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ENERGY POLICY PROJECT - II MONTHLY PROGRESS REPORT

JANUARY 2013



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USAID/PAKISTAN: ENERGY POLICY PROJECT (EPP)

Monthly Report: January 2013

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ACRONYMS

AEAI	Advanced Engineering Associates International
AJK	Azad Jammu & Kashmir
CAR	Central Asian Republic
CDWP	Central Development Working Party
CEO	Chief Executive Officer
CFW	Corporate Finance Wing
CM	Chief Minister
CPGCL	Central Power Generation Company, Ltd
CPPA	Central Power Purchasing Agency
DISCO	Distribution Company
ECC	Economic Coordination Committee
EPP	Energy Policy Project
FARA	Fixed Amount Reimbursable Agreement
FATA	Federally Administered Tribal Areas
FS	FATA Secretariat
FWO	Frontier Works Organization
FY	Financial year
GE	General Electric
GENCO	Generation Company
GHCL	GENCO Holding Company Limited
GOP	Government of Pakistan
GTPS	Guddu Thermal Power Station
GZDP	Gomal Zam Dam Project
HEC	Heavy Electric Complex
HPP	Hydro Power Project
JTPS	Jamshoro Thermal Power Station
KESC	Karachi Electric Supply Company
KPK	Khyber Pakhtunkhwa
kV	Kilovolts, 1000 volts, unit of electric potential (voltage)
LC	Letter of Credit
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

MW	Megawatt, unit of electrical power, 1 million watts,
MWH	Montgomery Watson Harza
MWP	Ministry of Water and Power
NEPRA	National Electric Power Regulatory Authority
NPCC	National Power Control Center
NTDC	National Transmission and Despatch Company
O & M	Operations and Maintenance
OGRA	Oil & Gas Regulatory Authority
PC	Planning Commission
PDP	Power Distribution Program
PESCO	Peshawar Electricity Supply Company
PIL	Project Implementation Letter
PIRS	Performance Indicator Reference Sheets
PO	Purchase Order
PWF	Pakistan WAPDA Foundation
PTF	Power Transformers
PSRP	Power Sector Reform Program
QIP	Quick Impact Project
RFP	Request for Proposal
RPC	Reactive Power Compensation
SBP	State Bank of Pakistan
SCADA	Supervisory Control and Data Acquisition
TPS	Thermal Power Station
TOR	Terms of Reference
ToU	Time of Use
USAID	United States Agency for International Development
USD	United States Dollar, \$
WAPDA	Water and Power Development Authority

PROGRAM OVERVIEW

USAID's Energy Policy Project (EPP) supports the jointly agreed upon interests of USAID and the Government of Pakistan in power generation and transmission and related policy reform activities. 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) with total funding of \$70.73 million.
- Two multipurpose dam completion projects (Gomal Zam and Satpara) with total funding of \$66 million.

When completed, these projects, will add more than 863MW to Pakistan's generating capacity. As of January 2013, a total of 779 MW have been added to Pakistan's electricity grid through USAID funding as shown in the following table.

Table I: Planned Capacity Additions for Signature Energy Projects

Project	Planned MW Gains per FARA	Expected Gains	MW added (as of 31 January 2013)
Muzaffargarh	165	475	480
Jamshoro	95	150	165
Guddu	55	75	-
Tarbela	80	128	128
Gomal Zam	17.4	17.4	-
Satpara	17.66	17.66	6
Total	430.06	863.06	779

EPP also is providing technical support to the Ministry of Water and Power (MWP) to identify and select new generation and transmission projects. Examples include potential imports of electricity from the Central Asian Republics to Pakistan through Afghanistan; and providing analytical support for projects such as Step I & II Due Diligence for the Kurram Tangi Project.

In addition, EPP is supporting generation & transmission related studies and policy reform activities assigned by USAID. These include developing 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), Ministry of Finance (MOF), and Ministry of Petroleum and Natural Resources (MPNR).

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: \$ 136.731 million for six signature energy projects
\$ 14.893 million EPP Phase II

PROJECT ACTIVITIES

COMPONENT I: PROJECT MONITORING & IMPLEMENTATION

The Energy Policy Project is providing monitoring and implementation support for the six signature projects announced by Secretary of State Hillary Clinton. These projects include rehabilitation of three thermal power plants (Muzaffargarh, Guddu and Jamshoro), and one hydropower plant (Tarbela Dam); and construction of two new multipurpose dams (Gomal Zam Dam and Satpara Dam). Total USG funding for these projects is \$136.731 million (per revised agreements), with estimated gains in available generating capacity up to 863MW. As of January 2013, 779 MW have been added to Pakistan's national grid.

HYDROPOWER PLANTS

With a total funding of \$82.5 million, as much as 163MW of generation is 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 available generating capacity at the time of signing of the agreement was zero.

Table 2: Baseline Generation for Tarbela

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

Rehabilitation of Tarbela Hydropower Plant under FARA:

The rehabilitation work to date has resulted in the restoration of 128 MW at Tarbela Hydropower plant. Replacement of generator windings at units 1, 3 & 4, and installation of spare seals, guides and pumps is complete. The power generation target of 128 MW set in the FARA has been achieved.

The procurement and installation of the remaining equipment digital governors and SCADA system is underway which will increase the reliability and sustainability of the power plant. Delays were encountered in the procurement of the aforementioned equipment due to negotiations with the vendor for synchronizing with NTDC SCADA system, and because of stringent procedures of seeking permissions from Ministry of Interior for vendors to visit the plant. In this regard, WAPDA submitted a time extension request to USAID for completion of the remaining equipment. Subsequently Amendment No. 2 of the Activity Agreement was signed and the project completion date was extended till December 31, 2013.

WAPDA has also requested USAID for an additional funding of \$25.6 million to procure equipment that will reduce outages at Tarbela, increase reliability and sustainability of the operations. In addition a 20MW gain is also anticipated.

Of the \$16.5 million USG funding committed for Tarbela, total disbursement as of January 2013 has reached to \$13,949,917. The detailed status of the Tarbela FARA is tabulated below:

Table 3: Status of Tarbela FARA

LINE ITEM #	UNIT #	WORK ITEM DESCRIPTION	AMOUNT (USD)	CLAIMS SUBMITTED (USD)	PRESENT STATUS
1	4	Replacement of Damaged Generator Stator Windings with Class F Insulation Windings, Unit#4	3,700,000	3,700,000	Work completed and 100% amount reimbursed
2	3	Replacement of Damaged Generator Stator Windings with Class F Insulation Windings, Unit#3	3,700,000	2,849,917	Installation of windings completed on May 25, 2012. 100% amount-less spares-has been reimbursed. WAPDA has placed PO for the spares and the amount will be reimbursed upon shipment.
3	1	Replacement of Damaged Generator Stator Windings with Class F Insulation Windings, Unit#1	3,700,000	3,700,000	Work completed and 100% amount reimbursed
4	1-14	Upgrading of the SCADA System, Units 1-14	1,000,000		SCADA System award is in final stages. PO is expected to be placed within February. .
5	1-10	Spare Seals & Guides for Relief & Bypass Valves on Turbine Side, Units 1-10	500,000	500,000	Installation completed on all units. 100% amount reimbursed.
6	1-10	Replacement of Electromechanical Governors by Digital Ones, Unit 1-10	3,000,000	2,700,000	The equipment arrived at site on 30 November. The installation and commissioning of the Digital Governors on Units 1 – 10 is anticipated to be completed in June 2013.90% amount reimbursed.
7	1-10	Replacement of Worn out Station Drainage & Dewatering Pumps, Units 1-10	400,000		Installation completed on all units. However, reimbursement is on hold as one small pump (required under FARA) is being procured by WAPDA to comply the specifications of FARA.
8		Training	500,000	500,000	20 engineers from Tarbela power station have completed training on O&M in Switzerland. 100% amount disbursed to WAPDA.
Total			16,500,000	13,949,917	

Gomal Zam Multipurpose Dam under Activity Agreement:

Work under the Gomal Zam Activity Agreement has been progressing slowly owing to security issues and WAPDA's inability to make outstanding payments of \$10 million to the contractors. WAPDA made a payment of \$6 million to partially settle outstanding invoices of the contractors. The security at the project site has also been beefed up by FWO and the commissioning of the project is anticipated in Mar-Apr 2013. Main dam is already complete, switchyard is 98% and transmission line is 95% complete.

Efforts are still underway by FATA administration and WAPDA for the release of eight project staff (one reported killed), who were abducted in August 2012.

Per the Amendment No. 1 to the Activity Agreement, the revised completion date of the project (including the irrigation component) is September 30, 2013. Of the \$40 million USG funding committed for Gomal Zam (energy component), total disbursement as of January 2013 is \$36,589,000. The detailed status of the Gomal Zam Activity Agreement is tabulated below:

Table 4: Status of Gomal Zam Activity Agreement

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% Claim reimbursed
2.	Hydropower & Switchgear Component	90%	0.757	0.757	Work Completed. Claim of 0.757 million reimbursed
3	Main Dam and Spillways Concrete & Related Works	91%	5.125	5.125	Work Completed. Claim of 5.125 million reimbursed
4.	Main Dam & Spillways, Concrete & Related Works	100%	5.125	5.125	Work Completed. Claim of 5.125 million reimbursed
5.	Hydropower & Switchgear Component	50% of remaining 10% works by Dec 9, 2011	0.920	0.920	Work Completed. Claim of 0.920 million 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. Claim of 1.0 million reimbursed
7.	132kV Transmission Line and related works	100%	0.5	0.5	Work Completed. Claim of 0.5 million reimbursed
7a.	132kV Transmission Line and related works	100% by Apr 30, 2012	0.5		95% Completed
8a.	Completion of Mechanical testing of Dam fixture	100%	2.0	2.0	Work Completed. Claim of 2.0 million reimbursed.
8b.	Completion of Project - Filling of Reservoir, Testing, & Placement in Commercial Operation	50% by Dec 9, 2011	1.991	1.991	Work Completed. Claim of 1.991 million reimbursed
8c.	Completion of Project - Filling of Reservoir, Testing, & Placement in Commercial Operation	100% by Aug 30, 2012	1.991		Final testing depends upon completion of transmission line, switchyard and availability of water
Total			\$40	\$36.589	

Satpara Multipurpose Dam under Activity Agreement:

At Satpara Dam, work on powerhouse 3 and 4 is progressing and completion is expected in April 2013 as per the schedule. The completion of the remaining portion of irrigation canal is under discussion with WAPDA and Gilgit-Baltistan. In this regard, a meeting was held between Chief Minister Gilgit-Baltistan and USAID on Jan 19, 2013, in which the CM gave his complete assurance for supporting completion of the remaining works and also assist in resolving the land acquisition issues.

EPP on request of USAID prepared a brief on the land compensation to be paid for the remaining canal and prepared options of connecting the project with the regional grid. A follow up meeting between USAID, WAPDA and Gilgit-Baltistan Administration is expected to take place in early February to resolve the issues.

Of the \$26 million USG funding committed for Satpara, total disbursement as of January 2013 is \$21,485,700. The status of Satpara Activity Agreement is tabulated below:

Table 5: Status of Satpara Activity Agreement

LINE ITEM #	WORK ITEM DESCRIPTION	COMPLETION STATUS	AGREEMENT AMOUNT (USD - Million)	CLAIMS SUBMITTED (USD- Million)	PRESENT STATUS
1.	Civil Works for Dam & Power House 1 & 2	94%	4.500	4.500	Work Completed. 100% Claim reimbursed.
2.	Civil Works for Dam and Power House 1 & 2	100%	1.877	1.877	Work Completed. 100% Claim reimbursed
3.	Civil, Electrical & Mechanical Work for Power Houses 3 & 4	50%	5.846	5.846	Work Completed. 100% reimbursed
4.	Civil, Electrical & Mechanical Work for Power Houses 3 & 4	100% by Apr 30, 2013	3.681		88% work completed and on schedule
5.	Irrigation System	78 %	2.530	2.530	Work Completed. 100% Claim reimbursed
6.	Irrigation System	89 %	2.282	2.282	Work Completed. 100% Claim reimbursed
7.	Irrigation System	90 % by Dec 09, 2011	2.0538	2.0538	Work Completed. 100% claim reimbursed
7a.	Irrigation System	100% by Jun 30, 2012	0.2282		99.9% work completed
8.	Consultancy Services	81%	0.0853	0.0853	Work Completed. 100% Claim reimbursed
9.	Consultancy Services	90%	0.400	0.400	Work Completed. 100% Claim reimbursed
10.	Consultancy Services	100% by Apr 30, 2013	0.390		Ongoing till project end
11.	Project completion with Testing & Placement in Commercial Operation	90% by Dec 09, 2011	1.9116	1.9116	Work Completed. 100% Claim 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	

THERMAL POWER PLANTS

With total funding of \$54.231 million, as much as 700MW are estimated to be restored through the rehabilitation of three thermal power plants. The baseline condition of these plants at the time of signing of the FARA was 315MW; however due to further deration of the plants' operating capacity, estimated gains were increased to 700MW as shown in the following table.

Table 6: Baseline Capacity at the Thermal Power Plants

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

Rehabilitation of Muzaffargarh TPS under Activity Agreement:

During the reporting month, EPP visited Muzaffargarh TPS and physically inspected the major equipment (economizer tubes, breakers, motors), and verified the 150 megawatt gains at Unit 5 & 6. The rehabilitation work to date has resulted in 480 MW of capacity restoration at the power plant which exceeds the project objectives.

Moreover the amendment to the PIL is in progress to revise technical specifications. In this regard, EPP visited the plant in January and supported the GECNO in preparing a revision to the PIL. The PIL modification which is expected to be signed in February will help expedite payment of reimbursement claims held up due to deviations from the agreement's technical specifications.

The total amount disbursed to the GOP as of January 2013 is \$ 10,133,001¹. The detailed status of the MTPS Activity Agreement is tabulated on the next page:

¹ EPP certified claims of \$10,133,001; out of which \$337,605 will be disbursed after the PIL Amendment

Table 7: Status of MTPS Activity Agreement

Line Item No.	Unit No.	Work Item Description	Agreement Amount	Claims Submitted under FARA	Claims submitted under new PIL	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
2	1- 4	Special Cooling Water Treatment.	\$187,440			Tender opened for the 4 th time on 26.06.2012 but no firm participated. Tender again opened on 11.09.2012 and under evaluation process.
3	1-6	Use of Fuel Oil Additive as done on Unit-4 (450 Tons).	\$921,225			PO issued on 22.11.2012. Cash foreign exchange budget allocated on 11.12.2012 and request sent to establish LC.
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
5	1,2&3	Modification of Excitation system (3 set)	\$191,700			Tender opened in April 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 while LC opened on 02.02 2012 for GRC fan. Material received at site on 18.10.2012. Claim for 100% Payment reimbursed
7	3	D.C. Storage batteries (01 Set).	\$60,000	\$60,000		Material received and installed at site. 100% Claim reimbursed
8	1,2&3	220Kv circuit breaker SF6 type (06 No).	\$337,605		\$337,605*	LC established on 03.08.2012. Claim for 100% payment received and forward to USAID/ENR for approval on September 25, 2012 however amendment in the PIL specification is required for its disbursement.
9	4	Re-blading of LP. Rotor (LP Turbine Rotor blades of row (6&7), pins & locking device).	\$787,035		\$787,035	Material received at site on 09.01.2013. Claim for 100% reimbursed
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 reimbursed
11	4	Up-grading of AVR System (01 set).	\$249,210		\$249,210	PO issued on 20.07.2012. LC opened on 12.10.2012. Claim for 100% Payment reimbursed
12	4	Replacing UPS 1&2. (01 set).	\$62,835		\$62,835	Claim for 100% reimbursed
13	4	DEH (01 set).	\$319,500			Tender cancelled by CEO on 11.01.2013 and re-tender to be opened on 04.02.2013.
14	4	Up-grading of FSSS System (01 set).	\$138,450			Tender cancelled by CEO on 11.01.2013 and re-tender to be opened on 04.02.2013.

15	4	Up-grading of TSI system BNC 3300 or equivalent (Turbine Supervisory Instrument) (01 set).	\$266,250			Tender cancelled by CEO on 11.01.2013. Tender will again open on 04.02.2013.
16	1-6	Training and software/hardware cost for CMMS and off-line efficiency monitoring system. All Units	\$1,000,000			Tender cancelled by CEO on 11.01.2013. Tender will again open on 31.01.2013.
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 reimbursed
18	5&6	Air Pre heater Elements Hot end, intermediate & cold end layers along with seals for both units (04 Set).	\$639,000			PO issued on 20.07.2012.. LC established on 12.10.2012. Claim for 100% Payment (\$639,000) received but not forwarded to USAID/ENR due to specifications problem.
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. Material received at site on 16.07.2012. Claim for 100% payment reimbursed
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. Material received on site on 13.08.2012. Claim for 100% payment reimbursed
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. Received at site on 25.10.2012. Claim for 100% Payment reimbursed
22	5&6	IP Turbine Rotor (01 No).	\$641,130		\$641,130	PO issued on 14.06.2012. LC established on 12.10.2012. Claim for 100% Payment reimbursed
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			LC established for both the PO. Claim for 100% Payment received but not forwarded to USAID/ENR due to specifications problem.
24	5&6	Conversion of Boiler Ignition System from Natural Gas to HSD/Furnace Oil	\$277,965			Tenders opened and evaluation completed. LOI to be issued
25	5&6	Repair of winding and stator of Generators and testing	\$319,500			Draft tender documents sent to GM office on 06.08.2012. Tender to be opened on 28.11.2012.
26	5&6	Hydraulic coupling of Boiler Feed Water Pumps (01 No).	\$63,900			Tender opened and under evaluation process.
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. Material received at site on 15.10.2012. Claim for 100% payment reimbursed
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 reimbursed

30	5&6	Procurement of 6.6/0.4KV Breaker (5 No. 6KV breaker, 18Nos. 0.4Kv Breakers).	\$295,005			LC opened on 12.10.2012. Claim for 100% Payment received but not forwarded to USAID/ENR due to specifications problem.
31	5&6	Protection Relay for Generators.	\$29,820			Tenders opened and LOI issued on 24.02.2012. PO issued on 31.05.2012. LC established on 12.10.2012. Claim for 100% Payment received but not forwarded to USAID/ENR due to specifications problem.
32	5&6	MK Breakers, Seal Oil Coolers, PMG	\$169,335		\$169,335	Consignment received at site. Claim for 100% payment reimbursed
33	5&6	Supply, Installation, Commissioning & Testing of complete distributed control system including field equipment such as sensors, transmitter & actuators etc. for turbine governing system DEH-III and Boiler Turbine Auto regulation system YEWPACK-II	\$213,000			Tender will again open on 11.02.2013.
34	5&6	Rehabilitation of Furnace safety Supervisory System including Furnace camera, flame monitoring & ignition system	\$266,250			Tender will again open in the first week of February.
Total			\$15,778,195	\$4,872,500	\$5,260,501	

Claims Processed and Submitted to USAID = **\$10,133,001** (including * \$337,605 that will be disbursed after amendment in PIL)

Table 8: Summary of Status of Muzaffargarh TPS as of January 31, 2013

Description	Number	PIL Item #	Amount
Material Received at Site	12	1,4,6,7,9,10,17,19,20,21,28,32	\$8,741,776
LC opened and material is awaited	9	8, 11,12,18,22,23,29,30,31	\$2,705,100
PO issued and LC is awaited	1	3	\$921,225
Performance Bond received and PO is awaited	-	-	-
LOI Issued and Performance Bond is awaited	-	-	-
Tender/Re-Tender opened and in process	6	2,5, 24,25,26,27	\$1,206,645
Tender/Re-Tender Awaited	6	13,14,15,16,33,34	\$2,203,450
Total PIL Line Items	34		\$15,778,195

LC opened for PIL Item # 8, 18, 23, 30, 31 but their specifications are not as per PIL therefore claim will be processed on procurement of remaining items

Rehabilitation of Jamshoro TPS under Activity Agreement:



Regenerative Air Heater Parts

The rehabilitation work to date has resulted in 165 MW of capacity being restored at JTPS, which exceeds the project objectives given in the Agreement.

Installation of the economizers at Unit-4 is in progress, which on commissioning in Feb 2013 will add another 70MW. With this the total gains reach to 235MW.

EPP staff visited Jamshoro power plant and physically inspected the major equipment (Air Pre heater Rotor for Unit 1, Super Heater Tube Elements for Unit 1 and Economizer for Unit 4) and also verified the gains the 70MW on Unit 3.

Additional equipment (I.D Fan Impellers) has also arrived at site. EPP will physically inspect the equipment early in February.

Moreover the amendment to the PIL is in progress to revise technical specifications. In this regard, EPP visited the plant in January and supported the GECNO in preparing a revision to the PIL. The PIL modification which is expected to be signed in February will help expedite payment of reimbursement claims held up due to deviations from the agreement's technical specifications.

The total amount disbursed to the GOP as of January 2013 is \$13,327,275².

² EPP has processed and submitted to USAID \$13,327,275; out of which \$2,630,550, will be disbursed after amendment in PIL

Table 8: Status of JTPS Activity Agreement

LINE ITEM NO.	UNIT NO.	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		\$1,672,050*	LC established on 18.10.2012. Partial material received at site. Claim for 100% payment received and forwarded to USAID for approval on November 21, 2012, however amendment in the PIL specification is required for its disbursement.
2	1	Replacement of Final Super Heater Coils.	\$958,500		\$958,500*	Material received on 16/12/12. Claim for 100% payment received and forwarded to USAID for approval; however amendment in the PIL specification is required for its disbursement.
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 completed. 100% Claims reimbursed
4	1	Complete Rehabilitation of Cooling Towers.	\$500,000	\$450,000	\$50,000	Material received at Jamshoro. Installation completed. 100% claim reimbursed
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
6	1	Hiring of services for major overhauling.	\$810,000			Tender is re-called fourth time but the required technical expertise not offered. Now OEM M/s Fuji are contacted.
7	1	Soot Blower Spare Parts.	\$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. EPP observations sent to USAID for decision
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% Claim reimbursed
9	1	Spares for Oil & HSD Burners & Igniters.	\$213,000			LC Established on 28.12.2011 and material received at site but specifications mentioned in PO differs from PIL specifications. EPP Observations sent to USAID for decision
10	1	Air Pre-heater Elements & Seal,	\$670,000	\$670,000		Material Installed at site amount reimbursed. 100% Claim reimbursed.

11	1-4	Use of fuel oil additives to prevent slag formation and cooling water treatment chemicals to prevent scale buildup.	\$958,500			Tender was opened on: 17.02.2012. The finance division vetted it and PO is expected to be issued in February.
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 reached at site on 07.08.2012. New H.P heaters on unit 2 & 3 are completed and now new instrumentation & control is in progress. 100% Claim reimbursed
13	2-4	Complete Rehabilitation of Cooling Towers.	\$718,875			LC established on 27.06.2012, but it was not as per PIL specifications. Claim will be submitted after procuring the remaining items. Material reached at site on 26.09.2012
14	2-4	Complete Rehabilitation of drain valves.	\$351,450			LC Established on 28.12.2011. The material reached at site on 26.06.2012 but specifications mentioned in PO differ from PIL specifications. EPP observations sent to USAID for decision
15	2-4	Rehabilitation of soot blowing system.	\$702,900			Foreign Exchange Allocation received on 31.07.2012. LC established on 17.09.2012. Claim received but not forwarded due to specifications problem.
16	2-4	Supply, installation and commissioning of complete economizers of three units	\$3,195,000		\$3,195,000	LC has been established on 28.06.2012. First shipment consist of two economizers is received on 23.10.2012, installation on unit 2&3 is in progress. Claim for 100% Payment reimbursed
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.</p> <p>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,</p>	\$1,171,500			Tender is re-invited third time.

		F.D, I.D Fan motor Temperature, Boiler Feed Pump Temperatures with latest Distributed Control System 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 site and is installed. Claim for 100% Payment reimbursed
19	3	Replacement of Final Super Heater Coils.	\$958,500		\$958,500	Foreign Exchange Allocation received on 31.07.2012. LC established on 11.09.2012. Claim for 100% Payment reimbursed.
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. Claim for 100% Payment reimbursed.
21	3	Spares for Overhauling of Turbine.	\$532,500			Consignment reached Jamshoro but specifications mentioned in PO are different from PIL specifications. EPP observations sent to USAID for decision.
22	4	I.D Fan Impellers.	\$479,250		\$479,250	Material has been received at site. One set of ID fan impeller has been installed on Unit# 4.. Claim for 100% Payment reimbursed.
23	1-4	Off-line Efficiency Monitoring system and training.	\$426,000			Tender opened on 29.05.2012.The finance division vetted it and PO is expected to be issued in February.
		Total	\$19,329,150	\$2,545,000	\$10,782,275	

Claims Processed and Submitted to USAID = \$13,327,275 (including *\$2,630,550 that will be disbursed after amendment in PIL)

Table 9: Summary of Status of Jamshoro TPS as of January 31, 2013

Description	Number	PIL Item #	Amount
Material Received at Site	17	1,2,3,4,5,7,8,9,10,12,13,14,16, 18,20,21,22	\$14,301,750
LC opened and material is awaited	2	15, 19	\$1,661,400
PO issued and LC is awaited	-	-	-
Performance Bond received and PO is awaited	-	-	-
LOI Issued and Performance Bond is awaited	-	-	-
Tender/Re-Tender opened and in process	4	6,11,17,23	\$3,366,000
Tender/Re-Tender Awaited	-	-	-
Total PIL Line Items	23		\$19,329,150

LC opened for PIL Item # 1, 2, 7,9,13,14,15,21 but their specifications are not as per PIL therefore claim will be processed once the procurement of remaining items is complete

Rehabilitation of Guddu TPS under Activity Agreement:

Further to the Agreement between Guddu and GE, the equipment arrival for the uprate is expected to start from March, and the installation will take three months as per the Agreement. The total gains expected after rehabilitation are about 75MW.

A new Activity Agreement and implementation letter were signed in April 2012 with a total funding of \$19,123,730 and the completion date was revised to June 30, 2013. Recently Guddu made a request to USAID for allowing procurement of item (Torque Converter) in lieu of the PIL item-5, which according to Guddu is not required at this point in time. EPP has requested Guddu to provide a detailed justification and implications on uprate program, which will be submitted to USAID after EPP's review and recommendations.

Guddu is also in the process of opening the Letter of Credit for the Services Agreement with GE of \$1,826,000. The total amount disbursed as of January 2013 is \$15,512,790. The status of the Guddu TPS Activity Agreement is tabulated below:

Table 10: Status of GTPS Activity Agreement

LINE ITEM #	WORK ITEM DESCRIPTION	AGREEMENT AMOUNT	CLAIMS SUBMITTED	PRESENT STATUS
1.	Purchasing the supply of Spares / Equipment for reliability assurance (up-rating and upgrading) including MK VIe Control System for GT-7&8 and ST-05	\$8,889,555	\$8,889,555	LC opened on 28.09.2012. Claim for 100% Payment reimbursed by USAID.
2.	Replacement of existing DCS with new Mk VIe Single Platform DCS for ST-5, GTs 7 & 8	\$692,250	\$692,250	LC opened on 28.09.2012. Claim for 100% Payment reimbursed by USAID.
3.	Purchasing the Supply of 1 & 2 stage buckets and nozzles for GT-7&8	\$3,621,000	\$3,621,000	LC opened on 28.09.2012. Claim for 100% Payment reimbursed by USAID.
4.	Rehabilitation of HRSGs, Replacement of Modified Bypass Dampers, all existing expansion joints of HRSGs and Replacement of Economizer tubes and bends of HRSG for GTs 7 & 8	\$1,571,940		Two PO have been placed and one tender is recalled
5.	Rehabilitation / Replacement of Evaporative Coolers and Cooling Media of GT-7&8	\$213,000		One tender under evaluation and other is recalled due to no bid participation
6.	Inspection, testing and repair of Generators of GT-7, GT-8, ST-5 along with supply of essential spares and testing kits	\$2,212,005	\$2,212,005	LC opened on 28.09.2012. Claim for 100% Payment reimbursed by USAID.
7.	Purchasing of Control Cables, Monitoring Instruments, Motorized and pneumatic Actuators and Turbine Supervisory Instruments / Equipment for ST-5	\$97,980	\$97,980	LC opened on 28.09.2012. Claim for 100% Payment reimbursed by USAID.
8.	Application of Service Charges for complete up-rate and upgrade package of GTs and replacement of controls etc. for block consisting of GT-7&8 and ST-5 on turnkey basis	\$1,826,000		Service order opened and LC will be opened soon.
Total		\$19,123,730	\$15,512,790	

Table II: Summary of Status of Guddu TPS as of January 31, 2013

Description	Number	PIL Item #	Amount
Material Received at Site	-	-	-
LC opened and material is awaited	5	1,2,3,6,7	\$15,512,790
PO issued and LC is awaited	1	8	\$1,826,000
Performance Bond received and PO is awaited	-	-	-
LOI Issued and Performance Bond is awaited	-	-	-
Tender/Re-Tender opened and in process	2	4,5	\$1,784,940
Tender/Re-Tender Awaited	-	-	-
Total PIL Line Items	8		\$19,123,730

Heat Rates Testing and Calibration of Flow Meters:

Phase I - Conduct heat rate tests which would require calibration of existing equipment

- Calibration of meters

Proposal received from SGS in response to the RFP and EPP technical team compiled comments on proposal for clarification from SGS. The proposal is also sent to GHCL for their concurrence on terms and conditions. EPP staff will again meet with the GM Thermal early next week to discuss the need of formal concurrence required from GHCL, prior to placement of the purchase order with SGS.

- Heat rate and dependable capacity testing

In response to RFP, PES revised the testing procedure to meet NEPRA requirements and submitted their proposal in January. EPP technical team compiled comments on proposal for clarification from PES. EPP will be meeting with PES next week to discuss both the commercial and technical aspects of the proposal.

Phase II - Installation of new equipment (flow meters)

Two EOIs received from international manufacturers. Procurement of flow meters will be carried out for those that are damaged and may not be calibrated. The exact number will be identified once the calibration is complete.

Performance Monitoring and Capacity Building of the GENCOs:

EPP performance monitoring expert placed at Guddu Thermal power station is assisting in on-site training of staff on the better O&M practices. EPP is moving forward with the training program at the three GENCOs. For this purpose EPP expert visited the three power plants to assess their training needs. A work plan has been drafted which will also be shared with the GENCOs. In addition EPP proposed additional experts to CEO (GHCL) for Jamshoro and Muzaffargarh – response awaited.

On O&M training for Hydros, EPP has drafted a preliminary work plan which will be discussed with WAPDA. It is anticipated that the training will be carried out in two-three batches, starting from Mar-Apr 2013.

COMPONENT 2: POLICY AND REFORM

SUPPORT TO GOVERNANCE AND REFORM TEAM (GRT), MWP

EPP is supporting the Ministry of Water and Power in implementing the GOP's Power Sector Reform Program (PSRP) in generation, transmission, fuels, policy and finance.

Analysis of Generation and Distribution figures for fourth quarter of Calendar Years 2010, 11 and 12

Upon the request of Secretary Water and Power a detailed analysis of generation, transmission and financial impacts of the fourth quarter of Year 2010, 2011 and 2012 was conducted to compare performance over a 3 year period. A comprehensive presentation has been made to the Secretary and senior management at the Ministry. The Secretary has requested a follow-up presentation to analyze the past trends and performance.

Financial Projections for Future Generation Mix

The Joint Secretary Water and Power has requested a projection of future generation potential in Pakistan over the next 20 years. The analysis will include impact of generation mix on tariff and subsidies. Currently, data is being gathered to conduct this analysis.

Hydro Power Development Fund

A paper regarding the financing proposals and management structure for Hydro Power Development Fund was submitted to Special Secretary Water and Power. In a meeting held on January 1, 2013 with the Special Secretary Water and Power the paper was discussed in detail. The paper has been circulated by Ministry of Water and Power with a request to related stakeholders for their views/ comments.

Small Hydro Potential in Pakistan

The Additional Secretary, Water and Power had requested EPP to complete a report on the small hydro potential in Pakistan, including capacity available, costs, financing. An initial presentation comprising the Small Hydro Capacity in Pakistan with a primary focus is on the KPK, Gilgit Baltistan potential projects was made. In addition, a review is being conducted on the Power Generation Policies specifically for Small Hydro Projects.

SUPPORT TO MINISTRY OF FINANCE

Tasks undertaken by EPP seconded staff at the Ministry of Finance include the following:

- Assisted Ministry of Finance, Corporate Finance Wing (CFW) in preparation of their comments on a summary submitted by Ministry of Water and Power proposing amendments in Hydro Power Generation Policy.
- Briefed the Adviser to Ministry of Water and Power Raja Raza Arshad regarding Circular Debt Issue.

- Helped Ministry of Finance in preparation of their comments on the summary submitted by Ministry of Petroleum and Natural Resources regarding installation of LPG Air Mix Plant by Sui Southern Gas Company Limited (SSGCL).
- Supported Ministry of Finance in preparation of their comments on the summary submitted by Ministry of Water and Power regarding Time of Use (TOU) Metering Tariff.
- Assisted Corporate Finance Wing of Ministry of Finance to examine the Concept Paper sent by Ministry of Water and Power regarding Financial Proposals and Management Structure for proposed Hydro Power Development Fund.
- Helped Ministry of Finance, Corporate Finance Wing (CF Wing) in preparation of their views/ comments on the draft mechanism/ procedure for utilization of Gas Infrastructure Development. This mechanism/ procedure will be approved by the ECC on a summary to be submitted by Ministry of Petroleum and Natural Resources.
-
- Assisted Ministry of Finance, (CF Wing) in preparation of their comments on the draft Financial Proposals / Management Structure proposed by Ministry of Water and Power for Hydro Power Development Fund.
- Supported Ministry of Finance, Corporate Finance Wing (CF Wing) in preparation of their comments on a summary for the ECC submitted by Ministry of Petroleum and Natural Resources regarding Marginal/ Stranded Gas Field – Gas Pricing Criteria and Guidelines 2013.
- Assisting Ministry of Finance, Corporate Finance Wing (CF Wing) in preparation of their comments on a summary for the ECC submitted by Ministry of Petroleum and Natural Resources proposing some amendments in Petroleum Policy 2007-09 and 2012.
- Briefed Corporate Finance Wing, Ministry of Finance regarding the Revised Implementation Agreement signed between Ministry of Water and Power and KESC particularly with reference to the Tariff Differential Subsidy to be provided to KESC.

SUPPORT TO PLANNING COMMISSION & MINISTRY OF PETROLEUM & NATURAL RESOURCES

Circular Debt:

The Planning Commission has expressed interest in co-publishing the circular debt report with USAID. Member Planning, Shahid Sattar provided feedback on the report and asked for more graphics to be added. In addition, a USAID economist provided further feedback on the report; changes are being assessed jointly with the PDP team.

LNG Imports:

During the reporting month coordination was continued with QED Gas (LNG Consulting Company and SSGCL on the consultancy services for LNG import. Two delivery orders were executed with QED Gas (LNG Consulting Company). A third delivery order was drafted in coordination with QED and SSGCL. Invoice and deliverables for Delivery Order-I were received from QED. The deliverables are under review.

Oil Refining & Marketing policy:

A meeting was held with DG Refineries and Financial Advisor MPNR regarding revision of Refinery Pricing Formula. Draft papers were prepared.

E & P and Shale Gas:

EPP received and reviewed LMKR's proposal on the provision of consultancy services in shale gas.

General Support to Planning Commission

EPP staff seconded at the Planning Commission provided support to the Commission as follows:

- a) Modified and updated SSGCL's response to comments of Overseas Private Investment Corporation (OPIC) on investment for LNG terminal and import of LNG in Pakistan.
- b) Communicated with Secretary Economic Affairs Division for arrangement of funding for Nagdar and Dowarian Hydel Power Projects.
- c) Prepared a brief report on the achievements of present government in the fields of Economic Development, PSDP Programme, Project Monitoring and Evaluation.
- d) Updated, finalized and circulated minutes of ECC meeting held on comments of Bidders on RFP for import of LNG.
- e) Updated draft summary to OGRA on New Tariff Regime for Regulated Natural Gas Sector in Pakistan. Communicated with Directorate General of Gas & LGs at Ministry of Petroleum and Natural Resources to get updated data for the summary.
- f) Created presentation for Minister for Finance on Tariff Differential Subsidy and Steps to gradually remove the subsidy.
- g) Prepared a detailed sheet of DISCO wise Tariff Differential Subsidy Break-up at Existing Determined and Notified Tariffs.
- h) Created Presentation for Member Energy on Pakistan Power's current woes and steps to improve the power sector, to be presented to State Minister for Finance and Planning & Development in Planning Commission.
- i) Drafted a note on current Circular Debt position and estimated addition during FY 2012-13.
- j) Communicated comments of Planning Commission to Ministry of Petroleum & Natural Resources on Allocation of gas from Latif Field.
- k) Finalized and circulated minutes of meeting to all concerned departments on New Tariff Regime for Regulated Natural Gas Sector in Pakistan.
- l) Modified and updated summary for the Economic Coordination Committee (ECC) of the cabinet on Policy guidelines to OGRA under section 21 of OGRA Ordinance, 2002 (New Tariff Regime for Regulated Natural Gas Sector in Pakistan)
- m) Acquired category wise anticipated financing requirement for the Neelum Jhelum Project from WAPDA for the Period of January to June 2013.
- n) Acquired revised/updated presentation of WAPDA on financing of Neelum Jhelum HPP.
- o) Provided IT Support to Deputy Chairman and Member Energy office in the Planning Commission and took routine back-up of official data from office of Member Energy.

ENERGY SECTOR INTERSHIP PROGRAM

The South Punjab Chapter of the internship program was launched in the reporting month. The internee aptitude test and interviews were conducted at Bahauddin Zakariya University Multan from January 2-4, 2013.

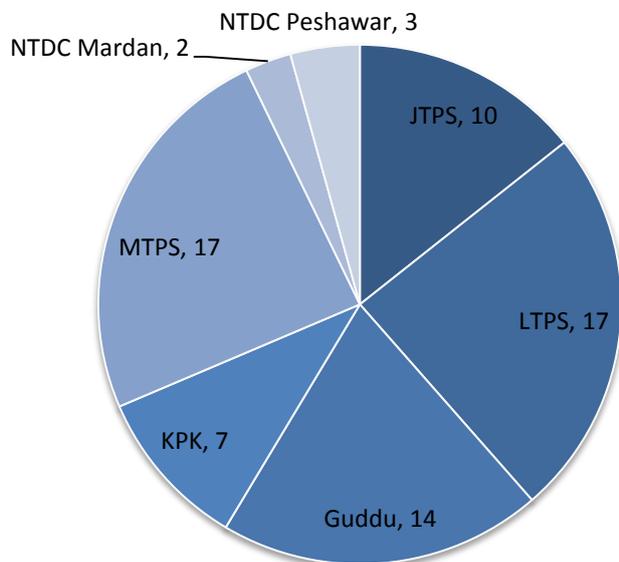
A total of 277 candidates applied, out of which 95 potential candidates were shortlisted for interview. The applicants hail from Bahawalnagar, D G Khan, Hafizabad, Khanewal, Multan and Muzaffargarh. Twenty candidates (3 females and 17 males) were selected and have been placed at Muzaffargarh Thermal Power Station and NTDC Muzaffargarh.



Interview of a shortlisted candidate at Bahauddin Zakaryia University, Multan

The internship at MTPS commenced on January 28, 2013 and will be launched through an official ceremony during the month of February. The interns selected for NTDC Muzaffargarh will start work from February 1, 2013.

A total of 70 university and technical graduates have been placed at different power sector entities in Sindh, Punjab and KPK.



For expansion of the Internship Program to the Potohar region, a meeting was held with the senior management of Attock Refinery Limited (ARL). The refinery was appreciative of EPP's internship program and agreed to participate in the program. A follow up meeting was held with the Manager (HR & Admin), ARL regarding the HR gaps and requirements of the interns. Fifteen potential slots have been jointly identified by EPP and ARL where the interns can be placed.

Follow up was conducted with Sui Southern Gas Company (SSGC) and PSO for the initiation of collaboration on the internship program.

COMPONENT 3: NEW PROJECTS, PLANNING & DEVELOPMENT

EPP continued its support to USAID in its efforts to determine funding levels and schedules for various hydroelectric power projects.

Mangla

During the reporting month, EPP provided details to USAID on the utilization of the \$150 million allocated for Mangla. EPP also analyzed and gave comments on the Draft Activity Agreement (AA) and Project Implementation Letter (PIL) for Mangla.

A meeting was held with USAID to discuss options and utilizations plans for the allocated budget for Mangla. EPP provided details of the entire Mangla Refurbishment and Upgrade project, and the Due Diligence effort by EPP and the positive role and impact of involvement in the project. During the meeting the 'Next Steps' were also discussed and it was suggested that USAID respond to the Draft Activity Agreement (AA) and Project Implementation Letter (PIL) that WAPDA has sent to USAID. EPP also suggested that USAID support WAPDA in expediting GOP approval of the project PC I.

Kurram Tangi

During the reporting, EPP along with USAID held a meeting with representatives FATA Secretariat (FS) and Frontier Works Organization, FWO (an Army affiliated civil works contractor) on the proposed implementation modalities. USAID confirmed that \$45 million could be available post completion of the ongoing Environmental Impact Study and issues arising therefrom. FS assured assistance to the contractor for environmental studies and the provision of proper security since the Kurram Tangi project site lies in a security sensitive area.

USAID accepted to consider implementing the project under "Quick Impact Project" (QIP). The essence of the meeting was agreement that the KTDP is a priority for both KPK Government and USAID and that all effort will be made to quickly start the project.

USAID held an Energy Projects review meeting was held at the EPP office. Issues related to implementation of the Kurram Tangi Dam Project (KTDP) were highlighted and discussed. The discussion mainly focused on the implementing partner for the KTDP. EPP is of the view that the KTDP is a far more complex venture with design issues that have to be addressed before construction can begin. WAPDA supported by credible and competent consultants, well known for work on Dam design and construction, must manage/oversee all works on the project. However, FATA Secretariat is proposing that the project be awarded to FWO for construction under the QIP (Quick Impact Project) mechanism that USAID has previously successfully used for road resurfacing and construction in FATA. The decision is awaited from USAID.

Run-of-River Projects

A brief was prepared for USAID describing and providing key information with a project status report for four run-of-the-river hydroelectric power stations that WAPDA had requested USAID for funding

support to complete and commission these projects during 2013. These are the 96MW Jinnah, the 72MW Khan Khwar, the 121MW Alai Khwar and the 130MW Dubair Khwar hydropower Projects.

WAPDA has requested USAID for assistance of \$54 million to complete all four projects. Due to non-disbursement of funds allocated to WAPDA under the Annual Public Sector Development Programs (PSDP)³ by GOP, WAPDA is financially constrained and this has caused a delay in the completion of the projects.

EPP also reviewed and corrected a USAID submittal to Washington regarding these projects.

Other Projects

Tarbela

On USAID's request, EPP submitted a brief on the silting of the reservoir of Tarbela Dam. The silt deposit in the Tarbela reservoir has created a '200 foot sheer face mountain' of silt about 5 miles upstream of the Dam. This can be a potential threat to the ongoing USAID funded rehabilitation at Tarbela as the silt could liquefy and flow downstream blocking/choking the power house and irrigation tunnels can be affected by the reservoir silting.

As a safety measure, the reservoir is kept above the level established by the "Delta Pivot Point" – a gradient to avoid destabilizing the deposit and prevent possibility of the silt beginning to flow with the water. The reservoir has thereby lost some of its "live storage" capacity.

Diamer Basha

Background information and comments were provided to USAID in response to a request regarding a news item about ADB views on resettlement laws and its withdrawal from the Diamer Basha Dam.

Neelum Jehlum

A brief was provided to USAID on the Neelum Jehlum hydropower project⁴. GOP has requested USAID to provide about \$100 million for the \$3 billion, 969MW project in AJK.

³In 2009-10 WAPDA got merely about 30% of the Rs 27.5 billion allocated to them for that year. In 2010-11 allocation was over Rs 15 billion but Rs 9.7 billion was provided. Similarly in 2011-12 over Rs 20 billion were promised but just Rs 12 billion were provided.

WAPDA has to make payments to civil contractors on construction progress and related monthly billing. Payments for the Electrical and Mechanical (E&M) works is normally incremental and tied to milestones. Generally, there is a 15% Mobilization Advance paid at time of award of contract. Another 30% may be paid when the equipment is inspected at manufacturer's site, 30% may be paid on delivery at site, 20% on installation while 5% is usually held back till completion of the 'Defect Liability' period – usually one year.

⁴ WAPDA had estimated cost of about \$1 Billion to construct the Neelum Jehlum hydropower Project. Foreign Exchange was to come from China EXIM Bank, the Abu Dhabi Fund and the Islamic Development Bank (IDB), while local costs were to be funded by a 'NJ Surcharge' of Rs 0.10 per unit imposed on electric power customers of PEPCO by the Government. Owing to various reasons – change of sites, redesign of structures, lack of electric power, land disputes – the project has been delayed by about 2 years and cost estimates revised to almost \$3 Billion. About \$400 million have been spent to date. WAPDA is seriously short of funds for the project and their problems have been compounded by disputes between the Government and the two primary lending entities owing to reasons beyond WAPDA's control. The IDB has asked for resolution of project financing plan before committing further funds.

COMPONENT 4: TRANSMISSION

EPP is focusing on strengthening the power transmission network and on capacity building for power sector entities involved in transmission.

PESCO

- **Grid Reconfiguration**

EPP team made an inspection visit to 132 kV Nowshera Industrial Substation where 10/13 MVA Power Transformer (T-2) will be augmented/replaced by 20/26 MVA Power Transformer (already spared from 132 kV Peshawar Fort Substation).

- **Power Transformer Program**

EPP issued a purchase order favoring Heavy Engineering Complex (HEC) for carrying out the repair on Shahi Bagh power transformer. Upon rehabilitation and reinstallation the transformer would add 40 MVA transformation capacity to PESCO's network.

EPP received proposal from HEC for the repair of two damaged power transformers:

- 20/16 MVA, 132/11 kV Jamrud Industrial Grid
- 15 MVA, 132/11 kV Battal Grid Station

Owing to weather and the fragile security situation in KPK, the Oil sampling activity continued at a slow pace during the reporting month. Oil samples were collected from nine grid stations and sent to Pakistan WAPDA Foundation (PWF) for analysis. The grid stations are:

- 132 kV SS Peshawar Fort (2x PTF)
- 132 kV SS Peshawar City (3x PTF)
- 132 kV SS Peshawar Cantt (4x PTF)
- 132 kV SS Sakhi Chashma, Peshawar (2x PTF)
- 132 kV SS Dalazak (2x PTF)
- 132 kV SS Rehman Baba (4x PTF)
- 132 kV SS Peshawar Industrial (3x PTF)
- 132 kV SS Peshawar University (3x PTF)
- 132 kV SS Shahi Bagh (4x PTF)

The oil sample analysis reports for power transformers (PTFs) of three substations, namely Peshawar Fort, Peshawar City and Shahi Bagh were received from PWF (Pakistan WAPDA Foundation). The reports and recommendations of are being reviewed by EPP's Transmission team.

Meetings were held with TCS & OCS authorities (two of the most prominent courier services in Pakistan) to develop a speedy and reliable mechanism for transportation of Oil Samples to PWF, Lahore. OCS would now not only carry samples to Lahore, but also ensure our boxes and bottles reach our Peshawar office in time. OCS services are now being used for transportation of oil samples.

- **Circuit Breaker Program**

EPP received technical and financial proposals for the supply of circuit breakers. The proposals are under review.

- **Transmission Technical Audit**

EPP and PESCO continued with the joint inspection of Peshawar division grid stations for the technical audit. The audit will help identify transmission bottlenecks. Detailed reports are being made. Corrective measures would be taken in accordance with EPP's recommendation. Audit of following Substations was carried out during the reporting period:

- 132 kV SS Shahi Bagh
- 132 kV SS Peshawar City
- 132 kV SS Peshawar

- **RPC Study**

The Reactive Power Compensation study is underway. EPP has engaged Power Planners International (PPI) to carry out this study. Capacitor/Inductor banks would be added at transmission facilities to compensate for reactive power (unproductive power) as per recommendations of study. Series of meetings were held with PESCO authorities (Mr. Abdul Latif Khan, Chief Engineer Operations; Mr. Aftab Sethi, Chief Engineer Project Management Unit; Mr. Niaz, Chief Engineer Grid Station Operations) and PPI to discuss procedures and data collection methods of study.

- **Linemen Program**

During the reporting month, regular communication was carried out with SE GSO PESCO for formalizing the arrangements for the live line training of PESCO crew. PESCO requested USAID EPP to facilitate their live line crew with tools, test equipment and vehicles. USAID EPP prepared SOW and list of tools and test equipment to be provided. The procurement process is in pipeline.

On January 24, 2013 a meeting was held with NTDC Live Line Instructor in which details of Live Line maintenance training and the practices and techniques were discussed.

The first phase of live line training was launched on January 28, 2013 for fifteen members of PESCO staff at the Tarbela training center. The training extends over a period of fourteen weeks, comprising of classroom and hands on training.

On January 29, 2013, EPP team visited Tarbela training Center to examine training facilities. A detailed examination of facilities including Classrooms, Boarding & Lodging and Labs was carried out.

- **Transmission Maintenance Workshop**

EPP held a meeting with the contractor regarding the design concept of the transmission workshop to be built at Rehman Baba Grid Station. The contractor will be submitting a 3-D concept design to EPP for review.

- **Telemetry on all CDPs**

EPP reviewed the System diagram of PESCO's network was reviewed. 141 Energy Meters at 61 grid stations would be needed to be installed. System diagram, highlighting metering points, was prepared.

During the reporting month, a request of assistance for the acquisition of Telemetry System⁵ was made by the Chief Executive Officer, PESCO. The request is under review by EPP.

- **Additional Activities**

A joint meeting of USAID, EPP and PDP was held on January 18, 2013 to discuss the details and progress of both the projects.

EPP reviewed the request for provision of tools and test equipment submitted by PESCO's relay protection department and developed a Scope of Work and list of tools and test equipment to be provided.

EPP and PESCO jointly inspected the 132kV substations at Mardan and Shahi Bagh to examine defective equipment, power transformers and capacitor banks. The 220 kV Shahi Bagh Grid Station was visited to examine faulty 160 MVA power transformer and transmission circuit constraints.

During January, EPP visited three Grid Stations of PESCO to carry out technical audit of 132 KV Capacitor Banks. Details are provided below:

- At Peshawar University Grid Station, carried technical audit of 132 kV, 24 MVAR Capacitor Bank. During visual inspection two capacitor units were found damaged due to which the capacitor bank is down.
- At Shahi Bagh Grid Station, carried technical audit of 132 kV, 24 MVAR Capacitor Bank. During visual inspection and maintenance record scrutiny, one capacitor unit was found damaged due to which the capacitor bank is down. As learnt from the staff, spare unit is available for replacement. The staff was advised for the corrective maintenance, highlighting to them importance of MVAR generation locally.
- At 132 kV Jehangira Grid Station, carried out technical audit of 132 KV, 36 MVAR Capacitor Bank. All the 90 capacitor units were healthy. The circuit breaker was found damaged; its Red Phase Pole was faulty and dismantled; the interrupter (arcing chamber) damaged. The defective breaker is normal one, not designed for capacitor current switching. The damaged breaker will be replaced with a proper one to put back the capacitor in service. Moreover, one shed of porcelain housing of the neutral CT and one porcelain post insulator of the bank were found chipped and need treatment against moisture ingress.

Live Line

The live line training for PESCO crew started during the reporting month.

⁵ Telemetry System is a remote and automatic solution for real time & accurate measurement of total instantaneous power import/export by a DISCO

Import of Power

A meeting was held with USAID on January 10, 2013 to discuss the activity progress. USAID was briefed on the contents of Concept Paper and advantages of importing power from CAR countries were discussed.

Data collection and report writing on concept paper is in progress.

NTDC

On January 31, 2013 EPP Chief of Party along with the Transmission Expert held a meeting with MD NTDC /Joint Secretary (Power), Muhammad Mussadiq, at Islamabad to discuss the support EPP will be providing to NTDC. The senior managers of NTDC based in Lahore participated in the meeting via Skype. EPP delivered a presentation on the planned activities and assistance being provided to NTDC. During the discussion, NTDC highlighted different projects EPP could assist them with.

ADMINISTRATION/MANAGEMENT: SUPPORT TO 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 vendors during the month. Payroll and financial reconciliations were completed. Reviewed Payment Vouchers for the month to ascertain that adequate documentation has been gathered and that the working papers have been documented and provide an adequate basis for reporting.

EPP continued with the variance analysis of utility cost incurred in the main office and the guest house during the year, as compared to the previous year. The reasons for the variations were identified and cost reduction techniques were suggested.

District-wise cost allocation of project activities was calculated and the financial data for Oct-Dec, 2012 was uploaded on USAID's PAKINFO site. Projected Expenditure and Actual Expenditure for Oct-Dec 2012 were analyzed.

The staff salary and compensation for 2012 was reviewed.

Procurement

Office equipment/supplies and services were procured to support EPP operations. EPP continued monitoring project support activities at the office and guesthouse. Equipment procured for Peshawar office includes:

- 110 KVA Generator procured for Peshawar office
- APC Original Online UPS (6 APC 650VA, 1 APC 1KVA, 1 APC 3KVA) and 6 Linksys Wireless Access points
- Nikon D5100 DSLR Camera including Tri-pod stand, 8GB Memory Card and original Nikon bag for communication department
- CCTV System for Peshawar office
- Dell Desktop PC including 22" LCD and 650VA UPS
- Scanjet Scanner & Multifunction Fax ,
- Nokia cell phones

Logistics

Logistical support was provided for 34 trips made by project staff. International travel for expats was arranged, and regular follow up was maintained with the Ministry of Foreign Affairs for obtaining longer term visas for the expats.

Human Resources

During the reporting month, Five new staff members were added to the project, including:

- Project Technical Assistant.
- A Security Specialist

- Admin & Logistic Assistant.
- Two Support Staff.
- An intern to provide operational support to the Energy Sector Internship Program.
- Five Transmission Engineers and two protection Engineers are in pipe line.

IT

EPP staff performed trouble shooting for IT equipment in the EPP office and guesthouse and for operations at the ministries; all related matters were resolved during the month. Additional IT activities include:

- On January 2013, Installation, Configuration and e-mail setup on 5 Laptops and 1 Desktop PC for new hires
- For Peshawar's CCTV setup a detailed technical survey visit has been made with vendor, on same visit I have Installed and configured Network LaserJet Printer, Scanner and Multifunction fax on Peshawar's PESCO office Laptops.
- Tracking of 6 official EVO Internet top-ups
- Deployment of Internet Service at Peshawar Guest house, Adjacent house and PESCO office
- Troubleshooting of AEAI-ISB Network Printers and track of cartridges replacement
- Monthly attendant backup activity for Microsoft Outlook
- New Internet connection setup at F-7/I Guest house
- IT support to Project staff working at Ministry of Finance and NPCC.
- ep-ep.com.pk Website site hosting setup and DNS propagation.
- Daily routine hardware, software, systems and network support to project staff

USAID ENERGY POLICY PROJECT

ADVACNED ENGINEERING ASSOCIATES INTERNATIONAL (USAID CONTRACTOR)