

**INTEGRATED SAFEGUARDS DATA SHEET
CONCEPT STAGE**

Report No.: 41764

Date ISDS Prepared/Updated: November 22, 2007

I. BASIC INFORMATION

A. Basic Project Data

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|--|---|--|
| Country: INDIA | Project ID: P105152 | |
| | Additional Project ID (if any): | |
| Project Name: BBMB Hydro Power Rehab Project | | |
| Task Team Leader: ROHIT MITTAL | | |
| Estimated Appraisal Date: January 02, 2008 | Estimated Board Date: Estimated Date for ERPA Signing: March 31, 2007 | |
| Managing Unit: SASDE | Lending Instrument: CN- Carbon Offset | |
| Sector: Energy | | |
| Theme: Climate Change | | |
| IBRD Amount (US\$m.): | | |
| IDA Amount (US\$m.): | | |
| GEF Amount (US\$m.): | | |
| PCF Amount (US\$m.): 3.2 | | |
| Other financing amounts by source: | | |
| Environmental Category: B | | |
| Simplified Processing | Simple <input checked="" type="checkbox"/> | Repeater <input type="checkbox"/> |
| Is this a transferred project | Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> |

B. Project Objectives [from section 2 of PCN]:

The development objective of the Project is to improve the reliability, efficiency and safety of the operation of Bhakra Beas Management Board's (BBMB) hydraulic structures and generation equipment to meet the increasing demand for power in the Northern Electricity Grid of India through existing clean renewable energy resources

The global environment objective of this Project is to reduce the emissions of GHG gases by using market-based mechanisms sanctioned under the Kyoto Protocol to support clean energy projects in India. This will be achieved through: (i) the generation of renewable energy which will displace thermal power units, and (ii) the improvement of energy efficiency through the rehabilitation and replacement of existing outdated and inefficient equipment.

C. Project Description [from section 3 of PCN]:

The projects (power and irrigation assets) under administration of BBMB were built between 1955 and 1978 and include - Bhakra Dam on the river Sutlej with Power Stations on the Left and Right banks (1325 MW); an irrigation channel with two Canal based Power Stations at Ganguwal & Kotla (155 MW); the Pong Dam on river Beas with a Power Station (396 MW); a diversion dam at Pandoh on river Beas (Up stream of Pong Dam) to divert its water to the river Sutlej through a water conductor system, a balancing reservoir and the Dehar Power Station (990 MW) at the tail.

The proposed project is a carbon finance operation to support the renovation, modernization and uprating (RM&U) activities at three existing project facilities of BBMB – (a) Left Bank Power House of the Bhakra Dam on River Sutlej; (b) Ganguwal and Kotla Power Houses. The RM&U work will not result in any alteration of water flows and includes the following activities:

- Replacement of existing generation equipments (turbine runner, generator, generator transformer and allied systems) with energy efficient ones;
- Providing a state-of-the-art control, instrumentation and protection system for better monitoring.

The RM&U work on Ganguwal and Kotla power houses has been completed in October 2006 and April 2007 resulting in capacity augmentation of 4.43 MW. The RM&U work of Bhakra Left Bank Power House, implementation of which will help augment the existing capacity by 90 MW, is in advanced stage of award. The project activity, on full completion, is expected to result in annual emission reduction of around 301,420 tons of Carbon dioxide (CO₂) equivalent.

D. Project location and salient physical characteristics relevant to the safeguard analysis (if known):

The projects are located in the North-western region of the Indian sub-continent. The states covered under the influence area of BBMB projects as a whole include Himachal Pradesh, Punjab, Haryana, Rajasthan, Chandigarh and Delhi. However the proposed project will involve only RM&U works at three existing project facilities – (a) Left Bank Power House of the Bhakra Dam on River Sutlej (in the State of Himachal Pradesh) ; (b) Ganguwal and Kotla Power Houses (in the State of Punjab), which are run-of-river projects located on Nangal hydel channel downstream of Bhakra and Nangal dam. The proposed project will not alter the water flows and will not affect any land or cause any displacement of people.

E. Borrower's Institutional Capacity for Safeguard Policies:

The Bhakra Dam Project was built in 1963 when there was no formal requirement for conducting Environmental Impact Assessment (EIA) in India. However, BBMB has been addressing the environmental and associated social issues within its mandate and control. BBMB has established Environmental Management System (EMS) as per ISO 14001 in addition to their Quality Management System (QMS). The Bank's due diligence will include reviewing the existing systems, institutional mechanisms (formal and informal) and other efforts taken by BBMB in identifying and addressing environmental aspects and strengthening the same.

A 'Resettlement Cell' was set up to oversee the interests of project affected people and to minimize adverse impacts. At the time of construction, there was no formal R&R Policy (National or State) to guide these processes. The proposed activity does not envisage any displacement or relocation of people. The

Bank's due diligence will document any past outstanding social impacts and / or legacy issues and suggesting strengthening the existing mechanisms for community development.

F. Environmental and Social Safeguards Specialists on the Team:

Sonia Chand Sandhu, Senior Environmental Specialist

R.R. Mohan, Senior Social Development Specialist

Pyush Dogra, Environmental Specialist

Benjamin Powis, ETC

Advice is also being provided by the Bank's Lead Dam Specialist, Alessandro Palmieri.

II. SAFEGUARD POLICIES THAT MIGHT APPLY

The proposed project involves only rehabilitation and uprating of the existing facilities through replacement of existing generation equipments with energy efficient ones. The project activities do not involve any alteration to the water flows, acquisition of land or displacement of people. Therefore, no significant and/or adverse environmental and social impacts are anticipated. An environment and social due diligence review is being carried out to assess the sustainability of existing environment management systems, and suggest measures for strengthening of the same, if required. A Safeguards Category of B is proposed.

| Safeguard Policies Triggered (please explain why) | Yes | No | TBD |
|---|------------|-----------|------------|
| Environmental Assessment (OP/BP 4.01) | X | | |
| Natural Habitats (OP/BP 4.04) | | X | |
| Forests (OP/BP 4.36) | | X | |
| Pest Management (OP 4.09) | | X | |
| Physical Cultural Resources (OP/BP 4.11) | | X | |
| Indigenous Peoples (OP/BP 4.10) | | X | |
| Involuntary Resettlement (OP/BP 4.12) | | X | |
| Safety of Dams (OP/BP 4.37) | X | | |
| Bhakra Dam is a 225.55 m high straight concrete gravity dam built across Sutlej river. It has a reservoir with an area of about 168 sq. km with gross storage of 9621 million cubic metres. Nangal dam situated 13 km downstream of Bhakra dam, is a 29 metres high barrage for diversion of water into the Nangal hydel channel to feed the irrigation canal system. | | | |
| Projects on International Waterways (OP/BP 7.50) | | X | |
| Safeguard Policy on "Project on International Waterways (OP/BP 7.50) is not triggered. Though the project facilities where the works are to be carried out are located on the mainstream of the Satluj River, which is an international waterway, OP 7.50 is not applicable in the present case as under the proposed project: (a) the project will not adversely affect the quality or quantity of water flows to other riparians (Pakistan); (b) it will not be adversely affected by other riparians' (China) water use either; and (c) it does not change the nature of the scheme, or so alter or expand its scope and extent as to make it appear a | | | |

| Safeguard Policies Triggered (<i>please explain why</i>) | Yes | No | TBD |
|---|------------|-----------|------------|
| new or different scheme. As such, the project falls under the exception to the external notification requirements of OP 7.50, set forth in paragraph 7(a) of OP 7.50. Moreover, the project does not fall under the Indus Waters Treaty requirement for notification. | | | |
| Projects in Disputed Areas (OP/BP 7.60) | | X | |

III. SAFEGUARD PREPARATION PLAN

- A. Target date for the Quality Enhancement Review (QER), at which time the PAD-stage ISDS would be prepared: N.A.
- B. For simple projects that will not require a QER, the target date for preparing the PAD-stage ISDS: Target date for preparation of Carbon Finance Memorandum (CFM) is December 15, 2007 when the PAD stage ISDS will be prepared
- C. Time frame for launching and completing the safeguard-related studies that may be needed. The specific studies and their timing¹ should be specified in the PAD-stage ISDS: The safeguard-related due diligence has already been underway and expected to be completed within next 1-2 months. The team's due diligence is covering the areas of – Environmental management, Dam Safety and Social safeguards. As a part of the due diligence, the team would be assessing how BBMB is following its EMS as well as Emergency Preparedness plan at the site and if there are any gaps, agree on a plan to address the same. No involuntary acquisition of land is required and accordingly a resettlement plan is not required. As per the Bank's disclosure policy, the safeguard related documents will be disclosed before appraisal at the Bank's Infoshop and by BBMB at appropriate places.

IV. APPROVALS

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| <i>Signed and submitted by:</i> | | |
| Task Team Leader: | Name ROHIT MITTAL | Date November 22, 2007 |
| <i>Approved by:</i> | | |
| Regional Safeguards Coordinator: | Name: Sanjay Srivastava | Date: November 26, 2007 |
| Comments: | | |
| Sector Manager: | Name: Salman Zaheer | Date: November 27, 2007 |
| Comments: | | |

¹ Reminder: The Bank's Disclosure Policy requires that safeguard-related documents be disclosed before appraisal (i) at the InfoShop and (ii) in-country, at publicly accessible locations and in a form and language that are accessible to potentially affected persons.