regulatory asset recovery plan (RARP) that will provide for the amortization of historical regulatory assets over the next 5 to 7 years.

B. Development Impact, Outcome, and Outputs

1. Impact

10. The project is expected to improve the efficiency of the electricity distribution networks in the country in order to provide reliable energy access to sustain the country's economic growth. Improved performance of an electricity distribution company under professional private sector ownership will provide a showcase for further private sector investment in the sector.

2. Outcome

11. The project will provide an expanded and increasingly efficient supply of electricity to residents of south and west Delhi through adequate upgrading, repair, and maintenance of the existing facilities as well as capacity expansion to accommodate growing demand.

3. Outputs

12. Successful implementation of the project will rehabilitate and/or augment approximately 486 distribution transformers, 266 kilometers (km) of 11 kilovolt (kV) distribution lines, and 16 km of extra high voltage lines. It will add 123 new substations, 285 new distribution transformers, 221 km of new 11 kV distribution lines, and 21 km of new extra high voltage lines as well as additional equipment to improve the automated system for billing and settlements.

C. Alignment with ADB Strategy and Operations

1. Consistency with Strategy 2020 and Country Strategy

13. The project is consistent with ADB's Strategy 2020.[6] Infrastructure development is one of the five core areas under Strategy 2020. ADB is committed, among other things, to promote energy efficiency through supply-side measures under Strategy 2020. The India country partnership strategy, 2013–2017 underlines the need for ADB to focus on expanding availability and access to energy by reducing losses and strengthening infrastructure.[7] The project is therefore fully aligned with the country partnership strategy. Moreover, the project supports the Government of India's policy reforms in the electricity distribution sector.

2. Consistency with Sector Strategy and Relevant ADB Operations

14. The project is also in line with ADB's Energy Policy, which highlights energy efficiency improvements in transmission and distribution systems.[8] The policy proposes that ADB continue to support installation of modern transmission systems to transmit electricity efficiently from generation facilities to consumers, including upgrading of existing systems to reduce technical losses. In addition, the energy policy encourages the facilitation of private sector investments to improve energy efficiency.

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[6] ADB. 2008. *Strategy 2020: The Long-Term Strategic Framework of the Asian Development Bank*, *2008–2020*. Manila.
[7] ADB. 2013. *Country Partnership Strategy: India, 2013–2017.* Manila.
[8] ADB. 2009. *Energy Policy.* Manila.

D. Project Cost and Financing Plan

15. The project is estimated to cost Rs8,920 million.

16. Confidential information deleted.

E. Implementation Arrangements

17. Table 4 summarizes the implementation arrangements.

Table 4: Summary of Implementation Arrangements

Aspects	Arrangements
Regulatory framework Distribution license	The electricity distribution business in Delhi is regulated by DERC. As part of the privatization process in 2002, BRPL signed a 25-year license agreement with DERC for electricity distribution rights for south and west Delhi. The license agreement provides BRPL the right to discontinue supply of electricity to any consumer in response to nonpayment of the electricity bill and to pursue prosecution for theft of power or equipment.
Tariff structure	DERC follows a multiyear tariff framework in determining the aggregate revenue requirement for BRPL. Based on an approved capital expenditure plan, DERC determines the retail tariff on a cost-plus basis to ensure a return on equity of 16% to BRPL. Annual review of the tariff provides adjustments for uncontrollable parameters such as changes in power purchase cost. Any deviation resulting from a change in controllable parameters, such as operation and maintenance expenses or failure to achieve ATC loss reduction targets, is on account of BRPL. If actual revenue is less than the aggregate revenue requirement, the difference is recognized as a regulatory asset by DERC and provision for the recovery of such regulatory asset is provided in subsequent tariff revisions. Domestic, commercial, and industrial consumers are grouped into 12 different tariff categories based on the connected load. For each category, DERC specifies the applicable tariff, which consists of a fixed charge plus a variable energy charge. In addition, surcharges apply to peak hour consumption and rebates to off-peak consumption.
Performance standards	DERC specifies, on an annual basis, performance standards for the quality and efficiency of power supply, reduction in ATC losses, collection efficiency, operation and maintenance costs, and other system parameters.
Management	BRPL's board of directors consists of eight members, nominated equally by Reliance Infrastructure Limited and DPCL. The chairperson is nominated by Reliance Infrastructure Limited. Lalit Jalan, chief executive officer of Reliance Infrastructure Limited, is currently the chairman of BRPL. The BRPL management team is led by its chief executive officer, Gopal Saxena, and consists of experienced and technically competent professionals from the Reliance ADA Group.
Implementation period	FY2014–FY2016.

Aspects	Arrangements
Capital expenditure plan	BRPL has an ongoing capital expenditure plan to achieve performance standards specified by DERC. Prior approval from DERC is needed for any capital expenditure plan in excess of Rs2.5 million.
Power purchase agreements	BRPL purchases electricity from various generation companies (mostly from state-owned power generation companies) under long-term power purchase agreements. The power purchase price is determined by the governing central or state regulatory commission on a cost-plus basis.
Operation and maintenance	Operation and maintenance is done by BRPL's own staff. Expansions and repairs are partly outsourced to subcontractors.
Performance monitoring	Key performance indicators are reported by BRPL and monitored by DERC.

ATC = aggregate technical and commercial, BRPL = BSES Rajdhani Power Limited, DERC = Delhi Electricity Regulatory Commission, DPCL = Delhi Power Company Limited.
Source: Asian Development Bank

F. Projected Financial and Economic Performance

18. The base-case financial projections, which are conservative assumptions of annual electricity distribution factors, show that the project will generate adequate cash flows to meet operational expenses and cover debt servicing.

19. Confidential information deleted.

III. THE PROPOSED ADB ASSISTANCE

A. The Assistance

20. The proposed loan of up to $80 million (or in Indian rupee equivalent) to BRPL will be provided from ADB's ordinary capital resources.

B. Value Added by ADB Assistance

21. The proposed transaction merits ADB's assistance for the following reasons:

(i) Improving the efficiency of the electricity distribution system is the most cost-effective and environmentally sustainable form of intervention to reduce the electricity demand–supply gap in India. The proposed $142 million capital expenditure will result in a 3.5% reduction in ATC losses, which will conserve 529 GWh of energy per annum by FY2016. This is equivalent to the annual energy output of a 242 MW wind power plant, which would require an investment of $222 million; or a 302 MW solar photovoltaic power plant, which would require an investment of $385 million.[9] By supporting the project, ADB will spotlight the critical importance of investments aimed at improving distribution networks, which are more productive in reducing the demand–supply gap in India than investments in greenfield clean energy generation facilities.

(ii) The proposed ADB assistance will provide much needed funding to BRPL for system improvement. BRPL's existing, mainly public sector owned lenders have

[9] Using Central Electricity Regulatory Commission norms for the capital expenditure cost for wind (Rs57.5 million per MW) and solar photovoltaic (Rs80 million per MW) and a capacity factor of 25% for wind and 18% for solar photovoltaic based on the performance of existing ADB Private Sector Operations Department projects in India.

limited appetite for further lending to the sector given their overall power sector exposure limits. ADB assistance will ensure that BRPL is able to continue its system improvement plans to reduce ATC losses.

(iii) The borrower will establish and implement a new environmental and social management system (ESMS) to comply with ADB's Safeguard Policy Statement (2009) requirements, thereby improving the company's environmental and social practices.

C. Risks

22. **Regulatory asset recovery plan.** DERC recently implemented the quarterly PPAC mechanism and an 8% regulatory asset recovery surcharge which helped BRPL achieve breakeven in the quarter ending June 2013, after years of inadequate cost recovery. While this is a positive development, the approval of the RARP, which will ensure the recovery of historical regulatory assets, is still pending. The RARP is expected to be approved by January 2014.

23. **Regulatory risk.** DERC has been in existence since 1999. In the past DERC had on frequent occasions delayed providing tariff adjustments for increases in power purchase costs resulting in increases to BRPL's financial deficit and the creation of large regulatory assets. However, DERC has now recognized the importance of timely tariff adjustments to ensure complete cost recovery and has been issuing regular tariff orders including the recent July 2013 tariff order approving a 5% increase in tariffs. Long term viability of BRPL heavily depends on continued adequacy of tariffs to recover costs. In addition to notifying tariff orders, DERC also sets the standard for quality, efficiency and reliability of the distribution network and approves all capital expenditure programs. If the regulator reinterprets existing regulations or creates new ones in the future, this could increase costs or reduce revenues. This risk is mitigated by the importance of the privatization of the electricity distribution business in Delhi as a showcase for the central government as it continues energy sector reforms across the country.

24. Confidential information deleted.

25. **Power purchase cost.** The price of electricity purchased by BRPL under its long-term power purchase agreements is not fixed; it is regulated by the concerned state or central electricity regulatory commission. In the past, an increase in power purchase cost would not automatically result in an increase in tariff. DERC evaluated the merits of each case and the tariff increase was effected in the next tariff revisions. This delay and timing mismatch between the increase in power purchase cost and the increase in tariffs resulted in increased short-term borrowings for BRPL. Recent initiatives such as the PPAC mechanism provide for a quarterly revision in tariffs to reflect changes in power purchase costs.

26. Confidential information deleted.

27. **Execution and maintenance risk.** The feasibility of BRPL's investment plan has been assessed by ADB's external technical advisor. BRPL faces completion and execution risks but it is considered to have sufficient experience and technical capacity to undertake the investment plan. The technical advisor has confirmed that the proposed investment plan and BRPL's maintenance strategy are appropriate. The costs of the proposed investment are in line with market benchmarks.

28. **Demand risk.** BRPL expects demand to grow by 5% per annum during the next 10 years. A reduction in demand could result in increased short-term sale of the excess power

procured by BRPL under its long-term power purchase agreements. The multiyear tariff 2012 regulations, along with the PPAC mechanism, allow for an adjustment in the tariff on account on any short-term sale of excess power. However, this adjustment is only quarterly, resulting in a short lag in recovery in case of a loss from the short-term sale. Nevertheless, demand risk is expected to be low. Rapid urbanization and development of transportation infrastructure are expected to be the key drivers of demand growth.

29. Confidential information deleted.

30. Confidential information deleted.

IV. POLICY COMPLIANCE

A. Safeguards and Social Dimensions

31. In compliance with ADB's Safeguard Policy Statement, the potential environmental and social impacts of the project have been identified and effective measures to avoid, minimize, mitigate, and compensate for the adverse impacts will be incorporated in the safeguard reports and plans. The project is classified as category B for environment as its potential adverse environmental impacts are site-specific, reversible, and mostly associated with construction activities. A corporate audit on current operations by BRPL and implementation of BRPL's proposed investment has been conducted. The current environmental assessment practices are based on national requirements. Based on the findings of the audit, BRPL will establish and implement a new ESMS to comply with the Safeguard Policy Statement requirements. The new ESMS will include (i) BRPL's environmental and social policies, (ii) a screening and categorization procedure for its activities, (iii) an environmental and social impacts review procedure, (iv) institutional arrangements for environmental and social assessment, (v) organizational structure and staffing for the environmental and social safeguards, and (vi) reporting and monitoring. BRPL commits to establish its ESMS prior to the first disbursement of the proposed loan. Initial environmental examinations for the subprojects will be prepared in line with the ESMS and reviewed by ADB prior to the first disbursement.

32. The project is classified as category B for involuntary resettlement and category C for indigenous peoples. The proposed subprojects are not expected to entail involuntary resettlement as the lands for substations and transformers are usually provided to BRPL on a long-term lease basis by the government agencies. The laying of cables is not expected to result in land acquisition or resettlement impacts as these are within the available right-of-way of the roads or lands belonging to other government departments. The audit confirmed that BRPL's projects in the past have not involved any land acquisition. In the unlikely event of land acquisition and involuntary resettlement, the required procedures for screening and preparation of resettlement plans (in accordance with ADB's Safeguard Policy Statement) will apply. The audit also noted that there are no indigenous peoples residing in the subproject locations in south and west Delhi. Procedures and policy for screening and categorization of social risks and impacts, land acquisition, resettlement, and indigenous peoples will be integrated in BRPL's ESMS to comply with the Safeguard Policy Statement.

33. The audit findings and corrective actions have been discussed and agreed with BRPL. BRPL's commitment to establish a new ESMS will be a condition for the proposed ADB funding. The institutional capacity and commitment of BRPL to manage social, environmental, health, and safety impacts of the project are deemed adequate. BRPL is also committed to engage adequate environmental and social staff and arrange periodic corporate and site level training

for them. BRPL will strengthen its procedures for meaningful consultation and information disclosure, a grievance redress mechanism, and monitoring and reporting. BRPL will prepare audit reports, and corrective action plans or environmental and social plans for existing facilities**.** BRPL will submit reports to ADB on the implementation status of the ESMS.

34. **Other social dimensions.** The project is classified as having no gender elements. Apart from providing equal opportunities for women in employment, BRPL is committed to undertake the following measures to improve its consumer services: (i) serving on priority (senior citizens and women with children) at the consumer service center; (ii) separate queues in payment collection centers for women and senior citizens; and (iii) employing women for bill distribution activities. ADB will ensure that the investment documentation includes provisions requiring BRPL to comply with national labor laws and to take specific measures in relation to internationally recognized core labor standards for the ADB-financed portion of the projects, in compliance with ADB's Social Protection Strategy.

B. Anticorruption Policy

35. BRPL was advised of ADB's policy of implementing best international practice relating to combating corruption, money laundering, and the financing of terrorism. ADB will ensure that the investment documentation includes appropriate provisions prohibiting corruption, money laundering, and the financing of terrorism, and remedies for ADB in the event of noncompliance.

C. Investment Limitations

36. The proposed loans are within the medium-term, country, industry, group, and single-project exposure limits for nonsovereign investments.

D. Assurances

37. Consistent with the Agreement Establishing the Asian Development Bank,[10] the Government of India will be requested to confirm that it has no objection to the proposed assistance to BRPL. ADB will enter into suitable finance documentation, in form and substance satisfactory to ADB, following approval of the proposed assistance by the Board of Directors.

V. RECOMMENDATION

38. I am satisfied that the proposed loan would comply with the Articles of Agreement of the Asian Development Bank (ADB) and recommend that the Board approve the loan of up to $80,000,000 (or in Indian rupee equivalent) to BSES Rajdhani Power Limited for the Delhi Electricity Distribution System Improvement Project in India from ADB's ordinary capital resources, with such terms and conditions as are substantially in accordance with those set forth in this report, and as may be reported to the Board.

Takehiko Nakao
President

19 November 2013

[10] ADB. 1966. *Agreement Establishing the Asian Development Bank.* Manila.

DESIGN AND MONITORING FRAMEWORK

Design Summary	Performance Targets and/or Indicators with Baselines	Data Sources and/or Reporting Mechanisms	Assumptions and Risks
Impacts Improved efficiency of India's electricity distribution networks	ATC losses in the distribution network at an all-India level reduce to 15.00% by FY2020 from 26.15% in FY2011	Power sector statistics from the Central Electricity Authority and Ministry of Power Restructured Accelerated Power Development Reforms Program	**Assumptions** Continued government support for power sector reforms Success of BRPL encourages regulatory reform, which promotes investment in electricity distribution companies in other states
Promotion of private sector investment in the electricity distribution sector in India	$500 million in commercial debt and equity funding secured by private electricity distribution companies in India during 2013–2020	Industry research reports	**Risks** Delayed implementation of the Restructured Accelerated Power Development Reforms Program Political resistance to pass-through increases in costs to consumers
Outcome An expanded and increasingly efficient power supply by BRPL in south and west Delhi	ATC losses in south and west Delhi reduce to 13.8% in FY2016 from 17.3% in FY2013 Electricity supplied to consumers in south and west Delhi increases to 10,775 GWh in FY2016 from 9,328 GWh in FY2013 168,806 new households connected to electricity by FY2016[a] 491,972 tons of CO_2 emissions avoided per annum from FY2016[b]	Power sector statistics from the Central Electricity Authority BRPL annual reports DERC reports Development effectiveness monitoring reports	**Assumptions** Timely development of the modernization and expansion project BRPL's management continues to give priority to operating efficiency. **Risks** Political interference prevents BRPL from improving bill collection and enforcing penalties for power theft. Higher than expected increase in cost of power purchase for BRPL
Outputs Improved electricity distribution network in south and west Delhi	Construction of 123 new 11 kV substations (Baseline: 4,500 11kV substations as of December 2012) Repair and/or rehabilitation of 266 km of 11 kV distribution lines by FY2016	ADB's external technical advisor project monitoring reports BRPL annual reports	**Assumptions** BRPL has sufficient technical and operating capacity to carry out the investment plan Approvals and clearances, if required, obtained in a timely fashion

Design Summary	Performance Targets and/or Indicators with Baselines	Data Sources and/or Reporting Mechanisms	Assumptions and Risks
	Installation of 221 km of new 11 kV distribution lines by FY2016 (Baseline: 3,888 km 11kV distribution lines as of December 2012) Repair and/or rehabilitation of 16 km of extra high voltage distribution lines by FY2016 Installation of 21 km of new extra high voltage distribution lines by FY2016 (Baseline: 1,089 km extra high voltage distribution lines as of December 2012) Rehabilitation and/or augmentation of 486 distribution transformers by FY2016 Installation of 285 new distribution transformers by FY2016 (Baseline: 6,958 distribution transformers as of December 2012)	Development effectiveness monitoring reports	**Risks** Unexpected construction delays Increase in prices of raw materials exceeds contingency and inflation forecast
Activities with Milestones Financial close by March 2014 DERC approval for subprojects received by April 2014 Investment program completed by the end of FY2016			**Inputs** **Loan** ADB: $80 million Local commercial banks: $10 million

ADB = Asian Development Bank, ATC = aggregate technical and commercial, BRPL = BSES Rajdhani Power Limited, CO_2 = carbon dioxide, DERC = Delhi Electricity Regulatory Commission, GWh = gigawatt-hour, km = kilometer, kV = kilovolt.

[a] Based on BRPL estimates of new connections.

[b] Carbon emission savings calculated by applying a grid emission factor of 930 tons of CO_2 per GWh on annual demand side energy savings of 456 GWh (456 GWh/ (1-0.138) * 930 tons per GWh).

Source: Asian Development Bank.