

United Nations Development Group Iraq Trust Fund
Project #66983: E4-15
Date and Quarter Updated: 1 October-31 December 2012 - 4th Quarter 2012
Operationally closed

Participating UN Organisation: UNDP	Priority Area: Inclusive Economic Growth/Sector:
	Economic Reform & Diversification
Government of Iraq – Responsible Line Ministry:	Ministry of Electricity

Title	Emergency Rehabilitation of Mussayib Power Station- Stage II				
Geo. Location	Karbala Governorate, Mussayib				
Project Cost	US\$ 33,000,000				
Duration	24 months + 66 months extension				
Approval Date (SC)	08/06/2005	Starting Date	15/06/2005	Completion Date	15/06/2007 extended to 31/12/2012
Project Description	<p>The rehabilitation of Unit 1 (now Unit 4) of Mussayib Thermal Power Station (TPS) is essential for improving electrical power supply to the national grid, particularly in Central Iraq. Under Stage I, previously identified rehabilitation/repairs of Thermal Unit 1 controls and turbine/generator problems were corrected wherever possible. Under Stage II, the technical capabilities of the plant staff will be upgraded to not only operate and maintain the unit once rehabilitated, but also to assess the requirements for rehabilitation of other units and to undertake repair and maintenance works with minimum international supervision. The Ministry of Electricity's (MoE) capacity for these undertakings will be supported by modern maintenance management software and installation of a mobile video/audio system for plant equipment condition assessment.</p> <p>Note: An official request has been approved by ITF to change the Scope of Work from the rehabilitation of Unit 1 to Unit 4 and the modality has changed to national execution by the Ministry of Electricity.</p>				

Development Goal and Immediate Objectives

1. To respond to the immediate humanitarian needs of war-affected Iraqi people through ensuring reliable and safe electricity supply to all consumer categories, in particular key humanitarian essential services.
2. The generating capacity, reliability, availability, and efficiency of Unit No.1 (now Unit No. 4) of Mussayib Thermal Power Station increased. (Unit 1 changed to Unit 4 as of Q2 2010.)
3. Plant staff able to conduct complete maintenance and full repairs of thermal units utilizing latest available technology, modern tools, and state-of-art software for unit maintenance and overhauls.
4. Core team of MoE staff specialized in the overall condition assessment of thermal units trained in the application of state-of-art maintenance management software for monitoring, recording, reporting and planning future maintenance of thermal units in the MoE Fleet.

Outputs, Key Activities and Procurement

Outputs	<ol style="list-style-type: none"> 1.1 Mussayib Thermal Power Station (TPS) Unit 1 rehabilitated and providing 60-80 MW greater capacity, reliability, availability and efficiency by June 2007. 2.1 Comprehensive set of selected and essential spare parts supplied to Mussayib TPS, which will be available in stock for emergency repairs and routine maintenance; in order to sustain Unit 1 future generation and reliability. 3.1 Thirty-four (34) plant staff trained in Unit 1 rehabilitation skills suited for erection, calibration, testing and commissioning. In addition, a core team of MoE staff proficient in the application of maintenance management software and able to train other junior technical personnel to enlarge MoE in-house capabilities in maintenance management, planning, monitoring and record keeping.
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Activities	1.1.1 Finalization of the list of equipment, parts and relevant components with their detailed technical specifications to be provided based on assessments of the unit. 2.1.1 Unit repair and rehabilitations works conducted by plant staff under contractor guidance. 3.1.1 Implementation of the relevant training overseas for unit rehabilitation works and the training on maintenance management software in Amman, Jordan.
Procurement	Delivery of 135 tons of equipment for rehabilitation completed 2 nd Quarter 2009.

Funds Committed	USD 32,756,990.69	% of approved	99.3%
Funds Disbursed	USD 26,277,616.21	% of approved	80.2%
Forecast final date	31 December 2012	Delay (months)	66 months

Direct Beneficiaries	Number of Beneficiaries	% of planned (current status)
Men	Population as a whole	
Women	Population as a whole	
Children	Population as a whole	
IDPs	Population as a whole	
Others	Population as a whole	
Indirect beneficiaries	34 MoE staff trained	
Employment generation (men/women)		

Quantitative Achievements against Objectives and Results		
Completion of activity 1 that involved assessment of need for rehabilitation and initiation of procurement	Determining scope of rehabilitation needed, included full negotiation of prices and delivery schedules (Activity 1).	100
Pre-shipment inspection	Coordination and supervision of factory-witness tests in Japan of selected equipment successfully completed during March – April 2006.	100
Spare parts and equipment	135 tons of equipment delivered to site.	100
Training of Trainers	Specifications for training prepared. 10 engineers trained.	25% This component is no longer applicable to this project as it is in NIM
Installation works	The change of scope was approved by ITF and UNDP and MoE are currently discussing the payment modality. The bidding documents are developed and bids closed for the boiler of Unit 4 during 4 th Quarter. Companies were shortlisted. Additional spare parts may be required. Contractor has been selected and mobilized. Physical work of the boiler to commence soon after shutting down and handing over the same to Contractor. Boiler Unit 4 was handed over to contractor for rehabilitation during 1 st Quarter 2012. Dismantling work of major components completed 1 st Quarter 2012.	100% Rehabilitation of the Super Heater was removed from the Variation order

	<p>Installation of new equipment/parts commenced on 1st Quarter 2012.</p> <p>Installation of all major equipment and parts was completed by end of the 2nd Quarter 2012.</p> <p>About 60% of the work under the Variation Order has been completed.</p> <p>Boiler and its auxiliaries were tested successfully and the Unit was re-commissioned on 5th July 2012 by generating 100MW.</p> <p>Remaining minor repairs of the main Boiler and tasks under the Variation Order were shifted to Autumn for completion.</p> <p>After fine adjustments of operational parameters of the Unit, during a brief shut down, output was increased to 200MW</p> <p>Unit was continuously generating 175-200MW during the 3rd Quarter.</p> <p>Unit 4 was shut down, briefly, for boiler repairs during the 4th Quarter. Repairs were covered by the warranty and carried out by the contractor. Unit 4 was generating 170-200 MW after the repair and adjustments until the Unit was shut down on 27th December as a result of a turbine failure.</p> <p>Rehabilitation of the Super Heater was removed from the Variation Order, as the heater was beyond repair. The MoE will procure a replacement Super Heater.</p>	
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Qualitative Achievements against Objectives and Results
<ol style="list-style-type: none"> 1. All tasks under the Unit 4 boiler rehabilitation contract by Energoremont and Equipment supply contract by Siemens were executed successfully during the 4th Quarter. 1. Boiler rehabilitation works for Unit 4 <ul style="list-style-type: none"> • Unit 4 was shut down for warranty repairs during the 4th Quarter. Repairs were carried out by the Contractor. Per MoE and contractor (Energoremont) agreement, rehabilitation work of the Super Heater was excluded from the Variation Order, as the heater had deteriorated beyond repair • Unit was generating 170-200 MW after the repair/fine adjustments of the instruments until the Unit was shut down on 27th December as a result of a turbine failure • There are outstanding payment issues between the MoE and the Contractor. UNDP has decided to hold a tripartite meeting to finalize payments to the contractor; this meeting is scheduled for early 2013. 2. Additional works <ul style="list-style-type: none"> • Scope of additional work, supply of materials, equipment, tools and services was finalized among MoE, UNDP and Siemens (supply contractor). • Siemens and MoE signed a contract on 30 November 2012, worth approximately USD 4.2 million, for the

supply of additional plant & equipment for the Mussayib TPS. Plants and equipment were inspected by UNDP before shipment to Iraq.

- Plant and equipment was delivered to Baghdad International Airport by 31st December 2012, as indicated in the contract.

Main Implementation Constraints and Challenges

Boiler Rehabilitation works for unit 4

- The Boiler rehabilitation contract was completed within the specified time period. However, MoE requested additional documents, from the contractor, before submitting payments. This has resulted in payment delays and in disputes between the MoE and the contractor. UNDP organized a tripartite meeting to be held early 2013 to discuss payment issue. Failure to reach an agreement between the contractor and the MoE may result in a court case to settle overdue compensation.

Additional works

- MoE needs to take early action in accepting the goods delivered by Siemens under the Additional Works order and submit the invoices to UNDP for payment. Change of senior management staff at Mussayib TPS and Euprat DG may delay issuing necessary documents to UNDP for payment to the contractor.