PROJECT INFORMATION DOCUMENT (PID)
APPRAISAL STAGE

Report No.: PIDA29639

Project Name	Bangladesh Ghorashal Unit 4 Repowering Project (P128012)
Region	SOUTH ASIA
Country	Bangladesh
Sector(s)	Energy efficiency in Heat and Power (50%), Thermal Power Generation (50%)
Theme(s)	Infrastructure services for private sector development (100%)
Lending Instrument	Specific Investment Loan
Project ID	P128012
Borrower(s)	Government of Bangladesh
Implementing Agency	Bangladesh Power Development Board
Environmental Category	A-Full Assessment
Date PID Prepared/Updated	04-Sep-2015
Date PID Approved/Disclosed	07-Sep-2015
Estimated Date of Appraisal Completion	27-Aug-2015
Estimated Date of Board Approval	17-Dec-2015
Appraisal Review Decision (from Decision Note)	The Bank management authorized the task team to proceed with Appraisal, once the updated draft EIA report has been cleared by the RSA and disclosed. The updated EIA was cleared and disclosed on 23rd July, 2015.

I. Project Context

Country Context

1. Bangladesh's economy has performed well over the past decade. Its Gross Domestic Product (GDP) growth has risen by one percentage point per decade, from an average of 3.7 percent per annum in the 1980s to over 6% since 2010 and this sustained growth was achieved despite the adverse impacts of the global recession, oil price rise, unrest in the Middle East (an important source of healthy remittance inflow) and local natural disasters. Bangladesh has very recently moved up to lower-middle income status from low income group. The country not only maintained the minimum requirement of the per capita income in the past consecutive three years, but also achieved a phenomenal rise in the Gross National Income (GNI) in the just concluded financial year. The country's per capita income soared at $1,314 at the end of FY15 when it was $1,190 in FY14 and $1,154 in FY13. This economic growth has largely been dependent on a reliable and affordable supply of electricity. Bangladesh's economy could have performed much better if the energy infrastructure had developed in line with the economic demands.

2. A majority of manufacturing and service firms in Bangladesh identify shortage of reliable electricity as the most important constraint to smooth operation and expansion of their business. In the latest 'Doing Business Report' (2014) prepared by the World Bank, Bangladesh was ranked the lowest out of 189 economies on the 'Getting Electricity' indicator. The large gap between demand and power supply results in frequent outages and load shedding. About 62% of the population has access to electricity. While access in urban areas is close to complete coverage, only about 42% of rural households have access to electricity. Electricity supply is constrained because of several reasons, most important of which is limited investment in new base-load generation capacity and inadequate fuel supply.

3. Per capita consumption of electricity in the country is only 294 kwh/year which is one of the lowest in the world and lower than most of the South Asian countries. Current generation capacity in Bangladesh is 11,500 MW. Available capacity has been below installed capacity and presently it is 7,800 MW. The highest demand served in the country in 2015 was 7,817 MW. On average, 1,000 MW of load shedding was experienced in the summer of 2014. Electricity demand is projected to grow by more than 10 percent per annum over the medium term. To address the current and future shortages, the power sector master plan (PSMP 2010 which is currently being revised) suggested for the addition of 30,000 MW of capacity by 2030 at an estimated cost of $59 billion.

Sectoral and institutional Context

4. In the context of severe power shortages throughout the country, the Government of Bangladesh (GOB) had developed an ambitious generation expansion plan that envisages adding 11,500 MW to the national grid by the year 2018. However, implementation of this target within the timeline has faced huge challenges to the government as they are already behind schedule in some of the planned activities. As part of the plan, a number of large gas-fired/dual fuel power plants (around 1,500 MW capacity) and several large coal fired plants based on imported coal (around 4,000 MW capacity) were awarded to the private sector but only 310 MW capacity has so far been added to the grid because of delay in reaching financial closure. As an emergency/interim measure, GOB had contracted about 2,400 MW of rental and quick rental plants (for 3-5 year terms) that are running on expensive liquid fuel. Due to the failure in adding base load generation in the last few years, the government had to renew most of these rental contracts for another term.

5. About 70% of the power generation in Bangladesh is based on natural gas, whilst 23% of the generation is on imported liquid fuels (diesel/HFO), 3% on hydro-generation and 3% on coal. Although Bangladesh is rich in natural gas reserves, current gas production of 2,500 mmcf/d is about 600 mmcf/d below demand due to a low level of exploration work and inadequate gas transmission systems. Availability of gas through further gas exploration works will likely to take longer time. On the other hand, the country's huge coal reserves remain unutilized as the government is yet to finalize the coal policy to make way for domestic coal extraction.

6. In the present generation mix, about 42% of the total installed capacity is owned by the Bangladesh Power Development Board (BPDB). Private Power Producers (rentals and IPPs) account for 43% of installed capacity and the rest is held by corporations owned by the State. Most of BPDB's generation fleet has not been modernized and as a result, the average efficiency of these plants is around 30%. This contrasts starkly with the modern Combined Cycle plant efficiencies of 60%. Of particular concern are the approximately 2,100 MW of gas-fired steam cycle plants, which operate at about 31% efficiency. In line with the apparent shortages in natural gas production,

improving the efficiency of the gas based power plant and prioritizing gas supply for higher efficient power plants have become critical in order to improve the effectiveness of gas utilization in the whole power sector.

7. Although the government has managed to reduce power shortages during summer and the irrigation season through the expensive rental and quick rental plants in the last four years or so, they are aggravating the deteriorating financial position of the power sector because of its dependency on huge subsidy for payments to these private generators. There has been significant increase in the budgetary transfer from the year 2009 to 2012 since the introduction of liquid fueled power plants. In 2012, the budgetary transfer amount was US$840 million. The annual budgetary transfer had gone down to US$ 584 million in FY13 due to tariff adjustments in phases since February 2011. It again went up to US$800 mill in FY14. This deficit will not go down further unless the contracts of the short term rentals are terminated and replaced by low cost base load power plants. In the long run, it is expected that the bulk and retail tariffs will continue to increase and generation costs will decline with the commissioning of the large power plants (including conversion of the existing steam plants to combined cycle) permitting the retirement of the costly liquid fuel plants.

8. The power sector is organized under the Ministry of Power, Energy, and Mineral Resource (MPEMR). Since independence in 1971, the Bangladesh Power Development Board (BPDB) under MPEMR had been the single entity in the power sector to generate, transmit and distribute electricity. In 1977, the Rural Electrification Board (REB) was formed to build and operate electricity distribution in rural areas using a rural electric cooperative model. Bank's support to BPDB started in 1979 and continued in three independent operations covering public sector generation, system loss improvement in transmission and distribution and strengthening of BPDB's organizational and institutional performance. The last operation was closed in 1999 and since then Bank has no direct engagement with BPDB. While the generation project (Ashuganj) with BPDB (completed in 1988) went well, the development objectives of the other two operations with BPDB could not be achieved successfully. This was primarily due to the inappropriate institutional structure and ingrained weaknesses of the parastatal system. BPDB did not perform well in those operations as demonstrated by high level system loss and accounts receivables. In this context, IDA (together with other sector donors) had maintained a continuing dialogue with GOB on the need to introduce fundamental reforms to unbundle, commercialize and introduce substantial private sector participation in the sector.

9. The 1996 power sector reform policy set in motion a sector unbundling process which created a series of corporate entities. In this process, the Power Grid Company of Bangladesh (PGCB) was established to manage the country's power transmission assets. Gas Transmission Company Limited (GTCL) was formed with the objective of establishing a balanced and reliable gas transmission networks in the country. Separate power distribution companies were also created with few of them yet to be fully corporatized (SZPDC, CZPDC and NWPDC). On the generation side, the Ashuganj Power Station Company (APSCL), Electricity Generation Company (EGCB) and Northwest Power Generation Company (NWPGCL) have been created as part of the unbundling process with BPDB still retaining some generation and distribution assets under its balance sheet.

10. Although the policy reforms in the electricity sector started in the late 1990s with the unbundling of the vertical integrated utility, further reforms and unbundling have not moved much

in the last five to six years due to strong resistances from the collective bargaining agents (CBA). Very recently, GOB has reinitiated its efforts to corporatize the remaining distribution and generation assets of BPDB providing multiple timelines but such efforts have yet to produce any result.

11. As an alternative to corporatization, BPDB management is more inclined towards implementing Strategic Business Units (SBUs) under the BPDB corporate umbrella. Each SBU is expected to operate quasi-independently, with its own board and management structure, separate accounts, a performance based system, etc. In support of this initiative, GOB had issued a notice forming separate boards of each of these SBUs. Although delayed, functionalization of Ghorashal Power Station as Strategic Business Unit (SBU) has been started. The Official order has been issued for the Chief Engineer at Ghorashal Power Station to become the SBU CEO. The delegation of financial power to SBU has also been approved by the BPDB Board. A draft Power Purchase Agreement (PPA) with BPDB is also being developed. These are good steps towards achieving the operational efficiency of the SBU. Bank is keen to support such initiative in enhancing BPDB's institutional governance through a lending operation and AAA.

II. Proposed Development Objectives

The proposed development objective of the Project is to increase generation capacity and efficiency of the targeted power plant;

III. Project Description

Component Name

Re-powering of the Target Unit

Comments (optional)

Component Name

Technical Assistance for Institutional Strengthening Support

Comments (optional)

IV. Financing *(in USD Million)*

Total Project Cost:	310.00	Total Bank Financing:	235.00
Financing Gap:	0.00		

For Loans/Credits/Others	**Amount**
BORROWER/RECIPIENT	75.00
International Development Association (IDA)	235.00
Total	310.00

V. Implementation

VI. Safeguard Policies (including public consultation)

Safeguard Policies Triggered by the Project	Yes	No
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
Projects on International Waterways OP/BP 7.50		x
Projects in Disputed Areas OP/BP 7.60		x

Comments (optional)

VII. Contact point

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