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[Category A Documents](#)

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## Environmental Review Summary

This Environmental Review Summary is prepared and distributed in advance of the IFC Board of Directors' consideration of the proposed transaction. Its purpose is to enhance the transparency of IFC's activities, and this document should not be construed as presuming the outcome of the Board of Director's decision. Board dates are estimates only. Any documentation which is attached to this Environmental Review Summary has been prepared by the project sponsor and authorization has been given for public release. IFC has reviewed this documentation and considers that it is of adequate quality to be released to the public but does not endorse the content.

<b>Project number</b>	23969
<b>Project name</b>	NDPL
<b>Country</b>	India
<b>Sector</b>	Utilities
<b>Department</b>	Infrastructure
<b>Company name</b>	North Delhi Power Limited
<b>Environmental category</b>	B
<b>Date ERS disclosed</b>	April 12, 2006
<b>Status</b>	Dropped
<b>Previous Events</b>	Approved: May 18, 2006

### Project description

North Delhi Power Limited (NDPL or the company), the electricity distribution utility for north and northwest New Delhi, India, plans to upgrade its distribution system with a view to reducing its Aggregate Technical and Commercial losses<sup>1</sup> ("ATC losses"), enhancing customer service and improving the power reliability in its –Area of Supply (the "Project"). The company, a Public-Private partnership between the private sector, 'Tata Power Company Limited' ("Tata Power", the "Sponsor")

and the state government of the National Capital Territory of Delhi ("GoNCTD"), started operations on July 1, 2002, when Tata Power purchased 51% of its equity from GoNCTD through an international bidding process and took over its management as part of the Delhi distribution privatization. NDPL has obtained a 25-year 'build-own-operate-transfer' license wherein it has committed to reducing the ATC losses from 48.1% in FY02 to 31.1% in FY07. IFC has been requested to provide long term debt for the Project.

**Environmental Category B disclosure requirements**

IFC requires that this document is made available through the World Bank InfoShop and to the locally affected community no less than 30 days prior to project consideration by the IFC Board of Directors.

The Summary of Project Information (SPI) also provides details of where the ERS has been made available to the locally affected community. The SPI will be sent to World Bank InfoShop no less than 30 days prior to project consideration by the IFC Board of Directors.

The mandated 30 day disclosure period commences from the date the ERS and SPI are made available to the stakeholders through World Bank Infoshop or the date on which an announcement in a local and a national daily is made pertaining to public availability of the ERS and SPI, whichever is later.

To view the Summary of Project Information(SPI) for this project, [click here](#)

**Environmental and social issues**

This is a Category B project according to IFC's Procedure for Environmental and Social Review of Projects because a limited number of specific environmental and social impacts may result which can be avoided or mitigated by adhering to generally recognized performance standards, guidelines or design criteria. The review of this project consisted of appraising technical, environmental and social information submitted by the project sponsor; and visits to the NDPL's grid station at Shahzadabad, Central Stores at Keshavpuram, Scrap Yard at Mangolpuri, Jhuggi Jhopdi (JJ) Colony near Bhalla Factory in Mangolpuri, unauthorized colony in Ratan Vihar, JJ Colony near Jaipur Golden hospital in Rohini and an ongoing project work site at Jahangirpuri. The following potential environment, health and safety and social aspect of the project (s) were analyzed:

- corporate environmental, social, and health and safety management systems;

- national and local government permitting requirements;
- emissions to air;
- water and waste water management;
- hazardous materials management
- occupational health, fire and life safety and emergency response;
- management of hazardous and other waste;
- management of community relations particularly in Jhuggi Jhopdi (JJ) colonies and resettlement colonies (slums);
- corporate social responsibility efforts, including HIV/AIDS awareness; and
- timely reporting on environmental and social performance to IFC.

**Proposed mitigation for environmental and social issues**

The Sponsor has presented plans to address these impacts to ensure that the proposed project will upon implementation of the specific agreed measures, comply with the host country laws and regulations and the World Bank/IFC environment and social policies and the environmental, health and safety guidelines. The information about how these potential impacts will be addressed by the Sponsor is summarized in the paragraphs that follow.

- Corporate quality, environmental, social, occupational health and safety management systems:

The company has developed and implemented a certified Integrated Management System (IMS) for Quality, Environmental, Occupational Health and Safety based on ISO 9001:2000, ISO 14001:2004 and OHSAS 18001:1999 management Systems standards. The company has obtained the certification for their IMS from DNV in March 2005. However, the IMS needs to be further embedded in work practices and corporate culture. The company is also in the process of reviewing and improving the IMS through periodic Internal & External (Independent) Audits. The company will develop an occupational health and safety management system of relevance to Single Point Delivery (SPD) contractors and franchisee operators, and progressively make the occupational health and safety management system applicable to SPD and franchisee operators.

- National and local government permitting requirements:

NDPL has obtained relevant consents and authorization under Hazardous Waste (Management and Handling) Rules (HWMHR) and Biomedical Waste (Management and Handling) Rules. The Company generates only domestic (non industrial waste water) from its premises and discharges the same in

public sewerage system.

- Emissions to air:

The company is a power distribution company and does not have direct emissions to air. However, by reducing technical losses in the distribution network, the company is reducing emission of greenhouse gases (GhGs) by releasing saved energy into the system. The company proposes to avail of the opportunity of generating and transacting Certified Emission Reductions (CERs) under Clean Development Mechanism of the Kyoto Protocol. Refrigerant used in the air conditioning system is R22, which is in accordance with Ozone Depleting Substances Rules notified by Government of India (GOI) under Montreal Protocol requirements. SF<sub>6</sub> (a potent global warming gas) is used in high voltage circuit breakers, in sealed bottles for arc interruption. NDPL uses SF<sub>6</sub> containing equipment from supplier that guarantee 0.1% to 1.0% per year leakage. NDPL shall however, within a timeframe to be agreed with IFC, develop an appropriate SF<sub>6</sub> disposal program.

- Water and waste water management:

The company meets its water requirement for domestic use at high voltage and medium voltage sub stations, offices and stock yards from the municipal water grid. At these locations, water is pumped from an underground tank to overhead tanks. At the time of the site visit, significant overflow from the tanks was noticed. The company will install electronic control valves/level indicators as required, to prevent overflow of water from both underground and overhead tanks. The company undertakes potability testing of drinking water as per IS-10500:1991. Further, the company will explore techno-commercial feasibility of installing facilities to harvest rainwater for groundwater recharge at their major new facilities. Domestic waste water is the principal effluent from NDPL's operations. Domestic waste water is discharged into the public sewage system.

- Hazardous materials management:

NDPL uses several hazardous materials including transformer oils, lead acid batteries, paints, switchgear oil and capacitor di-electric. Storage, handling and overall management of hazardous materials requires significant improvement and NDPL will adopt improved material handling practices, provide secondary containment in storage, loading and unloading areas, make available personal protective equipment (PPE) to all workers handling hazardous materials, enforce use of PPE provided, increase training of employees and contract labor handling hazardous materials. NDPL has

provided washing stations in all lead acid battery rooms and will provide additional washing stations as necessary. In addition, the company will ensure that all necessary antidotes for accidental exposure are available and readily accessible. Moreover, NDPL will post information on antidotes, their availability and location in relevant areas.

#### Management of hazardous and other solid wastes:

During the site visit to NDPL's facilities, it was noticed that management of hazardous waste and other solid wastes requires significant improvement. All scrap is disposed off through auctions on metaljunction.com and MSTC. Site management confirmed that the hazardous waste is sold to authorized entities only. The company has identified the various categories of hazardous wastes generated on its premises (in accordance with the Hazardous Waste Management and Handling Rules-1989 as amended upto 2003) and has obtained authorization from the Delhi Pollution Control Committee for generation, handling storage and disposal of such hazardous wastes through authorized contractors. Towards improving handling and storage of hazardous wastes, the company has already identified improvement objective for providing leak proof concrete flooring with a slope & provision of catchment pit, for storage of hazardous wastes.

Further, NDPL will identify all transformers of 1980 or earlier vintage, including those in use or discarded. For the transformers which have been discarded/ not in use, NDPL shall remove the oil and shall dispose such waste oil through authorised entities. For transformers of 1980 or earlier vintage those are still in use, NDPL shall get their oil tested for presence of Poly chlorinated by-phenyls (PCBs). In cases where presence of PCB is confirmed, NDPL will replace the transformers, on investment clearance from Delhi Electricity Regulatory Commission, and dispose them through authorised entities only. The company's facilities (grid/sub stations) have lead acid battery based back up power. The company has a procedure for handling and management of the lead acid batteries in accordance with Batteries Rules of Government of India.

#### - Occupational health, fire and life safety and emergency response:

NDPL has implemented an IMS but there is a need for significant improvement in embedding occupational health, fire and life safety in work practices. NDPL undertakes safety training of employees and the same will be extended to all contract workers entering their premises. NDPL's facilities have adequate fire fighting equipment. The company will review its action plan for prevention, detection and control of fire and electrocution incidents, and implement changes as

necessary. The key occupational health and safety issues that were noted during the site visit and which NDPL will redress include:

NDPL undertakes annual general health monitoring and will undertake a targeted health monitoring program for employees exposed to hazardous conditions. The company has confirmed that its contractors meet Employees' State Insurance norms, which provides for a health surveillance program for contract labor.

While PPE is provided at grids/sub stations, use of PPE at sub stations and grid stations was low. NDPL will enforce use of relevant PPE, improve signage, conduct periodic occupational health and safety audits to identify opportunities for improvement together with education and training including for contract labor.

NDPL has a work permit system for projects, operation and maintenance work.

NDPL will consider furthering implementation of consumer awareness programs on electrical safety.

- Management of community relations particularly in Jhuggi Jhopdi (JJ) colonies (slums) and resettlement colonies:

The company has undertaken a pilot project (funded by USAID) in two JJ colonies, which focuses on social advocacy program to build awareness on benefits of legitimate electricity connection and to motivate the residents to opt for legitimate connection. NDPL will work with IFC and other organizations, to explore the feasibility of enhancing income opportunities for residents of JJ/Resettlement Colonies by imparting technical skill based training to residents who volunteer for such training programs.

The company has (as approved by the regulator) launched a scheme for JJ Colonies and Resettlement Colonies under which, residents of such colonies may pay upfront INR 350 and INR 50/- per month for 24 months as infrastructure development cost and INR 175 per month as electricity charges. In addition, 5% electricity tax on INR 175/- is to be paid by the consumers. On payment of this sum, the residents get a 2 Amp connection for 440 watts (enough for 2 lights and 2 fans). This is the maximum load for each resident. There is no metering required under the scheme. The above said charges, barring INR 175 and tax, are one time payment. All repairs to cables in future are chargeable.

NDPL has implemented a peer experience sharing program to learn from the experiences of other

distribution companies in other parts of the world. IFC will facilitate a Business to Business (B2B) experience sharing program for NDPL with companies in similar infrastructure privatization situations in other parts of the world. NDPL will develop a community relations management program, with particular emphasis on JJ and Resettlement Colonies, based on lessons learnt from the said B2B experience sharing.

- Corporate social responsibility efforts, including HIV/AIDS awareness:

The company has undertaken several Corporate Social Responsibility initiatives. These include setting up of Energy Clubs in schools to motivate children and create active ambassadors for energy conservation, environment, safety and other social issues. NDPL has tied up with **REACHA, a NGO** to implement the program. Already 3000 students have been sensitized. In the next phase NDPL proposes to launch Project NEST, where these students would take the message of energy conservation to their neighborhoods. NDPL proposes to add more than 12,000 students to the program in the next fiscal year.

Further, NDPL proposes to extend the social advocacy program in the JJ Colonies/Resettlement Colonies beyond the above stated objectives to encouraging children to attend schools and provide skill/vocational training to JJ Colony/Resettlement Colony resident women. Further, in view of the energy shortage in Delhi, NDPL proposes to tie up with TERI to help these slum residents use appropriately segregated Municipal Solid Waste for biogas generation and use as fuel., where feasible. This is with twin object of improving management of MSW and also meeting energy requirements of JJ Colony/Resettlement Colony residents.

NDPL conducts free medical check up camps for JJ Colony/Resettlement Colony residents. 10 such camps have been conducted and NDPL plans to cover all JJ Colonies/Resettlement Colonies. Further, the Company proposes to add polio eradication and immunization drives to these initiatives. NDPL supports the activities of Multiple Sclerosis Society of India both in cash and in kind (NDPL doctors provide in kind assistance). NDPL is involved in tree plantation and clean Yamuna drives as well. NDPL is in discussions with a Dutch NGO to undertake an HIV/AIDS program in the Narela Industrial Area. Further, NDPL will explore the feasibility of communication of HIV/AIDS prevention message to a wide audience through its electricity bills.

Timely reporting on environmental and social performance to IFC:

The Sponsor will submit Annual Environmental and Social Monitoring Reports (AMRs) timely within 90 days of the end of its financial year.

**Conclusion**

Accordingly, IFC concludes that the proposed project will meet the applicable World Bank/IFC environment and social policies and the environmental, health and safety guidelines upon successful implementation of the agreed mitigation measures.

**Monitoring and compliance**

IFC will evaluate the project's compliance with the applicable environmental and social requirements during the lifetime of the project by reviewing the annual monitoring reports (AMRs) prepared for the project covering:

- the status of implementation of any measures contained in the Environmental and Social Action Plan and
- ongoing performance of project-specific environmental, health and safety and social activities as reflected in the results of periodic and quantitative sampling and measuring programs.

Periodic site supervision visits will also be conducted.

**Environmental and Social Documentation**

The following supporting documents provide further details of environmental and/or social issues.  
An Environmental and Social Action Plan agreed with the company

