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# USAID'S ENERGY POLICY PROJECT

## MONTHLY PROGRESS REPORT

OCTOBER 2011



**Project Name: Energy Policy Project (EPP)**

### **October 2011**

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## Monthly Report October 2011

Contract No: EPP-I-00-03-00004-00, Task Order 08

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# CONTENTS



<u>ACRONYMS</u> .....	4
<u>PROGRAM OVERVIEW</u> .....	5
<u>MAIN COMPONENTS OF EPP</u>	
Component 1: Project Monitoring & Implementation.....	6
Component 2: Policy and Reform.....	9
Component 3: New Projects, Planning and Development.....	15
<u>ADMINISTRATION SUPPORT TO EPP</u> .....	21

# ACRONYMS

EPP	Energy Policy Program
GOP	Government of Pakistan
FARA	Fixed Amount Reimbursable Agreement
GENCO	Generation Companies
GE	General Electric
PSRP	Power Sector Reform Program
CASA	Central Asia South Asia
NPCC	National Power Control Center
PEPCO	The Pakistan Electric Power Company
EECR	Energy Efficiency, Conservation and Renewable Energy
PMO	Project Management Office
EW	Energy Wing
ECC	Economic Coordination Committee
AEAI	Advanced Engineering Associates International
LNG	Liquefied Natural Gas
FODP	Friends of Democratic Pakistan
IMF	International Monetary Fund
NEPRA	National Electric Power Regulatory Authority
IPP	Independent Power Producer
PPIB	Private Power Infrastructure Board
NTDC	National Transmission and Dispatch Company
PSRP	Power Sector Reforms Program
PDIP	Power Distribution and Improvement Program
DISCO	Distribution Company
CPPA	Central Power Purchasing Agency Limited
WAPDA	Water and Power Development Authority
DBDP	Diamer Basha Dam Project
KKH	Karakoram Highway
TUTAP	Turkmenistan, Uzbekistan, Tajikistan, Afghanistan, Pakistan
OGRA	Oil & Gas Regulatory Authority
AEDB	Alternate Energy Development Board

# PROGRAM OVERVIEW

USAID’s Energy Policy Project (EPP) supports the jointly agreed upon interests of USAID and the GOP in power generation, transmission efforts, and related policy reform activities. Current key activities include providing monitoring and implementation support to the following seven signature energy projects, announced by the Secretary of State, Hillary Clinton:

- Four repair and maintenance projects (3 GENCOs and 1 Tarbela. Total Funding \$68 million)
- Two multipurpose dam completion projects (Gomal Zam and Satpara, Total funding \$66 million)

These projects, when completed, will add more than 843 MW to Pakistan’s generation capacity.

Project	MW per FARA	Expected Gains	
		Low	High
Muzaffargarh	165	440	475
Jamshoro	95	120	150
Guddu	55	35	55
Tarbela	80	88	128
Gomal Zam	17.4	17.4	17.4
Satpara	17.66	17.66	17.66
<b>Total</b>	<b>430.06</b>	<b>718.06</b>	<b>843.06</b>

EPP is providing technical support for identifying and selecting new generation and transmission projects. Example includes TUTAP (Transmission Interconnection, under which power from Central Asian Republics (CAR) would be transmitted to Pakistan through Afghanistan), providing analytical support for projects such a Step 1 of Due Diligence for Diamer Basha, Kurram Tangi, Warsak and Mangla Dam Projects and issues related to these candidate projects.

EPP is also supporting generation & transmission related studies and the policy reform activities assigned by USAID. Examples include, GENCO and NTDC business plans developing policies/procedures for the National Power Control Center and advisory services at MWP and the Planning Commission (Energy Wing).

**Staffing:** Contractor’s level of effort is comprised of 85% Pakistani and 15% international staff.

**Location:** All Provinces and Federally Administered Tribal Areas

**Total USAID Funding:** \$191.06 million (including \$10.9 million for consulting services)

# Main Components of EPP

## COMPONENT 1:

### PROJECT MONITORING AND IMPLEMENTATION

#### Key Personnel:

- Salahuddin Rifai, Dispatch
- Saleem Paracha, Hydro
- Malik Ghulam Abbas, Thermal
- Michael Gembol, Generation
- Asif Majeed, Engineering

EPP is monitoring the implementation of six Fixed Amount Reimbursable Agreement (FARA) projects, three existing thermal GENCO power plants (Muzaffargarh, Guddu and Jamshoro), one existing hydropower (Tarbela) and two new multipurpose dams (Gomal Zam and Satpara). EPP is also coordinating with the implementing partners to achieve timely progress and the processing of invoices for reimbursement to the GOP from USAID.

Specific activities for the month of October are:

#### ➤ Hydro:

- **Tarbela FARA:** Tarbela reservoir level reached its maximum level of 1550 ft in August but is now reduced to 1530 ft after releases for power generation. Unit # 4 (after replacement of its windings under FARA) is now generating 195 MW. Prior to USAID intervention, it was generating 87 MW; a gain of 108 MW has been achieved by replacement of windings. Unit 1 & 3 windings have arrived at site and replacement/installation work on Unit 1 was started on October 4. Shutdown of the units has been approved accordingly. Purchase orders have been placed for all remaining equipment, including digital governors and SCADA system, the installation of this SCADA system is expected to be completed by Dec 2012.

A meeting was held at Energy house on October 14, in which USAID officials, EPP experts, and Tarbela management discussed the revised completion dates, bottlenecks, and problems. Subsequently an amendment in FARA was signed on October 15 between WAPDA Chairman and Acting Director, Energy Office, USAID, with revised dates of the payment schedule after the extension request from Tarbela management.

Comment and concerns of USAID regarding the EMMP draft for Tarbela were received and shared with Hagler Bailey Pakistan. The requested changes were

made and revised EMMP is being reviewed internally at EPP. Final draft is expected to be ready by end of November.

In accordance with the Amendment No. 1 to the Tarbela FARA, the revised completion date is Dec 31, 2012. Total disbursement till October, 2011, was \$9,509,917.

- **Gomal Zam Dam Activity Agreement:** The reservoir level could not reach the power intake level mainly because of low inflow of water and also because of the outflow for the local needs such as drinking water and agriculture. Therefore full testing and commissioning of power plant was not possible. WAPDA requested to extend the completion date till September, 2012. To discuss this change, a meeting was held on October 14 at the Energy House in which USAID officials, the WAPDA Gomal Zam Project Director, and EPP experts discussed the revised completion dates, bottlenecks, and problems. An amendment to FARA was signed on October 15 between WAPDA Chairman and Acting Director USAID. The revised completion date of the milestones is Sep 30, 2012. Total disbursement till October 31, 2011, is \$31,178,000.
- **Satpara Dam Activity Agreement:** The main dam and Power House 1 & 2 were 100% completed. Irrigation work was 96% completed, and Civil Works for power houses of Units 3 & 4 are in progress and about 30% completed. WAPDA requested to extend the completion date of Phase I works and an amendment in FARA was signed on October 15 between WAPDA Chairman and Acting Director USAID. The completion dates and payment schedule have been revised. Now the revised completion date for Phase I is Jan 31, 2012, and Phase II is Apr 30, 2013. Total disbursement till October 31, 2011 is \$11,274,300.

➤ **Thermal:**

- **Muzaffargarh Rehabilitation:** Northern Power Generation Company Limited (NPGCL) received MK Breakers for Unit Nos. 5 & 6 (FARA line item 37) in September 2011. EPP experts visited the plant on October 11-12, inspected the received material and also checked the performance of Unit 3 superheater after the replacement of superheater tubes. The claim of amount \$551,082 was verified in October and is in process with OFM.

NPGCL management requested to extend the completion dates because of delays in milestones due to issues of procurement and arranging foreign exchange. Subsequently an amendment in FARA was made in October 2011, according to which the revised completion date is November 30, 2012.

Comment and concerns of USAID regarding the EMMP draft for Muzaffargarh were received and shared with Hagler Bailey Pakistan. The changes were made by them and now revised EMMP is being reviewed internally at EPP. Final draft is expected to be ready by end of November. Total disbursement till October 31, 2011, is \$4,464,500.

- **Jamshoro Rehabilitation:** Equipment for three FARA line items has been received at Karachi Port and is under customs clearance for exemption from duties on case to case basis.

Jamshoro management requested extension in the completion of milestones, due to delays with procurement and arranging foreign exchange issues. USAID officials met with Jamshoro management and EPP experts at the Energy House on October 19 to resolve the issues and made the amendment in FARA, according to which the revised completion date is November 30, 2012. Total disbursement for Jamshoro FARA till October 31, 2011, was \$670,000.

Comment and concerns of USAID regarding the EMMP draft for Jamshoro were received and shared with Hagler Bailey Pakistan. The changes were made by them and now revised EMMP is being reviewed internally at EPP. Final draft is expected to be ready by end of November.

- **Guddu Rehabilitation:** After re-evaluating other options, Guddu management reverted to the original FARA plan, which called for overhaul of one of the two 255-MW General Electric Combined Cycle Plants (CCP). The overhaul will increase the capacity of the plant by about 100 MW (higher than the earlier expected increase of 55 MW), improve its efficiency about 3.4%, and improve the reliability of the system by upgrading the obsolete gas turbine and steam turbine control systems.

The payment schedule was revised after USAID officials, Guddu management, and EPP experts discussed the terms of revised schedule and completion dates in a meeting held on October 20 at the Energy House. The overall rehabilitation work under the FARA is now scheduled for completion by the end of August, 2012, before the summer peak demand season.

EPP acquired the services of Hagler Bailey Pakistan (HBP) to develop Environmental Mitigation and Monitoring Plans (EMMPs) for Guddu. The draft EMMP will be completed in November 2011.

## COMPONENT 2:

### POLICY AND REFORM

#### **Key Personnel Seconded to MWP and Planning Commission:**

- Mary Webster, Policy
- Faraz Khan, Finance
- Ijlal Naqvi, Outreach
- Michael Gembol, Generation
- Gerrie Vermeulen, Transmission
- Tari Qazi, Transmission
- Akbar Yousaf, Hydrocarbons
- Imran Haider, IT

Specific activities for the month of September are:

#### **1. Support to Governance and Reform Team (GRT), MWP**

Support the Ministry of Water and Power in the implementation of power generation, transmission and fuels related elements of the GOP's Power Sector Reform Program (PSRP). The activity is jointly performed with Power Distribution Improvement Program (PDIP).

#### ➤ **Policy:**

The EPP team is an integral part of the GRT which is placed at MWP. The team is providing support to Ministry Officials in policy matter and also providing analytical support in matters assigned to them.

- Prepared a paper on "Impact of Restored MWs (842) On the Lives of Women" for USAID. The paper highlights the benefits of additional capacity to the lives of women in Pakistan.
- Prepared and presented three case studies to Additional Secretary, MWP. These cases presented the challenging situations that each of these countries faced regarding power sector challenges and how they came out of the crisis.
  - Brazil Case Study on Electricity Market
  - Korea Case Study on Electricity Market
  - South Africa/ Eskom Case Study
- MWP requested EPP to review the issues regarding NEPRA notified tariffs, especially in light of the new legislation relating to NEPRA. A memo was prepared and shared with MWP.
- Memo on Energy Efficiency: Gathered data and information on energy efficiency in generation and transmission, and prepared report on key areas of focus. Prepared for 'Additional Secretary

- Memo on Theft: Gathered data and information on electricity theft to analyze the effect on the energy sector. Prepared for Additional Secretary

➤ **Finance:**

- Provided summary on current position of circular debt/payables position for September 2011 to the Deputy Secretary, MWP.
- Group Support: Providing support to other EPP members in tasks related to financial analysis
- Receivables Report: Completed analyzing data on Receivables for July 2011, and prepared report depicting key data. There is a time lag in getting the data and the analysis was done on the latest available data.
- During the reporting month EPP team met with Mr. Arshad Mahmood, MWP, to discuss “Energy Efficiency and Theft” issues related to the Power Sector.
- EPP team also held a meeting with an Energy Consultant to gather information and input relating to issues of Energy Efficiency/GENCO performance etc.
- Regular meetings were held with MWP’s senior management to discuss ongoing issues and provided feedback/information.

➤ **Transmission:**

- First draft of the Standard Operating Procedures (SOP) for National Power Control Center (NPCC) is being prepared and is 97% complete. (This is still the same percentage until NPCC SCADA system is commissioned, expected by Feb 2012. The SOP for SCADA & Communication can only be completed during initial commissioning. The internal review process of the drafted SOPs continued during September among the EPP experts and is 25% complete. – Estimated completion of the first 15 out of 25 SOP’s (60%) will be by mid December 2011. The review for remaining SOPs is progressing. The initial draft of the SOPs final review is expected to be completed by the December 2011.
- EPP team is also developing a contingency plan for NPCC which will act as the backup procedures in the wake of any disaster or an emergency. The first draft of the plan is now 25% completed. There was no documented contingency plan available with NPCC; therefore the document is being prepared from scratch, after extensive secondary research on best practices worldwide, which will be customized for Pakistan. The initial draft of the contingency plan is scheduled to be completed by 10<sup>th</sup> of December - this effort is still on target.
- Induction Training Manual (Orientation & Operations) for NPCC’s new recruits and the existing operators is being developed. The first draft is expected to be ready by 15<sup>th</sup> of December, 2011.
- Technical assistance to EPP’s team working on NTDC business plan is currently ongoing.
- EPP technical team collected and analyzed data for the 132 kv grid review, however the EPP team is waiting to receive data on ‘132 kv lines’ from NTDC by the end of November, 2011. The month of October was utilized to do a quick system analysis regarding the Reactive Power Compensation requirements on the 132kv Grid and

with the available data and estimated Power Factor of 0.75pf was calculate (as an average for 132kv System) – Initial Recommendation are in progress.

- **NPCC -Economical Dispatch evaluation assessment and recommendation report** will be started in Jan 2012. The following information/data have been requested during the month of October from NPCC to expedite this Economical Dispatch Assessment. This is in progress and estimated completion time is 15<sup>th</sup> December 2011.

- ❖ NPCC Organization chart including the regional ones
- ❖ Description of the responsibilities of its divisions/department
- ❖ Information Flow between areas (generation, transmission and distribution to the NPCC), as:
  - Yearly Maintenance Program for the GENCOS
  - Precipitation Forecast for the Hydro Power Plants
  - Short term Load Forecast
- ❖ Procedure for the coordination and approval of the GENCOS yearly maintenance program.
- ❖ Nominal Capacity versus effective one of each of the GENCOS
- ❖ Variable costs of each of the generators connected to the system divided in O&M and fuel costs.
- ❖ Availability and Reliability Factors of each of the generators
- ❖ Actual transmission constrains
- ❖ Description of the Model being used for short term load forecast (which area is responsible of it?)
- ❖ Data base of two years of real hourly demand (MW).
- ❖ Typical Load Curves (weekdays, weekends, season)
- ❖ Description of the mathematic algorisms used by the Economic Dispatch Model (EDM) being used.
- ❖ Capabilities of the EDM as:
  - Transmission System representation (to calculate constrains and Bus Bar costs)
  - Hydrology Forecast related to the HPP (deterministic or stochastic)
  - Is the load forecast calculated by the model or is an input
  - Load Demand Representation (how many blocks)
  - Weekly maintenance program representation
  - Weekly-daily and hours results
  - Inputs
  - Outputs
- ❖ Forms utilized for the Operation Budget.

- Assisting NTDC's Planning Department on the Reactive Power Compensation (RPC) study. Since NTDC does not have this study done expertise is needed to get this study done. Meetings with NTDC's Planning Department were held to discuss initial capacity building efforts and to discuss the on-going EPP assessment of the 132 kV systems. Key data was obtained from NTDC that will allow EPP to assess and provide recommendations for reactive power compensation of the NTDC Grid including the 132kv System.
- It was determined to provide training on PSSE at 2 levels – basic and advanced subject to receiving a complete and competitive proposal for the specialized training. Course subject areas, participant threshold experience, schedule and venue were agreed upon. Training is tentatively scheduled to begin in January. GM Services Division is to develop capacity building needs and priorities for the Technical Specialist Group (TSG) including the 132kv System. NTDC Design Office (T&G) Chief Engineer data collection is ongoing.
- Meetings were held at NPCC to discuss following urgent issues:
  - Progress of Standard Operating Procedures – Updating GM NPCC regarding the EPP progress
  - Contingency Plan – Selection of Back-up Control Center – in progress –more detail will be given in November Report
  - Economical Dispatch Model – NPCC requested EPP for technical advisory assistance – prior to commissioning up to final handover of EDM system including the evaluation & monitoring of Training to be given by contractor and if required any additional training to NPCC staff – This effort will be discussed between GM NPCC and EPP COP to determine Level of Effort (LoE) needed.
- Prepared a brief, which listed the immediate steps that need to be taken in order to address issues and bottlenecks that were impeding the performance of organization. The report was requested by the Secretary MWP and will be presented in the next meeting.

## 2. Support to Planning Commission

### ➤ Hydrocarbons:

- Energy Efficiency Projects: Provided support to Energy Wing (EW) in the preparation of a draft PC-II for technical assistance to the Planning Commission for energy efficiency projects to be financed by ADB, under a multi-tranche facility.
- Re-organization plan for the energy sector: Developed a proposal with scope of work and indicative costs to develop a road map for institutional re-organization of the energy sector (creation of Ministry of Energy at federal and provincial setup).
- Oil and gas sector issues and way forward: Developed a power point presentation highlighting summary of key issues and way forward in the oil and gas sectors

(upstream, downstream oil, downstream gas, policy). Further progress will depend on interest of EW to pursue implementation with concerned agencies.

- General Technical Assistance and support to EW: Provided operational support to EW in miscellaneous planning issues and review of project proposals.
- Shale Gas: Followed up on the letter from MPNR to USAID regarding USAID support for Shale Gas (policy and technology experts). Attended a meeting with USAID to review the gas situation and options for USAID assistance to MPNR in Shale Gas, LNG imports and downstream gas allocations and pricing.
- Public-Private Partnership: Provided support and information on LNG imports and related gas sector issues as part of the development of a paper on the subject.
- Energy Data: Compiled summary data on energy and petroleum sector consumptions in the country for 2009-10.

➤ **IT Support:**

- Created a brief for Deputy Chairman on Circular Debt in the power sector, covering its causes, current status, and means to overcome.
- Prepared a brief and recommendations for Deputy Chairman on Status of Badhra field in Sindh.
- Regularly organizing data and IT equipment for establishment of Growth Center in Planning Commission.
- Updated presentation on Functionalization of CPPA.

### **3. Coordination, Capacity Building and General Support Services to USAID**

**Key Personnel:**

- Munir Ahmad, Policy
- Salahuddin Rifai
- D. Vincent

Following are the activities performed:

- Compiled a list of deliverables as required under the USAID contract with AEAI, and compiling the copies of documents in the electronic library. This activity included collecting documents prepared since 2008 to date, by reviewing all the documents, files, shared folders and organizing the files for easy access. Internal meetings with the project consultants continued during the month for this task, which is 90% complete by month end, and is expected to be completed 100% by December 15, 2011. The deliverables are of the following types:
  - Project reports (monthly and quarterly)
  - Financial reports
  - Sector studies
  - Feasibility studies
- Completed a Pakistan Sector Activity Tracker for Deputy Secretary of State Thomas Nides, which contains the status of projects, expenditures and other details of the projects.
- Prepared report on possible measures to expedite reimbursement to WAPDA, to enable GENCO's early implementation of FARA's was prepared for USAID.

- Prepared FARA status reports for USAID indicating project summary, status by line item, bottlenecks, expenditure as of end September, 2011, and additional expenditures planned till the completion of FARA's.

#### 4. NTDC Business Plan

##### Key Personnel:

- Daniel Potash, Finance
- Aisha Fariel Salahuddin, Project Development
- Gerrie Vermeulen, Transmission Expert
- Tariq Qazi, Transmission Expert

The initial draft of the NTDC business plan is being worked on. Final draft is nearing completion and will be shared with NTDC and Ministry of Water and Power in December.

Specific activities are:

- EPP continued evolving the financial model and structural options to capture the exact dynamics of circular debt, which is the key problem of the power sector in Pakistan.
- Deepened the analysis of technical matters with additional engineering personnel of EPP, to link transmission technical performance and financial impact, now and in the future.
- EPP technical met with Mr. Arshad Mahmood, a World Bank funded consultant to MWP, stationed at NEPRA (He was formerly Registrar of NEPRA.) on 26<sup>th</sup> October, 2011. The objective of the meeting was for the NTDC business plan, to find statistics on power rates being charged by DISCO's to customers, to understand the adequacy of tariffs notified relative to the cost of service. This information is needed to predict circular debt. Mr. Mahmood agreed that it was impossible to determine the total rates actually imposed, since the rates used were the result of the notified rates plus cumulative effect of fuel adjustment charges. NEPRA asks DISCOS to give basic information but they interpret it in different ways and thus the billing is not uniformly treated. However, there are average revenue statistics by DISCO and Mr. Mahmood said that he would furnish such. Also he said that one of the key problems in the power sector was that DISCO's are federal entities but law enforcement is locally administered. Hence local authorities are not cooperative to enforce actions against miscreants. Mr. Mahmood considers that DISCO's and regulation of DISCO's should be transferred to the Provinces.
- GENCO Business Plans were finished in May. Although GENCO management was cooperative and enthusiastic to change and become more commercially viable, the GENCO plans were not implemented. However MWP has been pursuing management contracts, which, in a basic disciplined format would be a good idea. In October, Additional Secretary MWP requested a meeting regarding GENCO business plans, which was later on canceled twice because of the other commitments of the Additional Secretary MWP.

## COMPONENT 3:

### NEW PROJECTS, PLANNING & DEVELOPMENT

#### **Key Personnel:**

- Mian Shahid Ahmad – Engineering & Finance
- Ghulam Abbas – Hydro
- Muhammad Khan Hoti- Finance

When projects are identified by the GOP and others to USAID as candidates for USG support, USAID requests EPP to undertake a two-step Due Diligence exercise to determine whether the proposed project meets the requirements established by USAID. The criteria relate to technical viability, cost and overall effect.

Activities for the reporting period were:

- In response to queries from USAID, WAPDA was asked to prepare a presentation on the “critical path” in implementation plan of the Diamer-Basha Dam Project (DBDP) and to be ready to present it to visiting USAID officials in Lahore. The requirement was subsequently not pursued as events overtook the requirement and plans changed. However USAID was sent copy of the detailed project implementation plan and timeline that is part of the feasibility study for the DBDP.
- EPP team lead visited the DBDP site on Monday 17 October 2011, to become familiar with the proposed project for which Step 1 Due Diligence Report was submitted to USAID in April 2011. Synopsis of the visit is given below.

#### Synopsis of Visit:

WAPDA has its DBDP Site Office – headed by a Chief Engineer with a Director and Deputy Directors supported by 6 junior engineers and geologists, surveyors and other staff - in a rented building in Chilas, a District HQ of Gilgit-Baltistan (GB). Construction of an office building, a soil/material testing laboratory and accommodation is in progress on a 2 acre plot on the outskirts of town. The Dam site is about 40 km downstream and about 12 km short of the Dam site is Thor valley where the WAPDA colony is being built on demand of the GB. A few kilometers downstream/beyond entrance to Thor valley and further West along the KKH is the boundary between GB and the province of Khyber-Pukhtunkhwa (KPK). The contractor’s colony(ies) will probably be in KPK, at sites that are downstream of the Dam. To stay above the expected reservoir level, the WAPDA colony is being built about 3 kilometers up the scenic and pristine Thor valley which has a good water source flowing down the middle and the relocated KKH will pass at base of this new colony.

Construction of the colony is divided between 13 contracts. 12 have been awarded, one is in process. 9 contractors have completed survey with WAPDA and have been handed over their sites. 7 have mobilized to various degree. Clearing and leveling was apparent at many locations and marked with layout plans and boundaries. Excavators were working at two sites and survey crews were working at one. Activity was slow owing to concentration of all – client

and contractors – on the upcoming ‘ground breaking by Prime Minister’ ceremony. Progress in construction should be visible sometime next year although it is doubtful if the township will be ready in the 18 timeframe mentioned in the contracts.

- Meeting was held with USAID on Thursday, 27 October 2011, to discuss the need, requirements and implication of a new study to review the Technical and Environmental aspects of the DBDP. EPP will support USAID to review and revise the Scope of Work for the study to be discussed and implemented in cooperation with the Asian Development Bank (ADB) and WAPDA.
- Received USG/USAID comments on the draft Scope of Work and additional requirements for a study by ADB to review the DBDP and discussed them at EPP in preparation for future actions. Provided USAID an update on Escalation of Cost (December 2010 to September 2011) for the DBDP Project.
- EPP team assisted and supported USAID in correcting a misstatement on the WAPDA website. The WAPDA website contains a brochure for the Diamer-Basha Dam Project (DBDP). A statement in the brochure suggested that USAID was funding the project. EPP explained to WAPDA the need for correcting this misstatement on the website. The brochure now says that USAID is ‘considering’ the project, which is the correct situation.
- EPP provided explanation and information to USAID in response to their queries regarding the issues in resettlement plans for the Kurram-Tangi Dam Project (KTDP) that were highlighted in Step 1 Due Diligence Report submitted to USAID by EPP earlier in the year.
- Responded to urgent request from USAID to investigate and evaluate what could immediately (over next two months) be done at the Kurram-Tangi Dam project and whether WAPDA could immediately absorb funds for irrigation as part of the Gomal Zam project. EPP efforts and contributions resulted in positive action on the initiative.
- EPP supported USAID in meeting with WAPDA at the Energy House on Friday, 14 October 2011, to discuss Pre- Construction activities at the KTDP. USAID asked WAPDA to prepare a detailed Activity Schedule and Expenditure Plan for the project covering the next two years to determine what could possibly be funded by USAID and submit it to USAID within 2 weeks. WAPDA has submitted its report to USAID on Friday, 29 October 2011. Information is under review at USAID. EPP is of the view that information provided by WAPDA is not sufficient for purpose it was asked for. Earlier, similar information submitted by WAPDA to USAID in case of the DBDP was found suitable by USAID since EPP had actively assisted WAPDA in preparation of the information package. This time it was prepared by WAPDA in isolation of advice from EPP.

- On Oct 26, 2011, WAPDA submitted to USAID an additional request for essential spares of US \$100 Million to keep a sustainable operation of the Tarbela Power Station for the next 20 years. A meeting was held in the Energy House to discuss the WAPDA request with WAPDA GM (Hydel) and Chief Engineer Tarbela, USAID, and AEAI. After detailed discussions, WAPDA was requested to submit detailed justifications along with gains from the Tarbela plant and its economic benefits. WAPDA's feedback is awaited.
- On 10 October 2011, EPP team attended a presentation in Mangla by Messrs Montgomery Watson Harza (MWH), consultants to WAPDA for the proposed Rehabilitation of Mangla Power Plant. EPP comments and suggestions to strengthen their ongoing feasibility study for the rehabilitation works were subsequently forwarded to WAPDA for their consideration.

➤ **PUBLIC PRIVATE PARTNERSHIP**

- EPP also met with Engro Powergen to ascertain progress on Engro's coal mining and coal-fired power generation project. Engro has requested that USAID look into the possibility of developing common infrastructure with huge payoffs for the agriculture sector, as detailed in our upcoming PPP Paper. Direct contributions to the project is not sought and Engro is confident of achieving financial close, assuming resolution of circular debt.

The highlights of the meeting were:

- Engro has entered into a PPP with the Government of Sindh ("GOS") to form Sindh Coal Mining Company ("SEMC") with shareholding 60%:40%, respectively. In Phase 1, the project will deliver 6.5 million tons/annum of coal, which would be raised to 22.5 million tons/annum in next two phases.
- Coal-fired power generation will be privately held and partnered with entities adding to the value chain. In Phase 1, the power house capacity will be 1200 MW, to be increased to 4800 MW in phases.
- The Thar Desert reportedly contains the World's 7<sup>th</sup> largest coal reserves and are sufficient to generate 100,000 MW of electricity for over 200 years.
- Engro confirms having completed a detailed Bankable Feasibility Study ("FS" )covering technical, environmental, social and economical viability of the project.
- TOR for the FS was developed in tandem with and reviewed by The World Bank, ADB and IFC to ensure multilateral safeguard standards.
- Firm EPC negotiated and initialed with a leading Chinese company, CNCEC, on a turnkey basis for coal mining and power generation.

- To-date both Engro and GOS have complied with the terms of their PPP and deliverables.

- EPP met with Engro Vopak to ascertain the state of the market development of LNG in Pakistan.

Highlights of the meeting were:

- LNG, despite current high prices must be added to the country's panoply of fuels due to severe natural gas shortages. LNG procurement is now essential to Pakistan's energy security.
- It was confirmed about the Oligopolistic nature of the global LNG business and price discrimination on geographical basis. LNG business and complexities with respect to development in Pakistan are as detailed in our PPP Paper.
- Engro is ready to go, has in-principle sourced an FSRU on lease and can achieve COD within 12 months of award of LOS.
- Principal benefit of USAID could be in developing common infrastructure, sourcing LNG from Henry Hub, and providing credit enhancement for LNG imports.

- EPP met with HUBCO to obtain updates on the company's future plans.

Highlights of the meeting were:

- HUBCO has a varied raft of investment plans for setting up power plants in Pakistan. Most projects have initial feasibilities in various stages of completion.
- HUBCO's receivables as part of the vicious cycle of circular debt stood at Rs 98 billion. HUBCO's BOD in last meeting resolved to freeze all investment initiatives until such time that GOP addresses the root causes of circular debt and implements governance measures to obviate its recurrence.
- Wasif was well aware of USAID's initiative with AES and GOP to set up Sindh Wind as PPP. HUBCO, provided circular debt issues are resolved, expressed its potential interest in stepping into AES' shoes in the project. Indicated to him that USAID was no longer interested in promoting the project and that land reserved by GOS may no longer be available.
- HUBCO was also looking into coal-fired generation. Agreed to keep in touch in case PPP opportunities arose in coal or other fields with facilitation role for USAID.

- EPP also met with LARAIB Energy Limited to ascertain progress on New Bong, the first run of the river hydro-electric power project as IPP in the private sector. LARAIB was keen to develop a rapport and discussions with USAID to assist development of the hydro-power generation sector in Pakistan. Laraib generously offered to host a presentation at their New Bong site for USAID/EPP.

Highlights of the meeting were:

- LARAIB is a subsidiary of HUBCO and responsible for launching the first “pathfinder project”, New Bong, as IPP in the hydro sector, much as it did in completing the first thermal IPP in Pakistan, Hub Power.
- New Bong is a 84 MW capacity run of the river hydro-power project targeted for completion end-2012.
- Perfection of world class project documentation e.g. Implementation Agreement, Power Purchase Agreement, Water Use License, and securities agreements including sovereign guarantees and risk mitigation policies, completed. The process took 15 years to complete. Template now available for benefit of other investors.
- New Bong has negotiated a tariff of 8.5 cents/kWh, a significant achievement compensating private sector investment in line with market expectations.
- LARAIB identified circular debt as principal retardant to private sector investment in the country’s energy sector despite seemingly attractive policies to lure investments. The company has identified numerous sites for additional run of the river hydro-projects, but its parent HUBCO would have none of it until such time as the issue of circular debt is resolved satisfactorily.
- Hasnain was very enthusiastic about our sub-debt fund idea and affirmed that availability of such a fund would help to launch a number of run of the river hydro projects struggling presently with financial close.

#### **Other EPP Meetings:**

- The acting director, office of energy and the COTR along with the COP, EPP held a meeting with Secretary Finance. The following points were discussed:
  - The secretary requested USAID to second three experts to the Ministry of Finance, to assist the Ministry in dealing with the financial issues and governance issues.
  - The Secretary said that MOF will monitor implementation of PSRP, and new CEOs will be hired by end of October 2011
  - Secretary also requested the team to prepare an integrated financial model for MOF.

- Meeting was held with the Assistant Administrator (acting) USAID Bureau for Policy, Planning and Learning. The assistant administrator discussed the USAID related policy issues. Each participant briefly highlighted the issues and performed activities. Need for effective communication strategy and sustainability of the projects was emphasized by all the participants. The participants included Country Director, National Democratic Institute for International Affairs, Executive Director, Paiman Alumni Trust, General Manager, National Rural Support Program, Democracy and Governance Advisor, office of Democracy and Governance, Director, Office of Pakistan Affairs, Deputy Mission Director, USAID
- Meeting was held with Rector, Ghulam Ishaq Khan Institute of Engineering Sciences and Technology (GIK), USAID Acting Director, office of energy and Chief of party, EPP met with Rector of GIK. The rector discussed the GIK's role in promoting education. He was looking for possible USAID support in order to upgrade the university's educational standards.

The Acting director, Office of energy presided the meeting attended by COPs of TWEIP, PDIP and EPP. He discussed several administrative issues and emphasized the need for close coordination between the three programs.

# Administration/Management Support to EPP

## Key Personnel:

- Dan Vincent, Administration and Management
- Anjum Sarfaraz, Administration and Procurement
- Syed Hussain Al Azeem, Finance
- Muhammad Awais Shabir, IT

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 Communications. In implementing these functions, processes and policies are developed to ensure uniformity of efforts.

**Accounting/Finance:** Miscellaneous payments have been made to the vendors during this month. Payroll, bonus and financial reconciliations completed. Accounting/finance policy is being revised.

**Human Resources:** One technical staff member was added during this month - Communication Specialist.

**Procurement:** This month we have processed the procurement of SonicWALL Network Firewall to ensure the security of our Internet & Intranet traffic including Anti-Spam, Anti-virus Gateway, Bandwidth management features. Other purchase orders were placed to support operations, for example, office equipment/supplies and technical services.

**Logistics:** 9 Trips (arrangements, Per Diem & documentation), evaluated potential guesthouses for staff. Obtained Pakistani visas for expatriate employees.

**Additional Rental Car** – RFP issued and evaluated for an additional new rental car.

**Search for office building and expats' residence** – Evaluated several houses to identify suitable office and living quarters for expats.

**Communications:** Trouble shooting IT equipment in office and for operations at ministries; all related matters have been solved during this month. Sets of blackberry have gone through the repairing process and the LCD of a computer was replaced.

**General Support:** Meetings held with NTDC, Planning Department, in Lahore to discuss capacity building needs and priorities. Initial training effort is being planned for December

and January in Lahore. Subject area will involve system analysis and optimization using PSS/E modeling software at 2 levels – beginners and advanced. Technical and commercial negotiations were also held with potential provider for the training. NTDC will host the training and provide hardware, venue and licensed software.

EPP supported a meeting between USAID and Women in Energy (WIN), a Pakistani NGO, to discuss possible collaboration in the energy sector. WIN is to submit to USAID areas of interest identifying activities, schedule, benefits and estimated costs for its consideration.

EPP supported a meeting between USAID and WAPDA to establish changes needed in the agreements for Gomal Zam and Satpara. Tentative agreement was reached for the needed changes – primarily revising the schedules. Changes to the documents are to be made and the two parties are scheduled to execute modifications.

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