

**INTEGRATED SAFEGUARDS DATA SHEET
ADDITIONAL FINANCING**

Report No.: ISDSA14987

Date ISDS Prepared/Updated: 01-Sep-2015

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I. BASIC INFORMATION

1. Basic Project Data

Country:	Bangladesh	Project ID:	P154127
		Parent Project ID:	P095965
Project Name:	Siddhirganj Power Project Additional Financing (P154127)		
Parent Project Name:	Siddhirganj Power Project (P095965)		
Task Team Leader(s):	Md. Iqbal		
Estimated Appraisal Date:	01-Sep-2015	Estimated Board Date:	30-Oct-2015
Managing Unit:	GEE06	Lending Instrument:	Investment Project Financing
Sector(s):	Energy efficiency in Heat and Power (30%), Oil and gas (30%), Thermal Power Generation (30%), Information technology (10%)		
Theme(s):	Corporate governance (10%), Infrastructure services for private sector development (70%), Climate change (20%)		
Is this project processed under OP 8.50 (Emergency Recovery) or OP 8.00 (Rapid Response to Crises and Emergencies)?			No
Financing (In USD Million)			
Total Project Cost:	205.21	Total Bank Financing:	176.71
Financing Gap:	0.00		
Financing Source			Amount
BORROWER/RECIPIENT			28.50
International Development Association (IDA)			176.71
Total			205.21
Environmental Category:	A - Full Assessment		
Is this a Repeater project?	Yes		

2. Project Development Objective(s)

A. Original Project Development Objectives – Parent

The primary development objective is to support investments in peaking power supply capability in Bangladesh such that unmet demand for energy is reduced by 1-billion kWh per year. Unmet demand has an economic cost of at as much as 2% of GDP.

A secondary development objective is to build capacity among the implementing agencies: Electricity Generation Company of Bangladesh, Power Grid Company of Bangladesh, and Gas Transmission Company Limited (GTCL).

B. Current Project Development Objectives – Parent

Increase supply of electricity to Bangladesh grid network.

C. Proposed Project Development Objectives – Additional Financing (AF)

3. Project Description

The original Project (Siddhirganj Peaking Power Project) was an integrated natural gas-to-power project and the initial design had a 300 MW peaking power plant (gas-fired) to meet electricity shortages during peak periods. However, in view of increasing electricity demand and continued gas and power supply shortages in Bangladesh, the Government proposed to upgrade the power plant to an energy-efficient, combined cycle design. EGCB then contracted a 335 MW combined cycle power plant (CCPP). The CCPP will increase power supply in both peak and off-peak periods, instead of only peak times as per the original PDO. It will address the severe power shortages and meet the goals of Government's massive power generation expansion plan.

The additional financing is required because the CCPP has a higher capital cost vis a vis that of the peaking power plant. In addition, because the depreciation of the SDR against the US dollar has significantly reduced the value of the original credit in USD terms, there is a need for more funds to pay for contracts already under execution. Higher IDA commitments are required for the selected contracts and financing of price and physical contingencies. No further changes are proposed. EGCB is the only recipient of the AF and the proceeds of the AF will not benefit the other two implementing agencies, PGCB and GTCL.

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

The CCPP is being constructed in the Siddhirganj power complex located within Siddhirganj Thana under Narayanganj district which is known as an Industrial area. The site for the power plant is within 88 acre property owned by the BPDB, currently managed by EGCB Ltd. The land requirement for the CCPP is 9.24 acre, while the requirement of the open cycle peaking plant was about 6 acres.

It is approximately 20 km North-East of Dhaka and is easily accessible from Dhaka-Chittagong Highway. There are 4 gas fired power plants (under operation and construction) within the Siddhirganj Power Generation Complex. These are: (i) BPDB's 210 MW steam plant in operation (now under maintenance), (ii) ADB funded two 120 MW capacity peaking power plants in operation, (iii) one 100 MW rental power plant in operation (HSD based) and (iv) the 335 MW CCPP (under construction with World Bank finance). In addition, within 2-3 km radius, there are 5 other gas-fired power plants. These are: (i) AES Haripur 360 MW private power plant, located about 1km

downstream of the Siddhirganj site; (ii) 412 MW CCPP on the other side of the river, owned by EGCB; (iii) BPDB owned 99 MW Gas Turbine power plant; (iv) the 1x110 MW NEPC barge mounted private power plant; and (v) 100 MW Dutch Bangla rental power plant (furnace oil based). The site of the recently closed-down Adamjee Jute Mill is located immediately along the southern boundary of the Siddhirganj plant complex, which is now being converted into an Export Processing Zone (Special Economic Zone). On the northern side, there is a steel re-rolling mill, and also a couple of brick kilns. There are many other small and medium industries within and around the Siddhirganj area.

5. Environmental and Social Safeguards Specialists

Iqbal Ahmed (GENDR)

Sabah Moyeen (GSURR)

Shakil Ahmed Ferdausi (GENDR)

6. Safeguard Policies	Triggered?	Explanation (Optional)
Environmental Assessment OP/BP 4.01	Yes	<p>The original project triggered the Environmental Assessment (OP/BP 4.01) safeguard policy, and was classified as Category 'A.'. The Combined Cycle (CC) power plant is now being constructed in the same location identified for the peaking (open cycle) power plant. A rapid EIA was carried out in 2010 to assess the additional environmental issues, since the peaking plant technology changed to a combined cycle (CC) unit with a 335 MW electricity generation capacity. Further, a detailed EIA was carried out in July 2012, cleared by the bank and disclosed in the country and at Info Shop.</p> <p>The additional financing will fill only the financing gap to the power generation component, which will not trigger any new environmental safeguard policies. The CCPP does not trigger any new environmental safeguards policies. The major environmental impacts are expected from cooling water requirements and discharges; noise and air emissions; and ground level pollution. However, most of the adverse impacts are expected to be limited to the local environment. The majority of these environmental impacts will be minimized, avoided or compensated with a careful design and implementation of the environmental management plan.</p>
Natural Habitats OP/BP 4.04	No	There are not any natural habitat are at or surrounding the project location. It is highly unlikely that any natural habitat formed largely by native plant and animal species will be affected or modified during the construction phase of water transmission and distribution lines.
Forests OP/BP 4.36	No	The project is expected have no impacts on the health and quality of forests, no affect the rights and welfare of people and their level of dependence upon or interaction

		with forests and bring no changes in the management, protection, or utilization of natural forests or plantations. As such, the policy has not been triggered.
Pest Management OP 4.09	No	The project is not expected to finance any synthetic chemical pesticides activities and the policy has not been triggered.
Physical Cultural Resources OP/BP 4.11	No	Since the activity is limited to the open premises of EGCB, no impact on landscape with archaeological, paleontological, historical, architectural, religious, aesthetic, or other cultural significance is expected.
Indigenous Peoples OP/BP 4.10	No	There is no tribal/indigenous people in the project influence area.
Involuntary Resettlement OP/BP 4.12	No	<p>The original project triggered this policy since there were power and gas transmission components. There is no requirement for land acquisition, displacement of people or adverse livelihood impacts anticipated due to this AF as all project activities are restricted within the power plant complex and on land belonging to the power station. No adverse social impacts are expected.</p> <p>There is a school within the complex comprising primary and secondary sections. Since the primary section is severely overcrowded and housed in an old, damp and dark section of the building the project has agreed to shift the primary section of the school to an allocated spot within the complex (in close proximity to the existing building) where a four-six story building will be built. Presently there is a very old and dilapidated building on the spot which is vacant and should be pulled down for safety reasons. The project will also provide additional toilet facilities in the existing school building and equip a library and computer lab there. This is undertaken as a safeguards plus activity for the project and is completely voluntary in nature. The new building and other facilities in the old building will be designed in close consultation with the schools authorities, students, respective parents and EGCB. An SMP will be prepared to document the consultative process for the design of the new facilities, especially taking into account the gender aspects of the design.</p>
Safety of Dams OP/BP 4.37	No	The project does not finance any new dams.
Projects on International Waterways OP/BP 7.50	Yes	The new combined cycle configuration will draw about 12.5 cubic meters per second of water from the nearby Sitalakhya river. The Sitalkhya drains into the Meghna and Padma rivers and ultimately the Bay of Bengal. This policy was triggered during the Level-1 restructuring

		project due to change of power plant technology. The notification was made and also no objection has been received.
Projects in Disputed Areas OP/BP 7.60	No	

II. Key Safeguard Policy Issues and Their Management

A. Summary of Key Safeguard Issues

<p>1. Describe any safeguard issues and impacts associated with the proposed project. Identify and describe any potential large scale, significant and/or irreversible impacts:</p> <p>The original project was classified as category 'A'. It also falls under the 'Red' category as per the country legislation. A full scale of Environment Assessment (EA) was carried out for the peaking power plant during the project preparation. EGCB again carried out the EA since the technology, capacity and area requirement have been changed for CCPP. The CCPP has high efficiency (comparing to open cycle peaking power plant) resulting in lower fuel consumption with resultant minimum environmental pollution per kWh produced, and conservation of primary energy.</p> <p>The EIA of CCPP did not envisage any significant negative impact on VECs (valued environment components) in the influence area due to the project activities. The combined cycle power plant incorporated a closed loop cooling system. It reduces significantly the water requirement (less than 2% loss) and does not generate any thermal effluent which needs to be discharged in the river system.</p> <p>Since the project site is located in a developed area that does not appear to be ecologically sensitive, impacts of project activities on most ecological parameters (e.g., floral and faunal habitat and diversity) are mostly insignificant. The important physico-chemical parameters that are likely to be affected by the project activities include air quality and noise level. The noise generated from construction activities might become a source of annoyance at the school located close to the project site. Mitigation measures, including shifting of the locations of water treatment plant (WTP) and effluent treatment plant (ETP) have been agreed in order to reduce noise exposure. During the operational phase, high level of noise is expected to be generated within the confines of the turbine and generator installations. Modeling study suggests that the effect of increased NOx and PM in the ambient air due to emission from the power plants will not be very significant.</p> <p>The original project triggered OP 4.12 Involuntary Resettlement as it involved the installation of a gas pipeline (GTCL component) and a power transmission lines (PGCB component). Social Impact Assessments and Resettlement Action Plans were prepared, approved and implemented by both GTCL and PGCB. Monitoring and completion reports were submitted by both agencies. In case of PGCB the first RAP prepared showed heavy resettlement impacts and negative community reaction. Based on this PGCB agreed to change the entire route, bringing down the resettlement impacts to a minimum which were fully mitigated through a new SIA and RAP. GTCL implemented the gas pipeline which resulted in mostly temporary impacts through requisition of land; all impacts were identified through a comprehensive SIA and RAP. GTCL hired an NGO with a respectable history in implementing resettlement programs to implement the RAP.</p> <p>An SIA was carried out by EGCB for the power plant. It is not anticipated that this AF will trigger OP 4.12 as the activities proposed are strictly restricted within the power station compound on a</p>

piece of land that belongs to the Power Development Board and specifically allocated for the purpose of the project. No land acquisition, displacement of people or adverse impacts on livelihoods are expected. There are no indigenous communities within or around the project location.

There is a school building within the complex. Children of staff working in the power complex as well as those coming from the surrounding areas, attend the school. The primary section of the school is particularly overcrowded, in poor physical condition and is unsafe. As a safeguards plus measure, the project has agreed to build a new six-storied building across the existing school to shift out the primary section (with classrooms, adequate toilet facilities, teachers rooms, sick room and a common area on the ground floor for extracurricular activities). The project will also provide new toilet facilities in the existing school which are urgently required and will equip a library and computer for the secondary school. The design of all these facilities has been done in close consultation with the school authorities, teachers, students, respective parents, EGCB and other relevant stakeholders. Initial engagement with them has demonstrated very positive reactions. The activities are completely voluntary in nature. The new location of the primary school is across the field from the existing building. The location is well within the power complex on land that belongs to them and is presently occupied by an old and decrepit building which is vacant and would be pulled down in any case for safety reasons. It does not entail any social issues.

The overall compliance of safeguard management is satisfactory (also reflected in last project ISR). In addition of the EIA, the contractor of the CCPP has prepared the Environmental Action Plan (EAP) in line with their work methodology, schedule of work, equipment standards etc. to control specific environmental impacts associated with project activities. EGCB, along with the Owners Engineer, monitors the construction site in regular interval to ensure the implementation of EMPs during construction. Also the laboratory test for standard parameters of ambient air, water and noise were carried out during monitoring.

The findings from the monitoring report explored that the house-keeping is properly maintained at the plant site. Segregated solid, liquid and hazardous waste are regularly managed at a designated place by the contractor in a coordinated manner. Personal protective equipment (PPE) are used properly to reduce worker's health and safety hazards. A health care facility has been provided with qualified doctor and nurses to provide medical assistance to the workers and officers as well as the subsequent clinical facilities has been ensured. The lab test result in the monitoring report also identified that the BOD5 is higher level in the Sitalakkaha River and the noise level also exceeded the standard value of the Department of Environment (DoE), Bangladesh and it is a concern for nearby school. However, these parameters are not exceeded due to the impacts from the activities during construction. The labor camp is outside the project boundary and the labor camp has been properly managed. The sanitary latrines connected to appropriately designed septic tank system (consisting of septic tank and soak pit) to avoid any contamination of any sort around the project boundary. No human waste or solid waste is disposed in the river.

Noise mitigation measures were planned in accordance with EIA for the project and consultations with local school, communities and the project PIU. The contractor made reasonable efforts to schedule heavy noise activities for weekends or late afternoons and kept the less noisy activities for normal teaching hours (between 8 am to 2 pm) to keep a normal environment at surrounding the school compound. Also, the contractor has installed the noise barrier around the construction activities, where noise was unavoidable.

To reduce the noise exposure at the school area during operation phase, the water treatment plant (WTP) and effluent treatment plant (ETP) of proposed power plant have been relocated. In addition, the planting of trees outside the entire northern boundary of the school (around 7 meters corridor) will be done after completion of power plant and the school boundary wall will be raised up. As stated above, the project has agreed to build a new six-story building across the field from the existing building to shift out the primary section.

2. Describe any potential indirect and/or long term impacts due to anticipated future activities in the project area:

Additional power generation capacity may be added in near future in the area. Since these will also be natural gas-fired, the negative impact on air quality are expected to be marginal. Although the EIA of CCPP did not envisage any significant negative impact on VECs (valued environment components) in the influence area due to the project activities, however, the limited cumulative impact assessment showed that there are large number industries, other power plants, brick kilns etc. surrounding the proposed project area and all of which contribute to pollution on physical environment of surrounding sites. In view of this findings, the Power Cell under the Ministry of Power, Energy and Mineral Resources took an initiative to carry out Cumulative Environmental Impact Assessment (CEIA) in the power hub area to assess cumulative impacts and prepare appropriate management plan to implement future planned projects for power generation. Power Cell faced considerable difficulty in identifying qualified firms to undertake the CEIA and finally hired an international firm for this in May, 2015. The firm commenced the work and submitted an interim report of CEIA on July 29, 2015. A comprehensive analysis of cumulative impacts on VECs will be conducted in the subsequent stage of the study. It will involve estimating of present and future state of the VECs that may result from the impacts they experience from the present and future developments. Indicators will be established for expression of VEC condition. The effects on all the indicators associated with VEC will be aggregated. Management strategies and procedures would be designed to manage cumulative impacts to plan the future project. The final report is expected by March 2016.

There are no adverse social impacts anticipated under the AF.

3. Describe any project alternatives (if relevant) considered to help avoid or minimize adverse impacts.

The alternative analysis between combined cycle power plant and open cycle power plant has been carried out. In terms of resource utilization, the combined cycle power plant is more efficient and does not discharge high temperature exhaust or steam into the air, and hot water into the river since it has a close loop cooling system. In addition, an alternative analysis from environmental perspective was carried out on the two proposed locations within the Siddhirganj power generation complex and the best option is selected for the project. The project footprint was analyzed several times from a social impact perspective and has been re-designed to yield the minimum social cost option (present design).

4. Describe measures taken by the borrower to address safeguard policy issues. Provide an assessment of borrower capacity to plan and implement the measures described.

EGCB has updated the Environmental Impact Assessment (EIA) and conducted a Social Impact Assessment (SIA) considering the new technology option and larger area requirement. EGCB has been has used certification of ISO 14001-2004 (Environmental Management Standard) and OHSAS 18001: 1999 (Occupational Health and Safety Management Systems) as the eligibility criteria for selection of the contractor. EGCB made requirement for the contractor to prepare the environmental action plan based on their equipment specification, construction schedule and

<p>agreed Environmental Management Plan (EMP) under EIA.</p> <p>Presently EGCB has formed an Environment Management committee, comprised with Environment Manager, Field Executive Engineer and Chemist of EGCB along with Environmental Specialist of Owner Engineers for the environmental monitoring and preparing quarterly progress reports on safeguards monitoring. EGCB has been familiar with the safeguards requirement and also working on further institutional capacity building. EGCB is also in the final stage for establishing their separate environment unit/cell, staffed by one Deputy General Manager (DGM), one Manager and one Assistant Manager.</p> <p>Under the original project, EGCB, GTCL and PGCB prepared all necessary safeguards documents and implemented them. There was significant capacity building done for the agencies through training and study tours. PGCB and GTCL have developed sufficient in-house capacity to manage resettlement programs.</p>
<p>5. Identify the key stakeholders and describe the mechanisms for consultation and disclosure on safeguard policies, with an emphasis on potentially affected people.</p>
<p>The key stakeholders are the households living within and surrounding the Siddhirganj Power Hub. There were consultations with the people during the EAs and SA. Their comments and suggestions have been reflected in EAs and SA. The EA was also presented on September 6, 2012 in a national workshop to the Board of Directors and senior management of EGCB, Department of Environment (DoE), the World Bank and the relevant stakeholders. The updated EA also incorporated the comments as raised in the presentation. The EA summary was translated and disclosed into local language (Bangla). EA is also available in the EGCB's website (www.egcb.com.bd).</p>

B. Disclosure Requirements

Environmental Assessment/Audit/Management Plan/Other	
Date of receipt by the Bank	15-Jul-2012
Date of submission to InfoShop	15-Jul-2012
For category A projects, date of distributing the Executive Summary of the EA to the Executive Directors	////
"In country" Disclosure	
Bangladesh	15-Jul-2012
<i>Comments:</i>	
If the project triggers the Pest Management and/or Physical Cultural Resources policies, the respective issues are to be addressed and disclosed as part of the Environmental Assessment/Audit/or EMP.	
If in-country disclosure of any of the above documents is not expected, please explain why:	

C. Compliance Monitoring Indicators at the Corporate Level

OP/BP/GP 4.01 - Environment Assessment	
Does the project require a stand-alone EA (including EMP) report?	Yes [<input checked="" type="checkbox"/>] No [<input type="checkbox"/>] NA [<input type="checkbox"/>]
If yes, then did the Regional Environment Unit or Practice Manager (PM) review and approve the EA report?	Yes [<input checked="" type="checkbox"/>] No [<input type="checkbox"/>] NA [<input type="checkbox"/>]

Are the cost and the accountabilities for the EMP incorporated in the credit/loan?	Yes [<input checked="" type="checkbox"/>]	No [<input type="checkbox"/>]	NA [<input type="checkbox"/>]
OP 7.50 - Projects on International Waterways			
Have the other riparians been notified of the project?	Yes [<input checked="" type="checkbox"/>]	No [<input type="checkbox"/>]	NA [<input type="checkbox"/>]
If the project falls under one of the exceptions to the notification requirement, has this been cleared with the Legal Department, and the memo to the RVP prepared and sent?	Yes [<input type="checkbox"/>]	No [<input type="checkbox"/>]	NA [<input checked="" type="checkbox"/>]
Has the RVP approved such an exception?	Yes [<input type="checkbox"/>]	No [<input type="checkbox"/>]	NA [<input checked="" type="checkbox"/>]
The World Bank Policy on Disclosure of Information			
Have relevant safeguard policies documents been sent to the World Bank's Infoshop?	Yes [<input checked="" type="checkbox"/>]	No [<input type="checkbox"/>]	NA [<input type="checkbox"/>]
Have relevant documents been disclosed in-country in a public place in a form and language that are understandable and accessible to project-affected groups and local NGOs?	Yes [<input checked="" type="checkbox"/>]	No [<input type="checkbox"/>]	NA [<input type="checkbox"/>]
All Safeguard Policies			
Have satisfactory calendar, budget and clear institutional responsibilities been prepared for the implementation of measures related to safeguard policies?	Yes [<input checked="" type="checkbox"/>]	No [<input type="checkbox"/>]	NA [<input type="checkbox"/>]
Have costs related to safeguard policy measures been included in the project cost?	Yes [<input checked="" type="checkbox"/>]	No [<input type="checkbox"/>]	NA [<input type="checkbox"/>]
Does the Monitoring and Evaluation system of the project include the monitoring of safeguard impacts and measures related to safeguard policies?	Yes [<input checked="" type="checkbox"/>]	No [<input type="checkbox"/>]	NA [<input type="checkbox"/>]
Have satisfactory implementation arrangements been agreed with the borrower and the same been adequately reflected in the project legal documents?	Yes [<input checked="" type="checkbox"/>]	No [<input type="checkbox"/>]	NA [<input type="checkbox"/>]

III. APPROVALS

Task Team Leader(s):	Name: Md. Iqbal	
<i>Approved By</i>		
Safeguards Advisor:	Name: Maged Mahmoud Hamed (SA)	Date: 04-Sep-2015
Practice Manager/ Manager:	Name: Julia Bucknall (PMGR)	Date: 04-Sep-2015