

Implementation Status & Results

India

Coal-Fired Generation Rehabilitation (P100101)

Operation Name: Coal-Fired Generation Rehabilitation (P100101)		Project Stage: Implementation	Seq.No: 7	Status: ARCHIVED	Archive Date: 24-Oct-2012
Country: India		Approval FY: 2009			
Product Line: IBRD/IDA	Region: SOUTH ASIA		Lending Instrument: Specific Investment Loan		
Implementing Agency(ies): Central Electricity Authority, West Bengal Power Development Corporation Ltd, Haryana Power Generation Company Limited, Maharashtra State Power Generation Co Ltd					

Key Dates

Board Approval Date	18-Jun-2009	Original Closing Date	30-Nov-2014	Planned Mid Term Review Date	04-Jun-2012	Last Archived ISR Date	31-Mar-2012
Effectiveness Date	19-Mar-2010	Revised Closing Date	30-Nov-2014	Actual Mid Term Review Date	09-Jul-2012		

Project Development Objectives

Coal-Fired Generation Rehabilitation (P100101)

Project Development Objective (from Project Appraisal Document)

The objective of the project is to improve energy efficiency of selected coal-fired power generation units through renovation and modernization (R&M) and improved operations and maintenance (O&M).

Has the Project Development Objective been changed since Board Approval of the Program?

☐ Yes ☒ No

Coal-Fired Generation Rehabilitation (P100531)

Global Environmental Objective (from Project Appraisal Document)

A significant co-benefit of improving energy efficiency of the selected coal-fired power generation units is the reduction of greenhouse gas emissions per kilowatt hour of electricity generated.

Has the Global Environmental Objective been changed since Board Approval of the Program?

☐ Yes ☒ No

Component(s)

Component Name	Component Cost
Component 1: Energy Efficiency R&M Pilots--IBRD	180.00
Component 1: Energy Efficiency R&M Pilots--GEF	37.90
Component 2: Technical Assistance--GEF	7.50

Overall Ratings

	Previous Rating	Current Rating
Progress towards achievement of PDO	Moderately Satisfactory	Moderately Satisfactory

	Previous Rating	Current Rating
Progress towards achievement of GEO	Moderately Satisfactory	Moderately Satisfactory
Overall Implementation Progress (IP)	Moderately Unsatisfactory	Moderately Unsatisfactory
Overall Risk Rating		

Implementation Status Overview

The most recent Bank implementation support mission (Mid-Term Review) took place in July and August 2012. At this point in time all implementation activities are well under way, but after long delays in part caused by the experienced complexity of preparing the retrofit of new components into existing power plants in this Renovation & Modernization (R&M) program for coal-fired power plants.

These major developments have taken place in 2012 through August:

- West Bengal, Bandel TPS unit 5: WBPDCCL fund a solution to the company's co-financing problem which paved the way for signing a contract for the project-driving BTG package (boiler/turbine/generator) in February 2012. Work under the contract is ongoing - preparatory work before physical renovation & modernization (R&M). An environmental consent for physical R&M work at the power plant is pending, and the World Bank will disburse under the R&M contract when such environmental consent is in place.
- Maharashtra, Koradi TPS unit 6: Mahagenco has brought the bidding process for the BTG package decisively forward and has since August 23, 2012 been evaluating the received bids. Contract award is expected in 4th quarter of 2012.
- Haryana, Panipat TPS units 3 and 4: HPGCL and the Haryana government have decided not to proceed with the R&M sub-project for Panipat TPS, and this was communicated to the Department of Economic Affairs (DEA) on August 30, 2012. HPGCL earlier faced problems in coming to a decision, which according to plans should have been taken in the third quarter of 2011.
- The Central Electricity Authority's (CEA) five consulting contracts are now under way. They are in various ways supporting future R&M of coal-fired power plants and securing the learning process from the pilot projects undertaken. Furthermore, consultants are reviewing CEA's organization and skills for the purpose of recommending changes and improvements in the future.

Locations

Country	First Administrative Division	Location	Planned	Actual
India	Haryana	Panipat		
India	State of Maharashtra	Nagpur		
India	State of Maharashtra	Koradih		
India	Bengal	Hugli		
India	Bengal	Bandel		
India	Haryana	Khukrana		

Results

Project Development Objective Indicators

Indicator Name	Core	Unit of Measure		Baseline	Current	End Target
Generation Capacity of Conventional Generation constructed under the project	<input checked="" type="checkbox"/>	Megawatt	Value	0.00	0.00	0.00
			Date	22-May-2009	09-Oct-2012	30-Nov-2014
			Comments		-	Increased generation capacity is not a project objective per se, but the plants may potentially achieve +5 MW each (x 2 plants).
Unit-5, Bandel Thermal Power Plant, West Bengal: Reduction in Specific Coal Consumption (Kg/kWh)	<input type="checkbox"/>	Text	Value	0.684 kg/kWh	-	0.602 kg/kWh
			Date	22-May-2009	09-Oct-2012	30-Nov-2014
			Comments	Input coal fuel in kg/kWh electricity	No result expected at this time. Impact when all investments are completed.	Corresponds to 12% reduction in coal consumption.
Unit-5, Bandel Thermal Power Plant, West Bengal: Reduction in Specific Oil Consumption (ml/kWh)	<input type="checkbox"/>	Text	Value	2.5	-	2.0
			Date	22-May-2009	09-Oct-2012	30-Nov-2014
			Comments		No result expected at this time. Impact when all investments are completed.	Corresponds to 20% reduction in oil consumption.
Unit-6, Koradi Thermal Power Plant, Maharashtra: Reduction in Specific Coal Consumption (Kg/kWh)	<input type="checkbox"/>	Text	Value	0.703 kg/kWh	-	0.605 kg/kWh
			Date	22-May-2009	09-Oct-2012	30-Nov-2014
			Comments		No result expected at this time. Impact when all investments are completed.	Corresponds to 14% reduction in coal consumption.
Unit-6, Koradi Thermal Power Plant, Maharashtra, Reduction in Specific Oil consumption (ml/kWh)	<input type="checkbox"/>	Text	Value	2.27 ml/kWh	-	2.00
			Date	22-May-2009	09-Oct-2012	30-Nov-2014
			Comments		No result expected at this time. Impact when all investments are completed.	corresponds to 12% reduction in oil consumption.

Global Environmental Objective Indicators

Indicator Name	Core	Unit of Measure		Baseline	Current	End Target
Reduction in CO2 emission intensity for each of the generation units after completion of R&M (%)	<input type="checkbox"/>	Percentage	Value	0.00	0.00	10.00
			Date	22-May-2009	09-Oct-2012	30-Nov-2014
			Comments		No result expected at this time.	

Reduction in CO2 emissions as a result of energy efficient R&M (million TCO2/yr): in plants financed under this project	<input type="checkbox"/>	Metric ton	Value	0.00	0.00	430000.00
			Date	22-May-2009	09-Oct-2012	30-Nov-2014
			Comments		No result expected at this time.	
Reduction in CO2 emissions as a result of energy efficient R&M (million TCO2/yr): in plants not financed under this project	<input type="checkbox"/>	Metric ton	Value	0.00	0.00	300000.00
			Date	22-May-2009	09-Oct-2012	30-Nov-2014
			Comments		No result expected at this time.	

Intermediate Results Indicators

Indicator Name	Core	Unit of Measure		Baseline	Current	End Target
Component 1: Number of [R&M] contracts awarded	<input type="checkbox"/>	Text	Value	0	3	9
			Date	22-May-2009	09-Oct-2012	30-Nov-2014
			Comments		3 behind target	Yr 1: 4 Yr 2: 6 Yr 3: 7 Yr 4: 7 Yr 5: 7 (adjusted for Haryana drop-out)
Component 1: Capacity rehabilitated and modernized with focus on energy efficiency, financed under this project (MW, cumulative)	<input type="checkbox"/>	Text	Value	0	0	640
			Date	22-May-2009	09-Oct-2012	30-Nov-2014
			Comments		In line with target	Yr 1: 0 Yr 2: 0 Yr 3: 0 Yr 4: 420 Yr 5: 640
Component 2: Cumulative number of Units for which R&M procurement process is initiated at the National Level	<input type="checkbox"/>	Text	Value	N.A.	3	8
			Date	22-May-2009	09-Oct-2012	30-Nov-2014
			Comments		One plant ahead of target	Yr 1: 1 Yr 2: 2 Yr 3: 4 Yr 4: 6 Yr 5: 8
Component 2: Cumulative number of energy audit reports with baseline performance information	<input type="checkbox"/>	Text	Value	N.A.	3	8
			Date	22-May-2009	09-Oct-2012	30-Nov-2014
			Comments		In line with target	Yr 1: 1 Yr 2: 3 Yr 3: 5 Yr 4: 7 Yr 5: 8
Component 2: Cumulative number of R&M detailed project reports (DPRs) with investment plans optimized for energy efficiency	<input type="checkbox"/>	Text	Value	N.A.	1	8
			Date	22-May-2009	09-Oct-2012	30-Nov-2014
			Comments		In line with target	Yr 1: 0 Yr 2: 1 Yr 3: 3 Yr 4: 5 Yr 5: 8
Component 2: Cumulative number of barrier reduction studies/technical assistance interventions undertaken by CEA under Bank project	<input type="checkbox"/>	Text	Value	N.A.	0	4
			Date		09-Oct-2012	30-Nov-2014
			Comments		Work ongoing, but nothing completed. In line with targets.	Yr 1: 0 Yr 2: 0 Yr 3: 3 Yr 4: 3 Yr 5: 4

Component 2: Cumulative number of utilities in which implementation of agreed O&M and Institutional Strengthening Programs is completed	<input type="checkbox"/>	Text	Value	N.A.	0	3
			Date	22-May-2009	09-Oct-2012	30-Nov-2014
			Comments		Correction from previous. Ongoing work in 3 utilities.	Yr 1: 0 Yr 2: 0 Yr 3: 2 Yr 4: 3 Yr 5: 3

Data on Financial Performance (as of 24-May-2011)

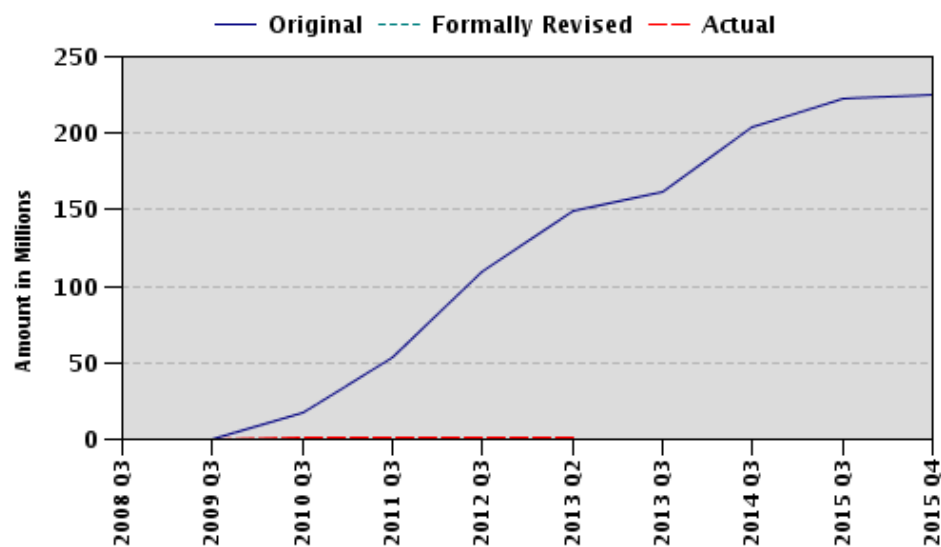
Financial Agreement(s) Key Dates

Project	Ln/Cr/Tf	Status	Approval Date	Signing Date	Effectiveness Date	Original Closing Date	Revised Closing Date
P100101	IBRD-76870	Effective	18-Jun-2009	17-Dec-2009	19-Mar-2010	30-Nov-2014	30-Nov-2014
P100101	TF-58018	Closed	06-Jul-2007	06-Jul-2007	06-Jul-2007	28-Mar-2008	10-Dec-2009
P100531	TF-94676	Effective	17-Dec-2009	17-Dec-2009	19-Mar-2010	30-Nov-2014	30-Nov-2014

Disbursements (in Millions)

Project	Ln/Cr/Tf	Status	Currency	Original	Revised	Cancelled	Disbursed	Undisbursed	% Disbursed
P100101	IBRD-76870	Effective	USD	180.00	180.00	0.00	0.45	179.55	0.00
P100101	TF-58018	Closed	USD	1.00	0.74	0.26	0.74	0.00	100.00
P100531	TF-94676	Effective	USD	45.40	45.40	0.00	0.35	45.05	1.00

Disbursement Graph



Key Decisions Regarding Implementation

Haryana Power Generation Corporation Ltd's (HPGCL) decision not to pursue R&M for two generation units at the Panipat thermal power station frees up funds - USD 63 million of IBRD loan funds and about USD 13.7 million of GEF grant funds - that may be used for other purposes within the Project or be wholly or partly cancelled. Central and state governments and involved sub-borrowers would need to agree on how to proceed with respect to these funds and through the Department of Economic Affairs (DEA) propose a restructuring of the Project to the World Bank.

Restructuring History

There has been no restructuring to date.

Related Projects

P100531-Coal-Fired Generation Rehabilitation