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ENERGY POLICY PROJECT - II QUARTERLY PROGRESS REPORT

APRIL - JUNE 2012



June 2012

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USAID/PAKISTAN: ENERGY POLICY PROJECT (EPP)

Quarterly Report: April - June 2012

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Acronyms

ADB	Asian Development Bank
AEAI	Advanced Engineering Associates International
AEDB	Alternate Energy Development Board
CCGT	Combined Cycle Gas Turbine
CPGCL	Central Power Generation Company, Ltd
CPPA	Central Power Purchasing Agency
DISCO	Distribution Company
ECC	Economic Coordination Committee
EMMP	Environmental Monitoring and Mitigation Plan
EPP	Energy Policy Project
FARA	Fixed Amount Reimbursable Agreement
FESCO	Faisalabad Electric Supply Company
GE	General Electric
GENCO	Generation Company
GOP	Government of Pakistan
GTPS	Guddu Thermal Power Station
GZDP	Gomal Zam Dam Project
IESCO	Islamabad Electricity Supply Company
IPP	Independent Power Producer
JTPS	Jamshoro Thermal Power Station
KESC	Karachi Electricity Supply Company
LESCO	Lahore Electricity Supply Company
LNG	Liquefied Natural Gas
MOF	Ministry of Finance
MPNR	Ministry of Petroleum and Natural Resources
MTPS	Muzaffargarh Thermal Power Station
MWP	Ministry of Water and Power
MW	Megawatt, unit of electrical power, 1 million watts,
NEPRA	National Electric Power Regulatory Authority
NPCC	National Power Control Center
NTDC	National Transmission and Despatch Company
PC	Planning Commission
PDP	Power Distribution Program
PEPCO	Pakistan Electric Power Company
PSRP	Power Sector Reform Program
SOP	Standard Operating Procedure
T&D	Transmission and Distribution
USAID	United States Agency for International Development
WAPDA	Water and Power Development Authority

Executive Summary

The Energy Policy Project (EPP) is a multiyear USAID funded initiative to increase power generation, decrease losses and increase cost recovery by investing in selected energy infrastructure; and facilitate GOP reform efforts with technical assistance and new technology. EPP is designed to support the goals of U.S. Government (USG) and the GOP, as developed through the joint cooperation of USAID and GOP. The general framework for EPP work plan is guided by several documents: USG Energy Strategy for Pakistan, the GOP's Power Sector Reform Program (PSRP), the Integrated Energy Sector Recovery Report and the Friends of a Democratic Pakistan Report.

Advanced Engineering Associates Inc. (AEAI) began implementation of EPP in 2008, with a focus on strengthening the GOP institutional framework for policy decision-making in the energy sector. In 2009, EPP's mandate expanded beyond policy to assist USAID in financing the acceleration specific projects to help overcome power shortages, and to strengthen the power sector through structural reforms and good corporate governance. Phase I of the Energy Policy Project was completed in Feb 2012. In March 2012, AEAJ started work on the EPP Phase II under a new contract.

EPP is structured into three distinct, interrelated set of program activities:

Component I - Monitoring and support of Project Implementation

Current key activities include providing monitoring and implementation support to the following six signature energy projects, announced by Secretary of State, Hillary Clinton:

- Four repair and maintenance projects (3 GENCOs and Tarbela. Total Funding \$70.7 million).
- Two multipurpose dam completion projects (Gomal Zam and Satpara, Total funding \$66 million).

These projects, when completed, will add more than 863 MW to Pakistan's generation capacity. As of June 2012, a total of 439 MW have been added to Pakistan's electricity grid.

Project	Planned MW Gains per FARA	Expected Gains	MW added (as of 30 June 2012)
Muzaffargarh	165	475	280
Jamshoro	95	150	25
Guddu	55	75	-
Tarbela	80	128	128
Gomal Zam	17.4	17.4	-
Satpara	17.66	17.66	6
Total	430.06	863.06	439

Component II – Advice and Support of Energy Sector Policy Reform

EPP is supporting generation & transmission related studies and the policy reform activities assigned by USAID. These include developing GENCO and NTDC business plans; developing policies/procedures for the National Power Control Center and providing technical expertise on the LNG import program. Component II supports policy reform and provides advisory services at Ministry of Water and Power (MWP), Planning Commission (Energy Wing), Ministry of Finance (MOF), Ministry of Petroleum and Natural Resources (MPNR).

Component III – New Projects, Planning and Development

EPP conducts and prepares due diligence reports on new projects being considered for USG support, such as Kurram Tangi, Warsak, and the Mangla Dam Project in order to provide detailed information on the projects, reduce USG risks, and set a basis for creating Project Implementation Agreements for selected projects.

PROJECT HIGHLIGHTS:

- EPP assisted in the organization of National Energy Conference 2012. Prior to the Energy Conference EPP experts were actively involved in consultations and meetings with the Ministry of Water and Power, Planning Commission and Ministry of Finance. During these consultations, EPP recommended short- and long-term measures to mitigate the energy crisis. The recommendations include up-grading of the GENCOs and hydro project, energy sector policy reform, and support for the development of energy efficiency and conservation policies. Addressing the media after the Conference, Naveed Qamar, Minister for Water and Power recognized and appreciated the efforts of USAID in supporting GOP in adding megawatts to the national grid through the restoration of 423 MWs of GENCO capacity.
- Under the Tarbela rehabilitation, replacement of windings at unit 3 was completed leading to a capacity gain of 10MW, with a total gain of 128 MWs.
- At Satpara Dam, power house 1 & 2 and irrigation system were completed.
- FARA Agreements for the GENCOs were revised and signed by the implementing partners (Jamshoro TPS, Muzaffargarh TPS, Guddu TPS). These revised agreements will improve the ability of the GENCOs to have sufficient funds available to make timely payments to the vendors.
- At Gomal Zam, 199 transmission towers have been installed from Tank Grid Station to Gomal Zam Thermal Powerhouse and stringing of conductors is progressing steadily.
- EPP contracted an engineering firm to conduct environmental audits of the six signature projects to ensure environmental compliance and implementation of EMMP.
- A total of twelve invoices of \$6,545,363 (\$300,000 for Hydros and \$6,245,363 for Thermals) were disbursed to the implementing partners' account from Apr-Jun 2012. Total amount disbursed for six signature projects as of June 30, 2012 is \$82,617,480.
- A USAID delegation led by Director Energy Office, Melissa Knight along with Energy Policy Project and ASP-AID staff visited the Jamshoro Thermal Power Station.
- USAID has assigned transmission experts from the Energy Policy Project to take the lead in coordination of all regional efforts in the power sector (Pakistan-Afghanistan) to address transmission sector issues.
- A presentation was made to USAID's Director Energy Office highlighting the salient features of the possibility of importing power from Central Asian countries through Afghanistan.
- A delegation comprising of senior management of USAID Mission, USAID Energy Office and EPP participated in a high level meeting held at MPNR with the Minister MPNR to discuss potential USAID assistance to MPNR. Various options for enhanced USAID assistance were explored and discussed upon.
- EPP held a meeting with the Second Secretary and Economic Specialist from U.S. Embassy and briefed about the issues of the power sector particularly delay in payment to IPPs.

- Upon USAID's directive to focus on the transmission network of DISCOs, technical experts from EPP and the Power Distribution Program formed a team to work on reviewing the 132/66 KV and 33 KV related transmission activities of the distribution companies.
- With EPP's assistance, an organizational transformation plan was drafted for ENERCON (The National Energy Conservation Centre).
- EPP facilitated a meeting of provincial stakeholders and ENERCON on the use of energy efficient lighting and phasing out of incandescent bulbs.
- A USAID delegation led by USAID Energy Office Director Melissa Knight visited the National Transmission and Dispatch Company (NTDC) in Lahore. The USAID team met with General Manager Power Planning NTDC and discussed the current state of the national energy grid and checked on the progress of the USAID-funded Power System Analysis Training program.
- The 'Standard Operating Procedures for NPCC' were compiled and shared with NTDC/NPCC. 14 SOPs were reviewed and finalized to strengthen the operations and quality management at NPCC.
- EPP facilitated a visit of senior USAID and EPP staff to Mangla Dam Power Station. The visiting team were given a detailed briefing on the proposed upgrading of the Mangla Hydropower Station and taken on a tour of the power station.
- EPP provided USAID key information and details related to 5 hydropower projects that WAPDA is undertaking - 96 MW Jinnah; 121 MW Alai Khwar; 72 MW Khan Khwar; 130 MW Duber Khwar and 106 MW Golan Gol. Though all these projects are nearing completion, funding support would allow for an expedited completion. This is an opportunity for USAID to grant about \$100 million and add more than 500MWs to the grid within the coming months.
- EPP provided USAID with a technical and financial evaluation and assessment for funding the Kaitu Weir project and affiliated works as a stand-alone area development initiative costing about \$93 million which is a portion of the much larger \$700 million Kurram Tangi Dam project.
- During the reporting quarter, EPP received media coverage in eight different print & electronic publications (namely, THENEWS, Daily Times, Business Recorder, The Nation, Daily Asas, Jang, PakistanintheWorld and the ENERCON website).

PROGRAM COMPONENT I:

Monitoring and Support of Project Implementation

EPP is providing monitoring and implementation support for the six signature projects announced by the Secretary of State Hillary Clinton. These projects comprise of rehabilitation of three thermal power plants (Muzaffargarh, Guddu and Jamshoro), and one hydropower plant, Tarbela dam; and completion of construction of two new multipurpose dams (Gomal Zam Dam and Satpara Dam). Total USG funding is \$136.731 million (per revised agreements) and the estimated gains are up to 863 MW. During the quarter, 10 MWs were added to the national grid.

EPP is working closely with the GOP implementing partners, GENCOs and WAPDA, to support the implementation of a broad range of projects' activities, which include:

- Dedicated technical experts assigned to thermal and hydro projects (Jamshoro, Guddu, Muzaffargarh, Tarbela, Satpara and Gomal Zam).
- Regular monitoring visits to project sites for verifying deliverables/milestones, checking quality of procured equipment & completed construction work.
- Verifying megawatts added through rehabilitation or new construction.
- Supporting implementing partners in designing work schedules, adherence & compliance with Agreement terms & conditions, opening of accounts, reimbursement of invoices, ensuring environmental compliance with EMMPs, and support resolution of issues during implementation.
- Compliance certification with construction specifications and/or technical standards of equipment as per the Agreement.
- Compiling monitoring & tracking reports (financial disbursements and technical progress).

Quarterly Reimbursement Summary

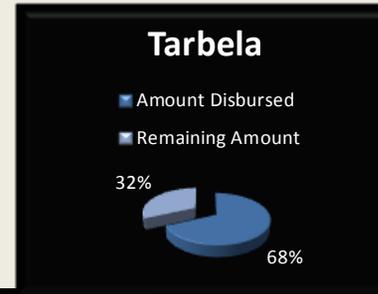
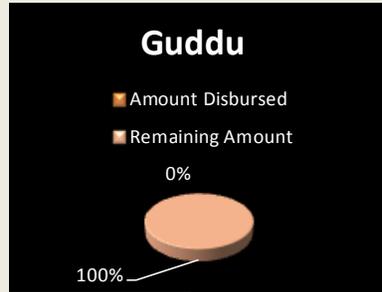
As of 30-Jun-12

Total Claim Submitted \$83,443,778
 Total Amount Disbursed \$82,617,480*

Agreement	3rd Qtr.	4th Qtr.	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.	1st Qtr.	2nd Qtr.	Total Claim Submitted	Total Claim Disbursed
	(Jul-Sep '10)	(Oct-Dec '10)	(Jan-Mar '11)	(Apr-Jun '11)	(July-Sep '11)	(Oct-Dec '11)	(Jan-Mar '12)	(Apr-Jun '12)		
Thermal Projects										
Muzaffargarh	\$167,616		\$4,296,884			\$408,000		\$3,182,686	\$ 8,055,186	\$7,648,888
Jamshoro			\$670,000			\$705,000	\$1,170,000	\$3,518,975	\$ 6,063,975	\$6,013,975
Guddu										
Total Claim Submitted in Thermals	\$167,616		\$4,966,884			\$1,113,000	\$1,170,000	\$6,701,661	\$14,119,161	\$13,662,863*
Hydro Projects										
Tarbela			\$9,139,917	\$370,000		\$700,000	\$370,000	\$670,000	\$11,249,917	\$10,879,917
Satpara			\$7,115,300	\$2,282,000	\$1,877,000	\$10,211,400			\$21,485,700	\$21,485,700
Gomal Zam			\$25,053,000	\$1,000,000	\$5,125,000	\$5,411,000			\$36,589,000	\$36,589,000
Total Claim Submitted in Hydros			\$41,308,217	\$3,652,000	7,002,000	16,322,400	\$370,000	\$670,000	\$69,324,617	68,954,617*

- Remaining about to be reimbursed in July 2012

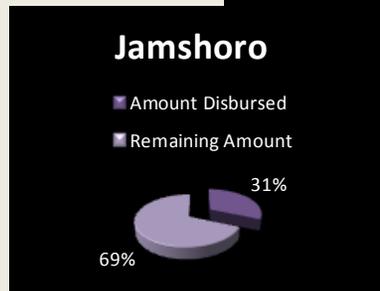
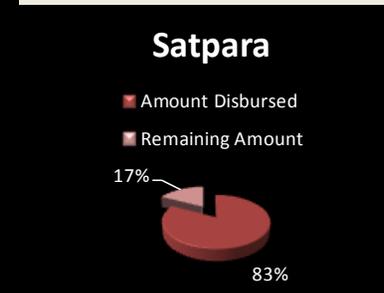
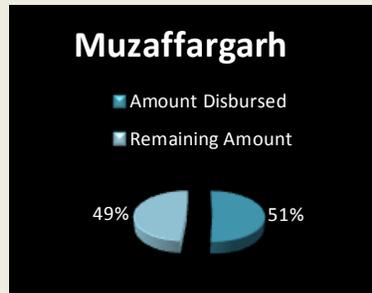
FINANCIAL STATUS OF THE SIX SIGNATURE PROJECTS



OBLIGATED AMOUNT FOR SIX SIGNATURE PROJECTS



OBLIGATED AMOUNT FOR SIX SIGNATURE PROJECTS



HYDROPOWER PLANTS

With a total funding of \$82.5 million, as much as 163MW of generation are estimated to be added through the rehabilitation of Tarbela hydropower plant and completion of two multipurpose dams, Satpara and Gomal Zam.

A baseline condition of the dams is tabulated below. For Satpara and Gomal Zam the baseline at the time of signing of the agreements was zero.

Tarbela Units under Rehabilitation	Baseline at the time of FARA signing		Baseline at shut down for replacement	
	Capacity (MW)	MW gains	Capacity (MW)	MW gains
Unit 1	185	10	185	10
Unit 3	185	10	185	10
Unit 4	135	60	87	108
	505	80	457	128

Achievements in the Quarter

A. Rehabilitation of Tarbela Hydropower Plant under FARA:

During the reporting period, two monitoring visits were made by EPP to verify the ongoing repair and rehabilitation work:

- Under the Tarbela rehabilitation, replacement of windings at unit 3 was completed, resulting in a capacity gain of 10MW. A total of 128MW has been added to the national grid under the Tarbela FARA.
- Installation of spare seals & guides for the relief and bypass valves on turbine side at Units 1-10 was completed during the quarter.
- Procurement of drainage and “unwatering” pumps was completed and installation is in progress.
- To ensure environmental compliance and implementation of EMMP (Environmental Mitigation and Monitoring Plan), EPP contracted with an engineering firm to carry out a site visit and audit on April 5, 2012. During the audit, observations were made and issues were shared with the plant management to take necessary corrective actions. An environmental audit report was submitted to the USAID/ENR.
- \$300,000 was disbursed under the Tarbela FARA in the quarter (Apr-Jun). Total disbursement to WAPDA as of June 30, 2012 is \$10,879,917 out of total obligated amount of \$16,500,000. The current status of the Tarbela FARA is tabulated below:

LINE ITEM #	UNIT #	WORK ITEM DESCRIPTION	AMOUNT (USD)	CLAIMS SUBMITTED (USD)	PRESENT STATUS
I	4	Replacement of Damaged Generator Stator Windings with Class F Insulation Windings	3,700,000	3,700,000	Work completed and 100% amount reimbursed

LINE ITEM #	UNIT #	WORK ITEM DESCRIPTION	AMOUNT (USD)	CLAIMS SUBMITTED (USD)	PRESENT STATUS
2	3	Replacement of Damaged Generator Stator Windings with Class F Insulation Windings	3,700,000	2,849,917	Installation of winding completed on May 25, 2012. 90% amount less spares amount has been reimbursed. WAPDA has placed PO for the spares.
3	1	Replacement of Damaged Generator Stator Windings with Class F Insulation Windings	3,700,000	3,700,000	Work completed and 100% amount reimbursed
4	I-14	Upgrading of the SCADA System	1,000,000		New SCADA system is under manufacturing at ABB and shipment is expected in October 2012
5	I-10	Spare Seals & Guides for Relief & Bypass Valves on Turbine Side	500,000	500,000	Installation completed on all units. 100% amount has been disbursed
6	I-10	Replacement of Electromechanical Governors by Digital Ones	3,000,000		Inspection of digital governors completed by WAPDA engineers at GE USA. Governors are scheduled to be shipped from GE USA in July 2012
7	I-10	Replacement of Worn out Station Drainage & Dewatering Pumps	400,000		New Station Drainage Pumps received and installation is in progress
8		Training	500,000	500,000	20 engineers from Tarbela power station completed O&M training in Switzerland. 100% amount disbursed to WAPDA.
Total			16,500,000	11,249,917*	

*\$10,879,917 disbursed to WAPDA, and \$370,000 approved by ENR and is in process

B. Satpara Multipurpose Dam under Activity Agreement

During the reporting period, two monitoring visits were made by EPP to verify the ongoing repair and rehabilitation work at Satpara:

- The dam and power house 1 & 2 and the irrigation system are 100% complete. As of June, all four units of powerhouse 1 & 2 were operational. However the power generation was only 6 MW due to low reservoir level.
- The construction of primary and secondary canals and the remaining work, including installation of four outlets on the left bank canal, five on DR-1, and eight on W-2, is being completed. Testing of both right and left bank canals was carried out in June 22 by releasing water in the canals.
- The overall civil, electrical and mechanical works at power house 3 & 4 is 70% complete.
- To ensure environmental compliance and implementation of EMMP, EPP contracted with an engineering firm to carry out a site visit and audit during the month of June. An environmental audit report was submitted to the USAID/ENR.
- Of the \$26 million USG funding committed for Satpara, total disbursement as of June 2012 is \$21,485,700. Further details on the progress of the project are tabulated as follows:

LINE ITEM #	WORK ITEM DESCRIPTION	COMPLETION STATUS	AGREEMENT AMOUNT (USD - Million)	CLAIMS SUBMITTED (USD- Million)	PRESENT STATUS
1.	Civil Works for Dam & Power House I & 2	94%	4.500	4.500	Completed. 100% amount reimbursed.
2.	Civil Works for Dam and Power House I & 2	100%	1.877	1.877	Completed. 100% amount reimbursed.
3.	Civil, Electrical & Mechanical Work for Power Houses 3 & 4	50%	5.846	5.846	Completed. 100% amount reimbursed.
4.	Civil, Electrical & Mechanical Work for Power Houses 3 & 4	100% by Apr 2013	3.681		70% work completed and on schedule
5.	Irrigation System	78 %	2.530	2.530	Completed. 100% amount reimbursed
6.	Irrigation System	89 %	2.282	2.282	Completed. 100% amount reimbursed
7.	Irrigation System	90 % by Dec 2011	2.0538	2.0538	Completed. 100% amount reimbursed
7a.	Irrigation System	100% by Jun 2012	0.2282		99.9% completed
8.	Consultancy Services for Satpara Dam	81%	0.0853	0.0853	Completed. 100% amount reimbursed
9.	Consultancy Services for Satpara Dam	90%	0.400	0.400	Completed. 100% amount reimbursed
10.	Consultancy Services for Satpara Dam	100% by Apr 2013	0.390		Ongoing till end of project
11.	Completion of Project, with Testing & Placement in Commercial Operation	90% by Dec 2011	1.9116	1.9116	Completed. 100% amount reimbursed
11a.	Completion of Project, with Testing & Placement in Commercial Operation	100% by Jun 30, 2012	0.2124		Milestone 99.9% complete
Total (million)			\$26.00	\$21.4857	

C. Gomal Zam Multipurpose Dam under Activity Agreement

During the reporting period, one monitoring visit was made by EPP to verify the ongoing repair and rehabilitation work at Gomal Zam. The work progress is detailed below:

- Main dam and spillway concrete and related works along with mechanical testing of dam fixtures are 100 % complete.
- Hydropower and switchyard components are 98 % complete.
- During the quarter, installation of 199 transmission line towers was completed. The towers have been installed from Tank grid station to the Gomal Zam powerhouse covering a distance of 54 km. The stringing of conductors is in progress.
- EPP conducted an inspection visit to Gomal Zam Multipurpose Dam Project from May 28 to May 31, 2012, along with the Auditor from OIG office. During the visit, meetings were held with all key WAPDA officers, management consultants, FWO, the EPC contractor and Sino Hydro sub-contractor for Main dam, Power House and Switchyard and PESCO, the transmission line

contractor of PESCO. Engineers at site were consulted to verify compliance with the technical specifications and standards.

- To ensure environmental compliance and implementation of EMMP, EPP contracted with an engineering firm to carry out a site visit and audit during the month of May. An environmental audit report was submitted to the USAID/ENR.
- In June, the water level at Gomal Zam reservoir was reported to have increased to 715 meters. However, final testing and commissioning is dependent on the reservoir filling up to a normal operating level of 743 meters, which is expected in Aug-Sep 2012.
- Of the \$40 million USG funding committed for Gomal Zam, total disbursement as of June 2012 is \$36,589,000. Project progress is tabulated below:

LINE ITEM #	WORK ITEM DESCRIPTION	COMPLETION STATUS	AGREEMENT AMOUNT (USD- Million)	CLAIMS SUBMITTED (USD Million)	PRESENT STATUS
1.	Main Dam, Spillways Concrete & Related Works	88%	19.171	19.171	Work Completed. 100% amount reimbursed
2.	Hydropower & Switchgear Component	90%	0.757	0.757	Work Completed. 100% amount reimbursed.
3	Main Dam and Spillways Concrete & Related Works	91%	5.125	5.125	Work Completed. 100% amount reimbursed.
4.	Main Dam & Spillways, Concrete & Related Works	100%	5.125	5.125	Work Completed. 100% amount reimbursed.
5.	Hydropower & Switchgear Component	50% of remaining 10% works by Dec 9, 2011	0.920	0.920	Work Completed. 100% amount reimbursed.
5a.	Hydropower & Switchgear Component	100% by Jun 30, 2012	0.920		98% completed
6.	132kV Transmission Line & related works	50%	1.0	1.0	Work Completed. 100% amount reimbursed.
7.	132kV Transmission Line and related works	50% of remaining 10% works by Dec 9, 2011	0.5	0.5	Work Completed. 100% amount reimbursed.
7a.	132kV Transmission Line and related works	100% by Apr 30, 2012	0.5		95% Completed. Expected to complete in July 2012
8a.	Completion of Mechanical testing of Dam fixture	100%	2.0	2.0	Work Completed. 100% Claim reimbursed.
8b.	Completion of Project - Filling of Reservoir, Testing, & Placement in Commercial Operation	50% by Dec 9, 2011	1.991	1.991	Work Completed. 100% claim reimbursed.
8c.	Completion of Project - Filling of Reservoir, Testing, & Placement in Commercial Operation	100% by Aug 30, 2012	1.991		On schedule. Final testing depends upon completion of transmission line, switchyard & availability of water.
Total			\$40	\$36.589	

Challenges

1. Delay in the completion of irrigation system at Satpara Dam due to unforeseen circumstances. Construction activities were suspended at the site due to security concerns in Skardu, and the shortage of construction material due to closure of Karakoram Highway.
2. The Satpara Multipurpose Dam Project requires financial sustainability for operation.

Solutions

1. To mitigate the delay caused by unforeseen circumstances, an amendment was signed for the Satpara Dam project. In the amendment, the completion date of the milestone for the irrigation system was revised to June 30, 2012.
2. To ensure financial sustainability, a mechanism to improve cost recovery from consumers is being developed. WAPDA will enter into a Power Purchase Agreement (PPA) with Gilgit-Baltistan PWD which will help costs including O&M for a continued sustainable project operation.

Planned Activities for the Next Quarter

- At Tarbela, inspect equipment including the SCADA system and digital governors and also check installation of drainage and “unwatering” pumps.
- Verify the commissioning of the completed Gomal Zam Dam project to test at 17.4 MW during Aug-Sept 2012; which requires completion of transmission line, switchyard and filling of the reservoir.
- Monitor work progress on power house 3 and 4 at Satpara Dam.
- Oversee implementation of EMMP at the three hydro-power plants.

THERMAL POWER PLANTS

With a total funding of \$54.231 million, a total of up to 700MW are estimated to be restored through the rehabilitation of three thermal power plants. The baseline condition at the time of signing of the FARA was 315 MW; however due to further deration in the plants’ operational capacity, estimated gains have increased to 700 MW.

Thermal Plants under Rehabilitation	Baseline at the time of FARA signing		Present Operational Baseline	
	Capacity (MW)	MW gains	Capacity (MW)	MW gains
Muzaffargarh TPS	835	165	690	475
Jamshoro TPS	560	95	500	150
Guddu TPS	225	55	200	75
	1620	315	1390	700

Achievements in the Quarter

D. Rehabilitation of Muzaffargarh Thermal Power Station (MTPS) under Activity Agreement:

During the reporting period, one monitoring visit was made by EPP to verify the ongoing repair and rehabilitation work at MTPS:

- A new Activity Agreement and Implementation Letter were signed in April providing the GENCO with sufficient funds to make timely payments to vendors. The completion date per the revised activity agreement is June 30, 2013.
- To ensure environmental compliance and implementation of EMMP, EPP contracted with an engineering firm to carry out a site visit and audit in April. During the audit, observations were made and issues were shared with the plant management to take necessary corrective actions. An environmental audit report was submitted to the USAID/ENR.
- \$2,776,388 has been disbursed to GENCO account during the quarter Apr-Jun 2012. Total amount disbursed as of June 30, 2012 is \$7,648,888. The project progress is tabulated on the next page.

LINE ITEM #	UNIT #	WORK ITEM DESCRIPTION	AGREEMENT AMOUNT	CLAIMS SUBMITTED ON THE BASIS OF OLD FARA	CLAIMS SUBMITTED ON THE BASIS OF NEW PIL	PRESENT STATUS
1	1,2&3	Rehabilitation of Boiler super heater tubes to overcome failure of tubes	\$4,080,000	\$4,080,000		Material received and installed at site. 100% Claim reimbursed from USAID
2	1- 4	Special Cooling Water Treatment.	\$187,440			Re-Tendered fourth time and will be open on 26.06.2012.
3	1-6	Use of Fuel Oil Additive as done on Unit-4 (450 Tons).	\$921,225			Re-Tendered and opened in Mar 2012. Bid Evaluation is in process
4	1,2&3	Replacement of Cold layer element for RAH (2 sets)	\$170,000	\$170,000		Material received and installed at site. 100% Claim reimbursed from USAID
5	1,2&3	Modification of Excitation system (3 set)	\$191,700			Tender opened in Apr 2012 and Bid Evaluation is in process
6	1,2&3	Electric motors for C.T. Fan (02 No) and for GRC fan. (01 No).	\$184,245		\$184,245	PO was issued on 23.09. 2011 for electric motors. LC opened on 02.02 2012 for GRC fan. Material is expected to reach at site in August 2012. Claim for 100% Payment (\$184,245) reimbursed by USAID.
7	3	D.C. Storage batteries (01 Set).	\$60,000	\$60,000		Material received and installed at site. 100% Claim reimbursed from USAID
8	1,2&3	220Kv circuit breaker SF6 type (06 No).	\$337,605			PO issued and LC is in process
9	4	Re-blading of LP. Rotor (LP Turbine Rotor blades of row (6&7), pins & locking device).	\$787,035			PO issued and LC opened on 02.02.2012 Claim for 100% Payment (\$787,035) received but the claim was turned down because one item in PO was dropped from PIL. NPGCL will retender the dropped item and then lodge the claim again.
10	4	Air Pre-Heater Elements (Intermediate and Cold) 02 sets	\$255,000		\$255,000	Material received and installed at site. Claim for 100% Payment (\$255,000) reimbursed by USAID.
11	4	Up-gradation of AVR System (01 set).	\$249,210			Tender opened and LOI issued on 08.06.2012
12	4	Changing of UPS I&2. (01 set).	\$62,835			Tender opened and Bid Evaluation is ongoing
13	4	DEH (01 set).	\$319,500			Re-Tender opened and file is under evaluation with end user.
14	4	Up-gradation of FSSS System (01 set).	\$138,450			Tender opened and bid submission is in process
15	4	Up-gradation of TSI system BNC 3300 or equivalent (Turbine Supervisory Instrument) (01 set).	\$266,250			Tender opened in May 2012 and is under evaluation
16	1-6	Training and software/hardware cost for CMMS and off-line efficiency monitoring system. All Units	\$1,000,000			Technical offer opened in Feb 2012 but it is now re-tender and will open on 31.7.2012.

LINE ITEM #	UNIT #	WORK ITEM DESCRIPTION	AGREEMENT AMOUNT	CLAIMS SUBMITTED ON THE BASIS OF OLD FARA	CLAIMS SUBMITTED ON THE BASIS OF NEW PIL	PRESENT STATUS
17	5&6	I.D. Fan Rotor/Impeller along with Housing and Dampers (04 Set).	\$625,000	\$562,500		Consignment received on 26.02.2011 and installed partially at unit 5. 90% claim (\$562,500) reimbursed by USAID
18	5&6	Air Pre heater Elements Hot end, intermediate & cold end layers along with seals for both units (04 Set).	\$639,000			Tender opened and LOI issued.
19	5&6	Procurement of G.R.C. Fan Impeller/Rotor (01 Set).	\$33,548		\$33,548	Po issued and LC opened on 27.01.2012 Claim for 100% payment (\$33,548) reimbursed by USAID.
20	5&6	Procurement of Cooling Tower Fan Gear Box & its parts. (06 No. gear box).	\$236,963		\$236,963*	PO issued and LC opened on 27.01.2012 Claim for 100% payment (\$236,963) with justification from NPGCL is submitted to USAID ENR.
21	5&6	Economizer Tubes for both Units (02 Sets)	\$2,130,000		\$2,130,000	Po issued and LC opened on 05.04.2012 Claim for 100% Payment (\$2,130,000) reimbursed by USAID.
22	5&6	IP Turbine Rotor (01 No).	\$641,130			PO issued on 14.06.2012.
23	5&6	Replacement of Damaged Exhaust flue gas ducts of material Russian Grade Steel sheets (50 M.T), Plate Type Heat Exchanger for Inner Water Cooling System of Generator and Motor for Starting Oil Pump (Vertical) Units 5-6	\$287,550			Tender opened and LOI issued on 28.05.2012. PO issued on 29.06.2012.
24	5&6	Conversion of Boiler Ignition System from Natural Gas to HSD/Furnace Oil	\$277,965			Tenders opened and evaluation is in process.
25	5&6	Repair of winding and stator of Generators and testing	\$319,500			Tender will open in June 2012
26	5&6	Hydraulic coupling of Boiler Feed Water Pumps (01 No).	\$63,900			Tender opened and file sent for re- evaluation on 1.2.2012.
27	5&6	Modification of Excitation System	\$166,140			Tender opened and is under evaluation
28	5&6	Procurement of 0.4KV Motors for Cooling Towers Fan and APH 02	\$10,650		10,650	PO issued and LC opened in April 2012 Claim for 100% payment (\$10,650) reimbursed by USAID.
29	5&6	Procurement of 6.6KV Motor for C.W. Pumps, CP, ID Fan, FD Fan & BF Pumps (05 No).	\$162,945		\$162,945	Po issued and LC opened in April 2012 Claim for 100% payment (\$162,945) reimbursed by USAID.
30	5&6	Procurement of 6.6/0.4KV Breaker (5 No. 6KV breaker, 18Nos. 0.4Kv Breakers).	\$295,005			PO issued and request to establish LC has been made. Claim for 100% payment (\$295,005) received but LC of second PO was missing and is not opened yet.

LINE ITEM #	UNIT #	WORK ITEM DESCRIPTION	AGREEMENT AMOUNT	CLAIMS SUBMITTED ON THE BASIS OF OLD FARA	CLAIMS SUBMITTED ON THE BASIS OF NEW PIL	PRESENT STATUS
31	5&6	Protection Relay for Generators.	\$29,820			Tenders opened and LOI issued on 24.02.2012. PO issued on 31.05.2012.
32	5&6	MK Breakers, Seal Oil Coolers, PMG	\$169,335		\$169,335*	Consignment received at site. Claim for 100% payment (\$169,335) received and submitted to USAID on May 29, 2012
33	5&6	Supply, Installation, Commissioning & Testing of complete distributed control system (DCS) including field equipment like sensors, transmitter & actuators etc. for turbine governing system DEH-III and Boiler Turbine Auto regulation system YEWPACK-II	\$213,000			Retendered and bid evaluation is in process.
34	5&6	Rehabilitation of Furnace safety Supervisory System (FSSS) including Furnace camera, flame monitoring & ignition system	\$266,250			Demand sent to GM Thermal for administration approval of MD.
Total			\$15,778,195	\$ 4,872,500	\$ 3,182,686	Total Claim of US\$ 8,055,186 received, out of which US\$ 7,648,888 reimbursed by USAID, and US\$ 406,298 is in process of reimbursement.

Amount Reimbursed = US\$ 7,648,888

*Claims submitted to USAID/ENR and reimbursement in process = US\$ 406,298

Summary by Status as of June 30, 2012

Description	Numbers	Amount
Material Received at Site	6	\$ 5,359,335
LC opened and material is awaited	7	\$ 3,545,385
PO issued and LC is awaited	5	\$ 1,591,110
Performance Bond received and PO is awaited	-	-
LOI Issued and Performance Bond is awaited	2	\$ 888,210
Tender opened and in process	10	\$ 2,620,965
Tender Awaited	4	\$ 1,773,190
Total PIL Line Items	34	\$ 15,778,195

E. Rehabilitation of Jamshoro Thermal Power Station (JTPS) under Activity Agreement:

During the reporting period, two monitoring visits were made by EPP to verify the ongoing repair and rehabilitation work at JTPS:

- A new Activity Agreement and Implementation Letter were signed in April providing the GENCO with sufficient funds to make timely payments to the vendors. The completion date per the revised activity agreement is June 30, 2013.
- To ensure environmental compliance and implementation of EMMP, EPP contracted with an engineering firm to carry out a site visit and audit in April. During the audit, observations were made and issues were shared with the plant management to take necessary corrective actions. An environmental audit report was submitted to the USAID/ENR.
- A USAID delegation led by Director Energy Office, Melissa Knight along with EPP and ASP-AiD (Assessment and Strengthening Program) visited the Jamshoro Thermal Power Station to review the rehabilitation work accomplished on Units 1-4. Discussions were held with the technical staff and management of JTPS regarding various aspects of the rehabilitation effort, activity agreements, and the scheduled work plans.
- \$3,518,975 has been disbursed to GENCO account during the quarter Apr-Jun 2012. Total amount disbursed as of June 30, 2012 is \$6,013,975. The status of the JTPS Activity Agreement is tabulated on the next page:

LINE ITEM #	UNIT #	WORK ITEM DESCRIPTION	AGREEMENT AMOUNT	CLAIMS SUBMITTED ON THE BASIS OF OLD FARA	CLAIMS SUBMITTED ON THE BASIS OF NEW PIL	PRESENT STATUS
1	1	Rehabilitation of Air Pre-heater Side A&B Rotor.	\$1,672,050			Tender opened on 29.02.2012, case was sent for approval to CEO (GHCL) who is of the opinion that this tender may be re-invited in order to receive a more competitive price. Re-Tender is scheduled for opening on 28.06.2012 in the office of GM(Th) WAPDA House.
2	1	Replacement of Final Super Heater Coils.	\$958,500			LOI Issued on 19.04.2012 and Performance Bond received on 23.05.2012. PO issued on 30.05.2012, request has been made for allocation of foreign exchange.
3	1	Complete replacement of Flue Gas Duct & Air Pre-heater Bottom hoppers and F.D Fan duct up to steam coil Air Heater.	\$720,000	\$720,000		The consignment received at JPCL on 16.01.2012. Installation is in process. Claims of \$720,000 reimbursed
4	1	Complete Rehabilitation of Cooling Towers.	\$500,000	\$450,000	50,000*	Material received at Jamshoro. Installation is completed. 90% claim (\$450,000) reimbursed. 10% Claim(\$50,000) was forwarded to USAID/ENR on June 26, 2012.
5	1	Up gradation / replacement of Auto Burner control system and Data Acquisition System.	\$300,000	\$300,000		Material received and installed at site. 100% Claim reimbursed by USAID.
6	1	Hiring of services for major overhauling.	\$810,000			The tender was opened on 20.02.2012. Only one firm M/s IED Ukraine through their local agent M/s Istil Karachi participated. Their offer is under evaluation and their reply is awaited.
7	1	Soot Blower Spare Parts.	\$117,150		\$117,150**	LC opened on 28.12.2011. Material received at site on 12.05.2012 but specifications mentioned in PO are different from PIL specifications. Claim for 100% Payment submitted to USAID with observations as specifications mentioned in PO are different from PIL specifications.
8	1	Tube Bundles of Steam Converter, unit#1	\$250,000	\$225,000	\$25,000	Material received at site on 21.11.2011 and installed. 100% Amount reimbursed by USAID.
9	1	Spares for Oil & HSD Burners & Igniters.	\$213,000		\$213,000**	LC established on 28.12.2011 and material received at site but specifications mentioned in PO are different from PIL specifications. Claim for 100% Payment submitted to USAID with observations as specifications mentioned in PO are different from PIL specifications.
LINE	UNIT	WORK ITEM DESCRIPTION	AGREEMENT	CLAIMS	CLAIMS	PRESENT STATUS

ITEM #	#		AMOUNT	SUBMITTED ON THE BASIS OF OLD FARA	SUBMITTED ON THE BASIS OF NEW PIL	
10	1	Air Pre-heater Elements & Seal,	\$670,000	\$670,000		Material Installed at site amount reimbursed. 100% Claim (\$670,000) reimbursed by USAID.
11	1-4	Use of fuel oil additives to prevent slag formation and cooling water treatment chemicals to prevent scale buildup.	\$958,500			Tender opened on 17.02.2012. Four companies have participated. Their bids are under evaluation process.
12	2-4	Replacement of H.P Heaters along with the valve and controllers including Rehabilitation of Instrument Control & Protection System.	\$3,306,825		\$3,306,825	LC Established on 30.09.2011. The material is expected to reach TPS up to July 2012. Claim for 100% Payment (\$3,306,825) reimbursed by USAID.
13	2-4	Complete Rehabilitation of Cooling Towers.	\$718,875			P.O No. ICB-21/11/JFOB-25/1432-35 placed on 01.02.2012 but L/C is awaited.
14	2-4	Complete Rehabilitation of drain valves.	\$351,450		\$351,450**	LC established on 28.12.2011. The material is expected to reach TPS by July 2012. Claim for 100% Payment (\$351,450) submitted to USAID with observations as specifications mentioned in PO are different from PIL specifications.
15	2-4	Rehabilitation of soot blowing system.	\$702,900			LOI issued and Performance Bond received on 22.05.2012. PO issued on 30.05.2012 and request has been made after allocation of foreign exchange.
16	2-4	Supply, installation and commissioning of complete economizers of three units	\$3,195,000			Tenders have been opened and the case is under evaluation. Allocation of Foreign exchange is awaited. LC established on 28.06.2012. Claim for 100% Payment will be lodged shortly.
17	2	<p>a. Modification / Rehabilitation of Electro Hydraulic and Mechanical Hydraulic Governing system.</p> <p>b. Replacement of Data Acquisition System (DAS-100), Auto Regulation System (MZ-III) and Temperature Scanners for Generator Winding Temperature, Super Heater/Re- Heater Temperature, Boiler Drum Metal Temperature, F.D, I.D Fan motor Temperature, Boiler Feed Pump Temperatures with latest Distributed Control System (DCS)</p> <p>c. Replacement of existing FSSS along with Furnace Flame Monitoring on one unit. Replacement of Data Acquisition System (DAS-100), Auto Regulation System (MZ-III) and Temperature</p>	\$1,171,500			Tender is being Re-invited in the instruction received from CEO (GHCL)

LINE ITEM #	UNIT #	WORK ITEM DESCRIPTION	AGREEMENT AMOUNT	CLAIMS SUBMITTED ON THE BASIS OF OLD FARA	CLAIMS SUBMITTED ON THE BASIS OF NEW PIL	PRESENT STATUS
		Scanners for Generator Winding Temperature, Super Heater/Re- Heater Temperature, Boiler Drum Metal Temperature, F.D, I.D Fan motor Temperature, Boiler Feed Pump Temperatures with latest Distributed Control System (DCS) d. Replacement of Turbine Vibration system with Vibro-Control-4000 Schenk or equivalent				
18	2	Procurement of Boiler Feed Pump Motor Complete.	\$117,150		\$117,150	LC was opened on 28.12.2011 and the equipment reached at site. Claim for 100% Payment (\$117,150) reimbursed by USAID.
19	3	Replacement of Final Super Heater Coils.	\$958,500			PO issued on 24.05.2012 and now foreign exchange allocation is awaited.
20	3	Three-Way valve of Oil burner.	\$200,000	\$180,000	\$20,000	Material received at JPCL on 23.11.2011 and is installed. 100% Amount has been reimbursed by USAID.
21	3	Spares for Overhauling of Turbine.	\$532,500		\$526,802**	Consignment reached Jamshoro but specifications mentioned in PO are different from PIL specifications. Claim for (\$526,802) submitted to USAID with observations as specifications mentioned in PO are different from PIL specifications.
22	4	I.D Fan Impellers.	\$479,250			Purchase Order issued on 16.03.2012. LC established on 28.06.2012. Claim will be lodged shortly.
23	1-4	Off-line Efficiency Monitoring system and training.	\$426,000			Tender opened on 29.05.2012 and bids are under evaluation.
Total			\$19,329,150	\$2,545,000	\$4,727,377	Total claim of US\$ 7,272,377 received, out of which US\$ 6,013,975 reimbursed by USAID, US\$ 50,000 is in process of reimbursement while remaining US\$ 1,208,402 was sent to USAID/ENR with observations.

Amount Reimbursed = US\$ 6,013,975

*Claims submitted to USAID ENR with AEAI Certification= US\$ 50,000

**Claims submitted to USAID/ENR with observations = US\$ 1,208,402

Summary by Status as of June 30, 2012

Description	Numbers	Amount
Material Received at Site	10	\$3,619,800
LC opened and material is awaited	4	\$7,332,525
PO issued and LC is awaited	4	\$3,338,775
Performance Bond received and PO is awaited	-	-
LOI Issued and Performance Bond is awaited	-	-
Tender/Re-Tender opened and in process	3	\$2,194,500
Re-Tender Awaited	2	\$2,843,550
Total PIL Line Items	23	\$19,329,150

F. Rehabilitation of Guddu Thermal Power Station (GTPS) under Activity Agreement:

During the reporting period, one monitoring visit was made by EPP to GTPS:

- A new Activity Agreement and Implementation Letter were signed in April providing the GENCO with sufficient funds to make timely payments to vendors. The completion date per the revised activity agreement is June 30, 2013.
- With EPP's assistance, an agreement was reached between GE and Guddu management regarding the upgrade/uprate of block-I (one of the two General Electric combined cycle plants) after a series of negotiations on June 08, 2012. GE will provide an itemized price list within eight weeks starting from the date of the agreement.

Challenges

- I. Delays are anticipated in the procurement process due to the weak financial standing of the GENCO and inability to pay on time through a letter of credit.

Solutions

- I. EPP experts worked with USAID and the GENCO in redefining the reimbursement process and revising the FARA to facilitate the GENCO in making timely payments. New Activity Agreements and Implementation Letters were signed in April allowing the GENCO to have sufficient funds to make timely payments to the vendors. The completion date per the revised Activity Agreements is June 30, 2013.

Planned Activities for the Next Quarter

- Carry on equipment inspection at Guddu; expected to be ready for FOB in Sept 2012.
- Conduct environmental audit and ensure implementation compliance of EMMP at the three thermal plants.
- Monitor progress and inspect equipment arriving at the power plants.

PROGRAM COMPONENT 2:

Advice and Support of Energy Sector Reform

EPP is supporting Energy Sector Reform through two basic mechanisms:

- a) Direct undertaking of specific activities requested by GOP energy entities, namely Ministry of Water and Power, Planning Commission, Ministry of Finance, Ministry of Petroleum and Natural Resources, NTDC, NPCC, ENERCON, and AEDB.
- b) Direct institutional support through the secondment of EPP staff in the offices of the energy sector entities as advisors and specialized support staff.

SUPPORT TO MINISTRY OF WATER AND POWER

Achievements in the Quarter

Draft Bill on Energy Efficiency (18th Amendment)

Under the directives of Ministry of Water and Power, EPP provided policy advice on building a base for the passage of the Draft Bill on Energy Efficiency. Stakeholder consultations were organized to receive feedback and achieve consensus among provincial and federal stakeholders. The Draft Bill was finalized in agreement with the Council of Common Interests (CCI) in a final stakeholder meeting held on April 13, 2012. The Draft Bill has been forwarded to the Cabinet and Law Division for review.

Energy Efficiency (Institutional Strengthening/Capacity Building)

Upon MWP's request for creating an APEX body on Energy Efficiency, EPP provided assistance to help rebuild ENERCON (The National Centre for Energy Conservation). With EPP's assistance, an organizational transformation plan for ENERCON was developed and competent staff hired for vacant key positions.

EPP held an introductory meeting with the newly appointed MD of ENERCON and discussed the various options available to support energy conservation activities in Pakistan. EPP staff provided ENERCON with a roadmap for energy conservation and energy efficiency activities and discussed the modus operandi to develop a policy to phase out incandescent light bulbs and for initiating an energy efficiency program for Pakistan.

In June, EPP facilitated a meeting of provincial stakeholders and ENERCON in which preliminary discussions were held on the use of energy efficient lighting and phasing out of incandescent bulbs. EPP also advised and facilitated ENERCON in joining the Global Efficient Lighting Partnership organization, which provides technical support for energy efficiency lighting policies to its members.

Renewable Energy Policy

Upon MWP's request EPP worked in collaboration with the Alternative Energy Development Board (AEDB) to develop medium-term small-scale renewable energy policies for the country. A series of meetings were held between EPP and AEDB to discuss renewable energy sources and how they could be put to use, and the mechanism for drafting a policy framework with a focus on institutional roles/responsibilities.

Financial Modeling at CPPA

During the reporting quarter, EPP initiated work on improving the data entry process at the Central Power Purchasing Agency (CPPA) and to bridge the communication gap between MWP and CPPA.

EPP met with CPPA Treasury Department at WAPDA House, Lahore to gather information on the financial modeling process being used by CPPA and their mode of operation. The current methodologies used at CPPA were evaluated and the findings documented in a memo. The memo entails recommendations on improvements in the CPPA financial model as well as a roadmap for improving communication between CPPA and MWP. EPP shared the memo with MWP and is awaiting its review and approval.

SUPPORT TO MINISTRY OF FINANCE

Achievements in the Quarter

Tariff Differential Subsidy and Tariff Reform

To support the Ministry of Finance (MOF) in carrying out the fiscal discipline and rationalization of the energy sector, EPP held a series of meetings with officials of MOF and the Chief Engineer Subsidy Cell and collected information on the subsidy to the power sector. Based on a detailed analysis of the tariff differential subsidy and its impact on the sector, EPP developed a proposal for improving the targeting of the subsidy to lower income households.

The proposal was shared with the Additional Secretary (Budget) and Joint Secretary (MOF) for review and approval.

Policy Revision for Grant of Subsidy to Tube Wells Consumers in Balochistan

During the quarter, EPP started providing assistance to MOF in preparing a revised policy for granting a subsidy to tube well consumers in Balochistan in order to reduce the federal government's share of the subsidy and increase the provincial share. Presently, EPP is in the process of collecting information on the tube well subsidy in Baluchistan and conducting detailed analysis to reassess the need for, and effectiveness of the subsidy.

Private Sector Hydel Power Generation Package

The Government of Pakistan is drafting a policy framework to introduce incentives to encourage the private sector to invest in long-term hydro projects. Upon MOF's request, EPP provided assistance to MOF in preparing a policy framework and a package of incentives to encourage private sector hydel power generation.

SUPPORT TO MINISTRY OF PETROLEUM & NATURAL RESOURCES and PLANNING COMMISSION

Achievements in the Quarter

Circular Debt

Upon the Planning Commission's request for EPP to conduct a comprehensive study on Circular Debt, in collaboration with the Power Distribution Program, EPP initiated work on a paper: 'Power Sector Circular Debt-History and Current Situation' to determine the main causes of circular debt as well as its financial impact w.e.f 2004-05 and onward.

For compilation of the paper, Planning Commission and MOF's assistance was sought in the collection of data from NPCC/CPPA. Meetings were held with Member (Energy), Planning Commission in which the scope of the paper was discussed and issues highlighted in accessing the relevant data.

Despite efforts from the Planning Commission as well as by the Ministry of Finance, relevant data could not be obtained from CPPA. Based on the available data, the first draft of the paper on Circular Debt was shared with the USAID Energy Office for review.

Shale Gas

EPP coordinated with LMKR (a petroleum technology company) and received detailed technical and financial proposals for a shale gas resource assessment. A Brief summarizing the key developments, salient features of the proposal, and options for a future course of action was prepared and shared with the Additional Secretary, Petroleum. *(Note: The subject is on hold pending further clarity from MPNR.)*

Downstream Oil Policy

Upon MPNR's nomination, an EPP expert was made a member of a committee to draft a refining policy and ex-refinery pricing mechanism. Following discussions with the Financial Advisor MPNR on the scope and conceptualization of the policy, EPP initiated work on formation of a draft policy and shared it with MPNR for internal review.

LNG Imports:

The EPP expert seconded at MNPR was fully dedicated to providing technical support for the LNG Import Program to the Secretary and Additional Secretary MPNR and Directorate General (DG) Gas. A proposal outlining the project structure for LNG imports by the private sector (via competitive bidding) was developed and presented to the Economic Coordination Committee (ECC) of the Cabinet. The ECC formed a high level LNG Sub-Committee to further review and finalize the proposal. A revised

project structure was developed after several review meetings of the Sub-Committee. Solicitation documents were developed for USAID for hiring an LNG consulting company. (Note: in view of MPNR's time constraint and urgency, it is proceeding with the process to recruit the services of an international LNG consulting company to provide immediate support in preparation of a Request for Proposal, bid evaluations and activities related to the competitive bidding process for LNG imports). However, MPNR will welcome financial support in hiring of a consulting company.

PERIC (Pakistan Energy Research and Information Center)

Acting upon the proposal of The Energy Wing of the Planning Commission to set up an Energy Research and Information Center, EPP developed a concept paper on developing such an organization. This institution will cover policy/advisory services to the energy sector, maintain a dataset of the industry and conduct specialized studies.

EPP held discussions with the Energy Wing (PC) pertaining to financing and involvement of stakeholders, and provided guidance in the initial development of a business model. The concept paper developed by EPP has been sent to the Planning Commission for review and comments.

ECC Summaries

During the quarter, EPP provided support in drafting the following documents for the Economic Coordination Committee:

- Brief, Working Paper and PC-I of Neelum Jhelum Hydroelectric Project .
- Summary on 'Delay In Payments By The Power Purchaser To IPPs Under Power Policy -2002.'
- Summary on 'Offloading Energy Sector Projects from Public Sector Development Program.'

SUPPORT TO NTDC/NPCC

Achievements in the Quarter

NTDC Business Plan

A collaborative approach was adopted in finalizing the Business Plan for the National Transmission and Despatch Center (NTDC). NTDC senior managers provided detailed commentary and held a series of meetings with EPP to discuss the documents and incorporate NTDC's feedback and recommendations.

As a result of interaction with EPP, the Planning Department of NTDC overhauled its technical assessment and its near-term capital program. NTDC recommended additional in-depth technical assistance in performance audits, benchmarking, and learning about best practices applicable to NTDC.

The draft NTDC Business Plan was shared with USAID and MWP for review. After incorporating the comments of USAID and MWP, the Business Plan was submitted to NTDC senior management for review. A copy of the draft Business Plan has also been submitted to the Secretary Ministry of Water and Power for facilitation in the implementation of the Plan.

During June, a USAID delegation led by USAID Energy Office Director Melissa Knight visited the National Transmission and Dispatch Company (NTDC) in Lahore. The USAID team met with General Manager Power Planning NTDC and discussed the current state of the national energy grid and checked on the progress of the USAID-funded Power System Analysis Training program.

Improving Energy Supply

During the reporting quarter, EPP completed a 'Study on Evaluation of Economic Dispatch' at NPCC by analyzing NPCC procedures, developing a gap analysis of what is required for economic dispatch, and evaluating the efficacy of NPCC's existing economic dispatch models. This study encompasses a review of NPCC's dispatch function; identifies impediments to effective implementation of the Economic Dispatch Model; and provides recommendations for overcoming those impediments. EPP also has recommended an action plan to fine tune NPCC's economic dispatch model by taking into account the particularities of electric system conditions in Pakistan.

Standard Operation Procedures for NPCC

EPP continued working on developing Standard Operating Procedures (SOP) for National Power Control Center (NPCC) during the reporting period. Twenty-five SOPs have been drafted and shared with NPCC/NTDC for comments and feedback. After incorporating the suggestions/recommendations of NPCC, a formal document comprising of fourteen SOPs was submitted to NPCC.

Review of the remaining SOPs is in progress. The objective is to develop a standard framework for operations, which will be subject to a process of continuous improvement as part of a strategy for introducing total quality management within NTDC.

Contingency Plan for NPCC

During this quarter, EPP developed a contingency plan for NPCC. The draft contingency plan was shared with related stakeholders and feedback is awaited before finalizing the draft.

The contingency plan will provide backup procedures in the wake of a power system emergency. It will serve as a guide line and encapsulate prior agreed upon actions to be taken and will set procedures to be activated in response to identified emergencies ranging from relatively mild that can be locally contained, to catastrophic requiring moving to a backup offsite facility to ensure safety of assets and employees; and continued availability of essential services.

DISCOs Transmission Coordination / Model DISCO Task Team

Upon USAID's directive to focus on the transmission network of DISCOs, technical experts from EPP and the Power Distribution Program formed a team to work on reviewing the 132/66 and 33 KV related transmission activities of the distribution companies. The Model DISCO Task Team discussed the methods for selecting and evaluating distribution companies suffering high transmission system technical losses. The team visited distribution companies at Hyderabad (HESCO), Lahore (LESCO) and Faisalabad (FESCO) and collected 132kv data to analyze system performance.

Challenges

1. Frequent changes in senior management positions at the Ministry of Water and Power consume additional time and effort as the professional working relationship established with previous officials loses its standing and requires developing a new working relationship with the new decision-makers at MWP.
2. Political pressures and elections may affect the implementation of Power Sector Reforms or decision making.
3. Constant changes in priority items at the GOP ministries delay project development and implementation.
4. Delays in expediting the LNG import program will increase the current energy crisis and impede delivery of much needed fuel supplies to the power sector.
5. The cautious approach adopted by GOP is in de-regulation and liberalization of the petroleum sector, and the presence of a strong stakeholder lobby for GOP support and incentives for a downstream oil policy has prevented development and implementation of needed reforms.
6. Reluctance of GOP entities to share requisite data to conduct studies and to carry out evaluations and draft reports inhibits progress.

Solutions

1. EPP seconded staff works on a day-to-day basis with the MWP Secretary, Additional Secretary, Joint Secretary, MD ENERCON and CEO AEDB. This regular interaction provides a platform for developing a strong level of trust and a congenial working environment.
2. EPP has completed various assignments for MWP senior management and consultants are an integral part of the decision-making process.
3. Regular meetings with MWP for streamlining and prioritizing issues.
4. The LNG import program needs to ensure a level playing field for all parties and a transparent and open mechanism.
5. It is necessary to promote stakeholder buy-in for a proactive downstream oil policy and to convince the GOP that de-regulation and liberalization will be in the long term interest of the sector.
6. Pursue GOP senior officials to ensure that the project stakeholders and implementing partners share needed information.

Planned Activities for the Next Quarter

1. Policy – Continue work on Energy Conservation, Renewables, Power Sector Reforms.
2. Regional Initiatives – Work on regional energy initiatives.
3. Continue support for revision of the Electricity Act and the Energy Efficiency Act and institutional building of ENERCON.
4. Formulate energy strategies including phasing out of incandescent bulbs.
5. Continue efforts with all stakeholders to finalize the structure for the LNG import program, obtain the required approvals and initiate the process.
6. Continue meetings with stakeholders to agree on the main terms of reference as well as conceptualization and drafting of the downstream oil policy framework.

7. Finalize of the Standing Operating Procedures for NPCC.
8. Upon USAID's directive, carry on work with the Model DISCO Task Team.

COMPONENT 3:

New Projects, Planning and Development

EPP continued its support to the USAID Mission in its effort to determine funding levels and schedules for new projects.

During the quarter upon USAID's request, a technical and financial evaluation and assessment was conducted for one project, seven projects were reviewed and one visit was undertaken as part of the project review.

The list of projects under investigation and review during the quarter include:

#	Project	Cost
1.	84 MW Kurram Tangi	expected to cost around \$700 million
1.a)	18.9MW Kaitu Weir	expected to cost around \$93 million
2.	Rehabilitation of 1,000 MW Mangla	expected to cost around \$400 million
3.	96 MW Jinnah	\$225 Million project, WAPDA has requested \$20 million from USAID
4.	121 MW Alai Khwar	\$208 Million project, WAPDA has requested \$17 Million from USAID
5.	72 MW Khan Khwar	\$600 Million, WAPDA has requested \$28.5 million from USAID
6.	130 MW Duber Khwar	\$290 million project, WAPDA has requested \$24 million from USAID
7.	106 MW Golan Gol	\$268 million project needs \$107 million

Achievements of the Quarter

- Throughout the reporting quarter, Component 3 supported USAID in answering questions and addressing issues related to hydropower projects in preparation for Congressional Hearings. The effort focused on EPP developing a scope of work for undertaking Step II Due Diligence¹ for Mangla and Kurram Tangi projects and in finalizing the Initial Environmental Examination for Mangla. The draft SOW has been submitted to USAID for review and approval.

¹ Due Diligence of USAID identified projects is carried to reduce USG risks and develop project implementation agreements. Due Diligence is carried out in 2 steps. Step I focuses on gathering and analyzing existing project documents to develop a strong basic understanding of the project and its status, including cost estimates and schedules. Step I serves as a basis for a tentative USG decision to support or not support the respective project. Step II involves gathering and analysis of additional information regarding a project, including validation of cost estimates from Step I. It recommends the type and level of USG support and identifies when the support is required and recommends the mechanism through which the support should be provided.

- In April, EPP attended a high level meeting in WAPDA House Lahore to determine next steps with regard to the Mangla Dam project based on the conclusion and recommendation of the Consultant's Report (hired by WAPDA).
- EPP also facilitated a visit of senior USAID and EPP staff to Mangla Dam Power Station. The visiting team were given a detailed briefing on the proposed upgradation of the Mangla Hydropower Station and taken on a tour of the power station. The visit provided an opportunity for USAID to appreciate the magnitude of the facility and importance of the project in improving hydroelectric power generation in Pakistan.
- On USAID's request, WAPDA submitted a proposal for funding of Kaitu Weir and affiliated works as a stand-alone area development initiative costing about \$93 million. This is a portion of the much larger \$700 million Kurram Tangi Dam project. During the quarter, EPP submitted a brief review, evaluation and budget on Kaitu Weir to USAID for consideration, estimating that works could cost up to \$93 million. The review highlighted that if undertaken, the project would improve 60 km of roads and bridges, and create capacity to produce 18.9 MW of hydroelectric power and irrigate 16,380 acres of land in the FATA.
- Upon USAID's request, EPP compiled and shared key information and details related to 5 hydropower projects being undertaken by WAPDA. Although these projects are nearing completion, additional funding support would allow for an expedited completion. This is an opportunity for USAID to grant about \$100 million and add more than 500MWs to the grid within the coming months.

Challenge

- I. WAPDA raised concerns about not being provided sufficient information by USAID regarding the plans of USG for supporting the WAPDA project.

Solution

- I. Regular interaction with WAPDA through email correspondence and in person meetings to apprise WAPDA of any developments in USAID energy portfolio.

Planned Activities for the Next Quarter

- Continue to provide support to USAID regarding candidate projects.

Coordination & General Support Services to USAID

During the reporting quarter, EPP continued providing coordination and general support services to USAID to ensure smooth implementation of project activities:

- Upon USAID's request, a "Conference Attendance Data" was prepared providing detailed information on conference-related expenditures, attendance, and planning for the past 3 years.
- EPP prepared a draft speech and presentation for the USAID Energy Office for the National Energy Conference held in Lahore, April 9, 2012.
- EPP facilitated USAID's Contracting Office Staff in developing an understanding of the FARA procurement process and the monitoring and verification process adopted by EPP.
- Participated in a workshop held on 'Gender Equity and Women's Empowerment' at the US Embassy.
- Provided support to USAID in compiling event briefers for visits to Gomal Zam and Satpara Dams in May. However, the visits were postponed by USAID due to unforeseen circumstances.
- Coordinated with project team members in the preparation of a results framework for a Performance Monitoring Plan (PMP) for the USAID Energy Office. Gave a presentation on EPP's PMP to the USAID team.
- In collaboration with PDP, submitted a document to USAID on "Short-Term Solutions to Mitigate Energy Crisis". Rounds of meetings were conducted between USAID, EPP and PDP and discussions held on possible "quick impact" solutions.
- Following USAID's request for prioritizing the policy issues facing the energy sector, EPP and the Power Distribution Program jointly developed an energy sector policy matrix and forwarded it to the Director, USAID Energy Office for review. The matrix focused on the selected problems, desired policy prescriptions, role of stakeholders and the resources required to move forward.
- EPP conducted various meetings with the World Bank (WB) and Asian Development Bank (ADB) to coordinate efforts to ensure maximum impact and avoid duplication of efforts in the energy sector.
- Facilitated USAID in developing a matrix for a Transmission Efficiency Improvement Program (TEIP). The matrix summarized potential transmission projects, action items, impact and information about the work of other donors in the transmission area.

Administration/Management Support to EPP

EPP administration is structured to support on-going and planned project activities while ensuring contractual compliance. Administration encompasses the following functions: Accounting/Finance, Human Resources, Procurement, Contracts, Logistics and IT. In implementing these functions, processes and policies are developed to ensure uniformity of efforts.

Accounting/Finance

Miscellaneous payments were made to the vendors during this quarter. Payroll and financial reconciliations were completed.

For better financial recording purpose, the chart of account was finalized in the month of June. From July 2012 all transactions will be recorded in the ledger according to a finalized classification of accounting codes.

Procurement

During the reporting period, office equipment/supplies, security equipment, and services were procured to support operations.

The health insurance policy for the EPP staff was renewed for the next year and necessary documentation regarding life insurance for the staff was completed.

The lease agreement for residential accommodation for the expatriate staff was finalized. During the reporting period, the administration team was engaged in planning, organizing and initiating the operational activities for the new staff house. Tasks were scheduled and assigned to supporting staff to perform their duties both at the Energy House and the staff house. Procurement of various items such as bedroom furniture, kitchen utensils, electrical appliances, security arrangements and other household items, as well as different services for the staff house were completed.

A consultancy contract was awarded to the Institute of Public Policy for 'Assessing the Impact of Power Shortages/Interruptions for Various Economic Sectors in Pakistan'.

Logistics

Provided logistical support for 31 trips made by project staff. Arranged international travel for expats.

IT

Trouble shooting undertaken for IT equipment in the office and for operations at ministries; all related matters initiated have been resolved during this quarter:

- Internet Services Setup (Data/Video) @F-7/2 Guest House.
- Daily routine network and systems support for all Project Staff.
- Installation and configuration of network color laser jet printer and fax machine at the Ministry of Water and Power.
- Complete hardware inventory inspection by USAID official.
- Relocated 1 CCTV camera.
- Set-up group e-mail account on *ep-ep.com.pk* domain.

Confidential information redacted

Confidential information redacted

Confidential information redacted

Project Status Report

(Mar through June 2012)

Contract Ref.	Activity Description / Deliverables	Accomplishments	Status	Completion Date
C.4.2	Component One: Monitoring and Support of Project Implementation			
C.4.2.1	Tarbela Hydropower Power Station Rehabilitation Project	<ul style="list-style-type: none"> Major equipment installed 128 megawatts added to the national grid 66% disbursements made to WAPDA 	Rehabilitation in progress and major equipment installed. With replacement of three generator windings at unit 1, 3 & 4, a capacity gain of 128 megawatts has been added to the national grid. Spare seals & guides for the relief and bypass valves on turbine side at Units 1-10 have already been installed. The installation of drainage and “unwatering” pumps is progress as per schedule. Procurement of digital governors and SCADA system is being completed. Out of \$16.5 million USG funding for Tarbela, total disbursement made to WAPDA is \$10,879,917, which is 66% of total obligated amount.	The project completion date per the amended agreement is December 31, 2012.
C.4.2.2	Muzaffargarh Thermal Power Station Rehabilitation Project	<ul style="list-style-type: none"> 280 megawatts added to the national grid 48% disbursements made to the GENCO Agreements revised to expedite disbursements to the GENCO to process procurements 	280MW capacity has been restored with the rehabilitation/replacement works out of the total estimated gains of 475 MW. After rehabilitation of boiler super heater tubes at Unit 1, 2 & 3, 230MW capacity has been restored and with replacement of air pre-heater elements (intermediate and cold end) at Unit 4, another 50MW were added. For the remaining equipment, delays were anticipated in the procurement process due to the GENCO’s weak financial standing and inability to pay on time through a letter of credit. EPP worked with USAID and the GENCO in redefining the reimbursement process and revising the FARA to facilitate the GENCO in making timely payments. A new Activity Agreement and Implementation Letter were signed in April allowing GENCO to have sufficient funds available to make timely payments to the vendors. Out of the \$ 15,778,195 USG funding for Muzaffargarh, the total disbursement made to GENCO is \$7,648,888, which is 48% of total obligated amount.	The project completion date per the amended agreement is June 30, 2013.
C.4.2.3	Jamshoro Thermal Power Station Rehabilitation Project	<ul style="list-style-type: none"> 25 megawatts added to the national grid 31% disbursements made to the GENCO Agreements revised to expedite 	25 MW were added to the national grid with replacement of air pre-heater elements and seals and an autoburner control system. For the remaining equipment, delays were anticipated in the procurement process due to the GENCO’s weak financial standing and inability to pay on time through a letter of credit. EPP staff worked with USAID and the GENCO in redefining the reimbursement process and revising the FARA to facilitate the GENCO in making timely payments. A new Activity Agreement	The project completion date per the amended agreement is June 30, 2013.

Contract Ref.	Activity Description / Deliverables	Accomplishments	Status	Completion Date
		disbursements to the GENCO to process procurements	and Implementation Letter were signed in April allowing the GENCO to have sufficient funds available to make timely payments to the vendors. Out of the \$ 19,329,150 USG funding for Jamshoro, total disbursement to the GENCO is \$6,013,975, which is 31% of the total obligated amount.	
C.4.2.4	Guddu Thermal Power Station Rehabilitation Project	<ul style="list-style-type: none"> Agreements revised to expedite disbursements to the GENCO 	<p>After a series of negotiations between GE and Guddu management regarding the upgrade/uprate of Block-I, one of the two General Electric Combined Cycle Plants (CCP), an agreement was reached on June 08, 2012. GE will provide an itemized price list within eight weeks of the date of Agreement.</p> <p>Guddu is facing difficulties in opening the Letter of Credit since the credit limit approved by the local bank (UBL) has been exhausted. Guddu management is making efforts to establish a credit line with other banks; however so far their efforts have not been successful. EPP is facilitating the GENCO, and has informed USAID/ENR and OFM about options to help resolve the matter.</p>	The project completion date per the amended agreement is June 30, 2013.
C.4.2.5	Gomal Zam Multi-Purpose Dam Project (completion of dam, power plant and transmission line)	<ul style="list-style-type: none"> Main dam complete Transmission line and switchyard is near completion 92% disbursements made to WAPDA 	<p>The installation of transmission line towers is complete and stringing of conductors is in progress; towers have been installed over a distance of 54 km (95% completion achieved) starting from the Tank Grid station to the powerhouse.</p> <p>Main Dam and Spillway concrete and related works along with mechanical testing of dam fixtures are 100 % complete. The hydropower and Switchyard component is 98 % complete.</p> <p>Reservoir filling started with closure of the diversion tunnel, and the water level has gone up to 715 meters in the reservoir. Final testing and commissioning is dependent on completion of the transmission line, switchyard and the reservoir filling up to the normal operating level of 743 meters, which is expected in Aug-Sep 2012.</p> <p>Of the \$40 million USG funding for Gomal Zam, total disbursement to WAPDA is \$36,589,000, which is 92% of the total obligated amount.</p>	The project completion date per the amended agreement is Sept. 30, 2012.

Contract Ref.	Activity Description / Deliverables	Accomplishments	Status	Completion Date
C.4.2.6	Satpara Multi-Purpose Dam Project (completion of dam, power plant, and irrigation works)	<ul style="list-style-type: none"> Main dam and powerhouse 1&2 100% completed 13.86 MW capacity added (6MW present generation due to low water level) 83% disbursements made to WAPDA 	<p>The dam and power house 1 & 2 are 100% complete, irrigation system is 99.9 % complete, and the remaining work includes installation of four outlets on left bank canal, five on DR-1 and eight on W-2. The overall progress of civil, electrical and mechanical work at power house 3 & 4 is 70%. The expected completion date of Unit 3 & 4 is April 30, 2013 as per the Agreement completion date.</p> <p>Of the \$26 million USG funding for Satpara, total disbursement made to WAPDA is \$21,485,700, which is 83% of total obligated amount.</p>	The project completion date is April 2013.
C.4.3	Component Two: Advice and Support of Energy Sector Reform			
	I. Support to the Ministry of Water and Power			
OVERALL SECTOR SUPPORT				
Table C.4.3	As requested by the MWP and approved by USAID, second senior policy, institutional, communications, power generation, and transmission professionals and support staff to serve on the governance and restructuring team of the MWP.	Technical staff seconded at MWP, MPNR, MOF and PC assisting in areas related to generation, transmission, policies and finance.	On-going support is provided in the areas related to generation, transmission, finance, IT, energy conservation, policies related to subsidies, financial analysis, I.T, LNG, shale gas etc.	Jan 2015.
Table C.4.3	Preparation of the Action Plan for work at MWP which will describe specific tasks to fulfill EPP's efforts in Governance Restructuring Team, in support of PSRP	Action plan developed and submitted to MWP	An action plan for assisting MWP in the implementation of Power Sector Reform Program (PSRP) was developed with support from EPP and PDP.	Action plan developed and submitted to MWP in June 2011. Implementation is on-going till Jan 2015.

Contract Ref.	Activity Description / Deliverables	Accomplishments	Status	Completion Date
Table C.4.3	Preparation and implementation of a Communication Strategy for the MWP	<ul style="list-style-type: none"> Communication strategy developed and submitted to MWP and approved by the secretary MWP MWP website updated 	Coordinated with different sections of MWP to make data available for broad dissemination, which requires obtaining necessary approvals. Coordinated with the IT Ministry for the technical assistance required to update the website. Trained and worked with MWP officials to daily upload the demand and supply data.	Communication Strategy completed in May 2011.
Annex A C. 21.	Institutional support to consolidate the existing energy efficiency related administrative structure into one APEX institution (ENERCON)	EPP supported development of a draft bill for making ENERCON an Apex Energy Efficiency (EE) body	<p>A draft bill has been moved to the Council of Common Interests and the GOP is moving to make ENERCON the foundation of the APEX EE body. EPP provided ENERCON with a roadmap for energy conservation and energy efficiency and held the first round of consultative meetings with officials of provincial energy departments. EPP advised and facilitated ENERCON in joining the Global Efficient Lighting Partnership organization which provides technical support for energy efficiency lighting policies to its members.</p> <p>EPP team is supporting ENERCON, and other Government EE bodies to: (a) develop a business plan, (b) develop rules of engagement where activities need to be coordinated, and (c) once accepted, develop manpower and staffing plans and resource requirements.</p>	June 2013.
GENERATION				
Table C.4.3	Advise and assist GENCOs 1, 2, and 3 to develop and adopt credible and robust business plans	EPP collaboratively developed Business Plans for GENCO 1, 2 and 3 and submitted to USAID and GENCOS' management	EPP staff walked the GENCO managers through the process of setting up a business plan and educating them on the meaning and implications of financial plans. The MWP started implementation of one of EPP's major recommendation to implement an O&M plan for the GENCOs (EPP recommended only one for this purpose). EPP assisted in preparing related documents.	Completed in June 2011.
Table C.4.3	Expand the pre-rehabilitation audits to determine baseline conditions of the GENCO 1, 2, and 3 generating units being rehabilitated under USAID-funded FARAs to include technical audits of the capacity, efficiency, and fuel supply and use of operating power	EPP supervised the GENCO technical audit	EPP staff supervised a series of performance tests of GENCO power plants at Muzaffargarh, Guddu, and Jamshoro Thermal Power Stations. Test results confirmed serious deterioration of capacity, efficiency, and reliability, as had been noted from declining operational data. EPP is implementing major recommendations of the audits through the FARA rehabilitation work.	GENCO audit completed in April 2011. Implementation of Audit recommendations carried out through FARA

Contract Ref.	Activity Description / Deliverables	Accomplishments	Status	Completion Date
	generation units of GENCOs 1, 2, and 3			rehabilitation to be completed in June 2013.
Table C.4.3	Identify and recommend short and long term measures to control the supply and use of fuel, and improve the efficiency and/or generating capacity of relevant GENCO power generation units	To be determined	To be initiated.	To be determined.
Table C.4.3	Undertake a study to recommend specific alternative fuel options for MWP/GENCO consideration	To be determined	To be initiated.	To be determined
New proposed activity	GENCOs Business Plan Implementation	To be determined	The MWP started implementation of one of EPP's major recommendation in the business plan to implement O&M procedures for the GENCOs (EPP recommended only one for this purpose). EPP assisted in preparing related documents. The activity has been put on hold till further notice from MWP.	O&M contracts is put on hold by the GOP
TRANSMISSION:				
Table C.4.3	Working with NTDC to develop a business plan	Draft plan developed and submitted to NTDC management for approval	EPP has completed a draft business plan for NTDC which covers the key issues, conclusions, and critical bottlenecks that impede the performance of remedial measures – long-term and short-term - which are essential for smooth running of NTDC. A collaborative approach was adopted in finalizing the Business Plan. NTDC senior managers (COO of CPPA, GM Planning, and others) provided detailed commentary and held a series of meetings with EPP to discuss the documents and incorporate NTDC's feedback and recommendations. The draft NTDC Business Plan was shared with USAID and MWP for review. After incorporating the comments of USAID and MWP, the Business Plan was submitted to the NTDC senior management for review and MWP. MWP has asked NTDC management to provide comments.	Sept 2012
Table C.4.3	Review policies and operations of the National Power Control Center and identify opportunities for, and training needed, to improve the	<ul style="list-style-type: none"> NPCC policies and procedures developed Draft completed on Evaluation of Economic Dispatch by 	EPP has completed draft procedures and policy revisions supporting efficient, safe, and financially optimal dispatch of generating plants. These were submitted to NPCC management for implementation. EPP also completed a draft on Evaluation of Economic Dispatch by analyzing NPCC procedures, developing a gap analysis of what is required for	Completed NPCC policies/procedures. Draft completed on Economic dispatch.

Contract Ref.	Activity Description / Deliverables	Accomplishments	Status	Completion Date
	operations of the National Power Generation Dispatch Center	analyzing NPCC procedures	economic dispatch, and evaluating the efficacy of NPCC's existing Economic Dispatch models. The 'Study on Evaluation of Economic Dispatch' encompasses a review of NPCC's dispatch function, identifies impediments to effective implementation of the Economic Dispatch Model and provides recommendations for overcoming them. EPP has also recommended an action plan to fine-tune NPCC's ED model by taking into account the particularities of the electric system conditions in Pakistan.	For Implementation EPP has placed a technical advisor at NPCC.
C 4.3	Induction Training Manual (Orientation & Operations) for NPCC	Draft Induction Plan for NPCC completed	EPP staff developed an Induction Training Manual (Orientation & Operations) for NPCC's new recruits and the existing operators.	Sept 2012
C 4.3	Contingency Plan for NPCC	Draft Contingency Plan for NPCC completed	EPP has drafted a contingency plan for NPCC, which will act as the backup procedures in the wake of an emergency. The Contingency Plan will serve as a guide line and encapsulate prior agreed-upon actions to be taken and will set procedures to be activated in response to identified emergencies, ranging from relatively mild that can be locally contained, to catastrophic requiring moving to a backup offsite facility to ensure safety of assets and employees; and continued availability of essential services.	Sept 2012
New proposed activity	NTDC Business Plan Implementation	To be determined	To be initiated.	To be determined
New proposed activity	DISCOs Transmission Coordination / Model DISCO Task Team	Initiated intervention to assist in mitigating energy crisis	Upon USAID's directive to focus on the transmission network of DISCOs, EPP and the Power Distribution Program jointly worked on reviewing the 132/66 KV related transmission activities of the distribution companies. EPP and PDP discussed the modalities for developing, selecting and evaluating distribution companies suffering high technical losses. In this regard, EPP transmission staff visited the distribution companies at Hyderabad (HESCO), Lahore (LESCO) and Faisalabad (FESCO) to collect 132kv data to analyze system performance. Technical discussions were held on the transmission systems of these DISCOs to get a deep understanding of the transmission related issues faced by them.	Jan 2015
IMPORT of POWER:				
New proposed activity	Technical Assistance to MWP on import of electricity through Central and South	Meetings conducted to assess the potential	MWP requested USAID assistance to evaluate the potential for importing electricity through Central and South Asian Countries. Based on preliminary analysis, EPP prepared and presented a concept proposal to high level	2012-2013

Contract Ref.	Activity Description / Deliverables	Accomplishments	Status	Completion Date
	Asian Countries		officials at the MWP. EPP transmission staff also visited Afghanistan in June 2012 to carry out meetings to assess the potential.	
Support to Planning Commission - Energy Wing				
Table C.4.3	Undertake a comprehensive quantitative analysis of the relative economic value of natural gas allocation among major users (power generation, fertilizer, transportation, textile and other industry, commercial, and residential). This requires the gathering of a range of basic economic and use information for each major user categories, and natural gas pricing and subsidies.	Report submitted to USAID, MWP, PC and MPNR	EPP staff supervised a comprehensive quantitative analysis of the relative economic value of natural gas allocation among major users (power generation, fertilizer, transportation, textile and other industry, commercial, and residential).	May 2011
Table C.4.3	Undertake a quantitative study of the impact on Pakistan's economy of the present and growing natural gas and electricity rationing (load-shedding). The study should include recommendation on policy, pricing and other reforms that the GOP might consider in the elimination of natural gas and electricity demand-supply imbalances.	To be determined	Work initiated in June 2012.	Feb 2013
C 4.3	Study on Circular Debt	First Draft paper submitted to USAID for review.	On request of Deputy Chairman Planning Commission to conduct a comprehensive study on Circular Debt, EPP in collaboration with USAID Power Distribution Program, drafted a paper on 'Power Sector Circular Debt- History and Current Situation'. For compilation of the paper, Planning Commission and MOF's assistance was sought in the collection of data from NPCC/CPPA. Meetings were held with Member (Energy), Planning Commission and Joint Secretary (MOF) in which the scope of the paper was discussed and issues highlighted in	Final draft is being prepared by PDP/EPP for submission to USAID

Contract Ref.	Activity Description / Deliverables	Accomplishments	Status	Completion Date
			accessing the relevant data. Despite efforts from the Planning Commission as well as by the Ministry of Finance, some of the relevant data could not be obtained from CPPA. Based on the available data, the first draft of the paper on Circular Debt was shared with the USAID Energy Office for review.	
C 4.3	General Technical Assistance to Planning Commission, Energy Wing	Providing technical support for improved GOP decision making	IT support provided by EPP to PC-Energy Wing.	On-going till Jan 2015
2. Support to Ministry of Finance (on-going support provided to MOF)				
C 4.3	Study of Targeted Subsidies low income consumers	Report submitted to MOF	On request of MOF, EPP collected information on the subsidy in the power sector and carried out a detailed analysis for providing subsidies to low income consumers	May 2012
C 4.3	Policy Revision for Grant of Subsidy to Tube Wells Consumers in Balochistan	To be determined	GOP with Ministry of Finance (MOF) as the executing agency is looking into ways to make the subsidy provisioning more targeted to lower income households. EPP is in the process of collecting information on the tube well subsidy in Baluchistan and conducting detailed analysis to reassess the requirement of the subsidy. EPP is facilitating the MOF in preparing a revised policy for granting a subsidy to tube wells consumers in Balochistan, in order to reduce the federal government's share in the subsidy and increase the provincial share.	Sept 2012
C 4.3	Private Sector Hydel Power Generation Package	To be determined	GOP is working to increase its power generation capacity through private financing of hydro projects. In this regard, GOP is drafting a policy framework to introduce incentives to encourage the private sector to invest in long-term hydro projects. EPP is providing technical expertise to MOF in preparing a policy framework and a package of incentives for private sector hydel power generation. EPP is facilitating the MOF in in the policy formulation and EPP's technical staff is also building the capacity of MOF staff to deal will policy issues.	Sept 2012
C 4.3	Study on Circular Debt	First Draft paper submitted to USAID for review.	-- same as in previous section --	Final draft is being prepared by PDP/EPP for submission to USAID
Support to Ministry of Petroleum and Natural Resources (Oil and Gas)				

Contract Ref.	Activity Description / Deliverables	Accomplishments	Status	Completion Date
C 4.3	Advisory services on import of LNG	Expression of Interest (EOI) drafted for subcontracting with a LNG Consulting Company	EPP staff seconded at MPNR was fully dedicated to providing technical support to the LNG Import Program. EPP drafted an Expression of Interest (EOI) for hiring an LNG Consulting Company and E&P support (including Shale Gas). (Note: in view of MPNR's time constraint and urgency, it is proceeding with the process to recruit the services of an international LNG Consulting Company to provide immediate support in preparation of Request for Proposal, bid evaluations and activities related to the competitive bidding process for LNG imports).	To be determined, subject to approval of USAID
C 4.3	Assist in the development of a shale gas policy	To be determined	During the reporting month, EPP held discussions with LMKR on the detailed budget for the proposal to perform a Shale Gas Resource and Technology Assessment. (Note: The subject is on hold till further clarity from MPNR).	On-hold
C 4.3	Downstream Oil Policy	To be determined	Upon MPNR's nomination, an EPP expert was made a member of a committee to draft a refining policy and ex-refinery pricing mechanism for the down-stream oil sector. Initial tasks undertaken are as follows: <ul style="list-style-type: none"> a. Conducted discussions on the scope and conceptualization of the policy with the Financial Advisor MPNR. b. Initiated work on the formulation of a draft policy and shared it with MPNR for internal review. c. Attended a meeting of the Committee on Refinery Pricing and provided inputs on improvement of the sector. 	Assistance provided on need basis. Timeline yet to be defined.
C.4.4	Component Three: Advice and Assistance in the Selection, Planning, and Design of Project Agreement Documents for New Projects			
Annex B – Table I	Diamer Basha Multipurpose Dam	Step-I Due Diligence completed	Review of Step One Due Diligence by USAID has led to increased USG interest in the 4,500MW project. Funding support from USAID is under consideration and follow-on questions and queries raised are being dealt with on a regular basis by EPP. USAID authorization awaited for Step-2 Due Diligence.	To be determined
Annex B – Table I	Kurram Tangi Multipurpose Dam	Step-I Due Diligence completed	Step I Due Diligence was completed and reviewed by USAID. Step-II Due Diligence initiated in June 2012. Given that irrigation is a major component of the project, the Step 2 Due Diligence will be closely coordinated with the USAID Office of Agriculture. USAID and WAPDA have established a Joint Kurram Tangi Task Force to accelerate process.	To be determined
Annex B – Table I	Kunnar Pusakhi fueled Combined Cycle Gas Turbine Power Generation Project at Jamshoro Power Plant including	Step-I Due Diligence completed	EPP experts evaluated the proposal and determined that the gifted gas turbines were old and inefficient and excess fuel was not available in the country. Gas was already in short supply, diesel fuel that could be used as an alternate would make power generation expensive, and the option to use	On-hold

Contract Ref.	Activity Description / Deliverables	Accomplishments	Status	Completion Date
	the installation of UAE gifted Gas Turbines presently in storage at Faisalabad Power Plant		Naptha instead of diesel was determined to be the worst option. Moreover, the \$80 million cost estimate provided by a supplier for commissioning the gifted plant was not a comprehensive proposal and was based on assumptions that were uncertain. EPP recommended that available fuel should be used in existing plants with higher efficiencies that were being denied gas supply. It also advised that it was not prudent to initiate a project with uncertain cost implications and to divert fuel supply to inefficient machines when more efficient plants were facing fuel shortages. The project is on-hold.	
Annex B – Table I	Energy Sector Capacity Building and Training			
	- Internship program for University and Technical Graduates and Supplement University Curriculum	To be determined	To be initiated in July 2012.	Jan 2015
	- Training of NTDC staff on Power System Analysis using PSS-E software	Improved planning capacity at NTDC – trained 32 engineers in PSS/E.	EPP organized a training program that developed the capability of the attendees through hands-on expertise to perform a load flow analysis, short circuit analysis, and power system stability studies, using state of the art software PSSE, renowned internationally as the most modern tool of power system analysis.	Mar 2012
Annex B – Table I	Up-gradation (Electro Mechanical Equipment) of Mangla Hydro Power Station	Step-I Due Diligence completed	Step I Due Diligence was completed and reviewed by USAID. Step-II Due Diligence initiated in June 2012. USAID and WAPDA have established a Joint Mangla Upgrade Project Task Force to accelerate the process.	To be determined
Annex B – Table I	Up-gradation (Electro Mechanical Equipment) of Warsak Hydro Power Station	Step-I Due Diligence completed	Step I Due Diligence was completed and reviewed by USAID. USAID authorization awaited for Step-2 Due Diligence.	To be determined
General Task Order Deliverables				
D.1	Marking Plan	Branding Implementation Strategy and Marking Plan submitted to USAID on July 21, 2011, and approved as part of the Task Order.	Compliance with Marking and branding requirements of USAID is ensured: <ul style="list-style-type: none"> - projects are marked with USAID emblem. - shipped containers are properly marked. - USAID-ADS branding policies are complied with. 	Plans submitted. Implementation on-going till end of contract.
D.2	Branding Policy			
F5.I A	Monthly Reports	Submitted every month	Monthly reports are submitted every month covering activities performed, status, issues, and financial summary .	on-going till end of contract
F5.I B	Monthly Meetings	Conducted monthly or	Monthly meeting are conducted on regular basis.	on-going till end of

Contract Ref.	Activity Description / Deliverables	Accomplishments	Status	Completion Date
		when required		contract
F5.1 C	Quarterly Reports	Submitted first Quarterly report	Report being finalized for Mar-Jun 2012.	on-going till end of contract
F5.1 D	Performance Monitoring Plan	PMP submitted	Submitted to USAID. An updated version with additional indicators agreed with USAID will be resubmitted.	Implementation on-going till end of contract
F5.1 E	Annual Work Plan	Approved by USAID	Submitted to USAID.	Implementation on-going till end of contract
F5.1 F	Annual Report		To be prepared at the end of fiscal year.	Due 30 days after end of each FY
F5.1 G	Final Report		To be prepared at the end of the contract.	
F5.1 I	Success Stories		Prepared on regular basis.	on-going till end of contract
H.8	Reporting of Foreign Taxes		Annual submission by April 16 of the year.	on-going till end of contract
H. 10	Environmental Compliance and Management	EPP supported the development of Environmental Mitigation and Monitoring Plans (EMMP) for the six signature energy projects. The EMMPs are approved by the Mission Environmental Officer (MEO) and are currently being implemented.	EPP ensures that activities carried out under USG funding comply with the Government of Pakistan and U.S. environmental policies and procedures. In this regard, EPP has contracted with an independent firm to undertake environmental compliance audits of the six signature projects. Site inspections are carried out to audit the compliance and reports are submitted to USAID/ENR for review.	on-going till end of contract
H. 11	PAKINFO Reporting Requirement	Data uploaded on the PakInfo website.	PAKINFO is updated on monthly basis.	on-going till end of contract
H. 12	Contractor's Security Reporting Responsibilities	Security Plan approved by USAID	Security and Incident reports are submitted as and when required.	on-going till end of contract
I.3	FAPIS (Federal Awardee Performance and Integrity Information System)		Information updated on semi-annual basis.	on-going till end of contract

Confidential information redacted

USAID ENERGY POLICY PROJECT

ADVACNED ENGINEERING ASSOCIATES INTERNATIONAL (USAID CONTRACTOR)