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PAKISTAN

ENERGY POLICY PROGRAM

QUARTERLY PROGRESS REPORT

APRIL-JUNE 2014



JULY 2014

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ENERGY POLICY PROGRAM

QUARTERLY PROGRESS REPORT: APRIL-JUNE 2014

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Cover photo: Transmission and generation rehabilitation work that took place during this quarter.

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ACRONYMS

AEAI	Advanced Engineering Associates International
CPGCL	Central Power Generation Company Ltd
DGPC	Directorate General Petroleum Concessions
DISCO	Distribution Company
EMMP	Environmental Mitigation and Monitoring Plan
EPP	Energy Policy Program
FARA	Fixed Amount Reimbursable Agreement
FAT	Factory Acceptance Test
FY	Fiscal Year
GENCO	Generation Company
GHCL	GENCO Holding Company Limited
GOP	Government of Pakistan
GTPS	Guddu Thermal Power Station
JTPS	Jamshoro Thermal Power Station
KPK	Khyber Pakhtunkhwa
kV	Kilovolts, 1000 volts, unit of electric potential (voltage)
LNG	Liquefied Natural Gas
LSA	LNG Services Agreement
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,
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
PESCO	Peshawar Electricity Supply Company
PIL	Project Implementation Letter
PO	Purchase Order
Power-SIM	Power System Integrated Model
PPA	Power Purchase Agreement
PQA	Port Qasim Authority
PTF	Power Transformer
RFP	Request for Proposal
RPC	Reactive Power Compensation
SCADA	Supervisory Control and Data Acquisition
SMS	Secured Metering System
SOW	Scope of Work
SSGC	Sui Southern Gas Company
TPS	Thermal Power Station
USAID	United States Agency for International Development
WAPDA	Water and Power Development Authority

QUARTERLY HIGHLIGHTS

This Energy Policy Program (EPP) Quarterly Progress Report covers the period from April 1 – June 30, 2014. Highlights and achievements during this reporting period appear in the following summary table:

Table 1: Quarterly Highlights – Impacts, Issues and Proposed Activities

Component 1
<ul style="list-style-type: none">• G2G: Digital Governors were commissioned at Unit 6 of the Tarbela Hydroelectric Power Plant.• G2G: Rehabilitation progressed at Guddu Thermal Power Station.• G2G Jamshoro: EPP certified a claim of U.S. \$426,000 against PIL Item# 23: (Off-Line Efficiency Monitoring System), and forwarded to USAID/ENR for disbursement.• G2G Guddu: EPP facilitated the visit of USAID’s Provincial Director for Sindh and Baluchistan, Mr. Leon Waskin, and Deputy Regional Director, Dr. Randy Hatfield, along with Matt Landon, Deputy Director of USAID Pakistan’s Energy Office to Guddu.• G2G Mangla: EPP supported WAPDA to in regularizing the Mangla Assignment Account through the State Bank of Pakistan, and on May 22, 2014, the first payment of U.S. \$13 Million was transferred.• 20 GENCO staff completed training at the third installment of best practices in thermal operations and maintenance.
Component 2
<ul style="list-style-type: none">• An introductory meeting introducing the Power SIM was held with MPNR, Ministry of Planning and Development, and the Federal Flood Commission.• MPNR: EPP helped facilitate the Revised Implementation Agreement (IA) initialed between PQA and ETPL.• MPNR: The data evaluation of 39 public domain wells by LMKR, in consultation with HDIP, was completed.• MPNR: EPP, in consultation with PTS, prepared the first draft of the flared/low pressure gas guidelines.• MPNR: EPP prepared the Indigenous Natural Gas Production/Consumption balance for July 2012 – June 2013.• MPNR: The Implementation Agreement (IA) was signed between PQA and ETPL, which is a major milestone.
Component 3
<ul style="list-style-type: none">• EPP assisted USAID in their visit to the Mangla Power Station as part of an ongoing reassessment of WAPDA’s institutional systems and capacity to implement USAID-funded projects.• EPP arranged a meeting for USAID with WAPDA to discuss next steps for the Kaitu Weir project.• EPP advised USAID that WAPDA must to take greater ownership of the Kaitu Weir Project by regularly sharing their Progress Reports and keeping USAID better informed of their activities.
Component 4
<ul style="list-style-type: none">• PESCO: Successful repair of transformer for Gadoon Amazi Grid Station.• PESCO: A 145 kV SF6 circuit breaker was installed at the Balakot 132 kV Grid Station.• PESCO: 27 MW of throughput capacity were added in the month of June, alone.• NTDC: Technical Audit: 26 of 41 (63%) audits of NTDC grid stations have been completed.

PROGRESS IN NUMBERS

Indicator	Unit	LOP Target	Achieved in of FY2014 Q3	Total Achieved as of FY2014 Q3	LOP % Achieved as of FY2014 Q3
I.a: GWh of energy sold	GWh	TBD	0	0	0%
I.1.a: Number of beneficiaries with improved energy services due to United States Government assistance	Individuals	13,112,306	1,036,638	12,750,884	97%
I.1.b: GWh of energy availability	GWh	7,599	568	7,330	96%
I.1.c: MW available to meet power sector demand as a result of USG assistance	MW	1,263	81	1,254.1	99%
I.1.1.a: MW of electrical power added or saved as a result of USG improvements	MW	1,263	81	1,254.1	99%
I.1.1.b: Efficiency of thermal power plant tests completed	No.	3	0	2	67%
I.1.1.c: Number of USG supported installations and operations and maintenance improvements	No.	40	14	105	263% ¹
I.1.1.d: Number of transmission bottlenecks resolved	No.	13	4	83	638% ²
I.1.4.a: Public and private funds leveraged by the USG for energy infrastructure projects	U.S. \$	48,500,000	0	33,500,000	69%
I.2.b: Percent Change in the Gross Annual Accumulation of circular debt	%	140%	0	0	0%
I.2.1.a: Number of key policies and regulations in various stages	No.	10	3	10	100%
I.2.2.a: Number of policies following international best practices	No.	5	1	2	40%
I.2.2.b: Number of board recommendations following international best practices	No.	4	0	0	0%
I.2.3.a: Number of best practice-driven systems created, improved, and implemented	No.	10	0	5	50%
I.2.4.b: Number of public forums resulting from USG assistance in which government officials and citizens interact	No.	12	0	5	42%
4.4-8: Number of beneficiaries receiving improved infrastructure services due to USG assistance	Persons	13,112,306	345,546	12,750,884	97%

¹ EPP anticipates changing I.1.1.c Life of Program target from 40 to 181 installations, operations, and maintenance improvements per recommendation of MSI's data quality assessment.

² EPP anticipates change I.1.1.d Life of Program target from 13 to 121 bottlenecks per recommendation of MSI's data quality assessment.

PLANNED ACTIVITIES

The EPP will be focus on the following efforts from April 1 – June 30, 2014.

Table 2: Planned Activities

Component 1
<ul style="list-style-type: none">• Continue providing support to the ongoing G2G-related activities (Tarbela, Mangla, Jamshoro, Guddu and Muzaffargarh)
Component 2
<ul style="list-style-type: none">• Continue providing implementation support of the August 2013 National Power Policy.• Ongoing assistance will be provided to examine and formulate views on the policy proposals that will be submitted by the energy sector ministries and entities to the Ministry of Finance.
Component 3
<ul style="list-style-type: none">• EPP will continue to support USAID in reviewing information and identifying and expediting the next step to move quickly towards signing a PIL.
Component 4
<ul style="list-style-type: none">• Registration and customization of P&I vehicles.• Step II Due Diligence on wind power-related projects.• PESCO and NTDC Technical Audit teams will compile audit reports in July.• The Technical Evaluation of bids for the 132 kV circuit breakers and Series Compensation Study will be competed.
Cross-Cutting Activities
<ul style="list-style-type: none">• EPP will conduct post-training focus group discussions for GENCOs I, II, and III related to O&M training in August 2014.• PowerSIM Training for PC will be conducted in July – Date to be determined. EPP will monitor and evaluate PowerSIM progress at MPNR at the end of July.
Communications
<ul style="list-style-type: none">• Host visible and impact-oriented events that highlight key program deliverables; and provide outreach assistance across all program components.

PROGRAM OVERVIEW

The Energy Policy Program (EPP) is a multi-year, USAID-funded initiative to increase power generation, improve transmission and enhance cost recovery. EPP works with selected energy enterprises to assist the Government of Pakistan's sector reform efforts. The program supports the joint goals of the United States Government (USG) and the Government of Pakistan in reforming the power sector, and is designed to address Pakistan's chronic electricity shortage. EPP's activities are geared towards addressing Pakistan's energy shortfalls, a major limit to the country's economic progress. To that end, EPP implements activities that provide the people of Pakistan and its energy sector with the tools, technical support, capacity building and stronger institutions that will promote stability, economic development and security in the region

The program is currently in its *Integration Phase*. While there is a continued and ongoing focus on due diligence and successfully implementing the G2G effort, EPP has begun integrating work on technical upgrades, policy reform implementation, and transmission-related activities. All of these efforts are geared towards helping Pakistan expand its indigenous production capacity, eliminate the need for subsidies and mitigate pressures contributing to the country's current energy crisis, including its "circular debt." At the conclusion of this important program, EPP will have contributed substantially to both the immediate energy shortages, and helped the country build longer-term energy sufficiency.



Figure 1: EPP Phases

EPP encompasses interrelated activities and targeted interventions that meet the objectives of the program's four components:

Component 1 - Monitoring & support of Project Implementation: EPP proactively advises and supports USAID and counterparts in the monitoring, implementation, and compliance of Fixed Amount Reimbursement Agreements (FARA) with the GOP. This includes monitoring and supporting timely counterpart compliance with all of the terms and conditions of FARAs, and inspection and certification of deliverables.³ Specifically, EPP provides monitoring and implementation support for seven signature energy projects: four repair and maintenance projects (3 GENCOs and Tarbela); two multipurpose dam completion projects (Gomal Zam and Satpara); and one dam rehabilitation project (Mangla).

Component 2 – Advice and Support of Energy Sector Policy Reform: EPP actively supports energy sector reform by undertaking activities that are requested by one or more GOP entities and by the direct secondment of staff to work in the offices of the requesting entity as advisors and specialized support staff.⁴ In achieving the objectives of this component, EPP supports generation and transmission-related studies and policy reform activities assigned by USAID with the support of the GOP.

³ C.4.2, Component One, pg. 8 of 46, Contract No: AID-EPP-I-00-03-00004

⁴ C.4.3, Component Two, pg. 11 of 46, Contract No: AID-EPP-I-00-03-00004

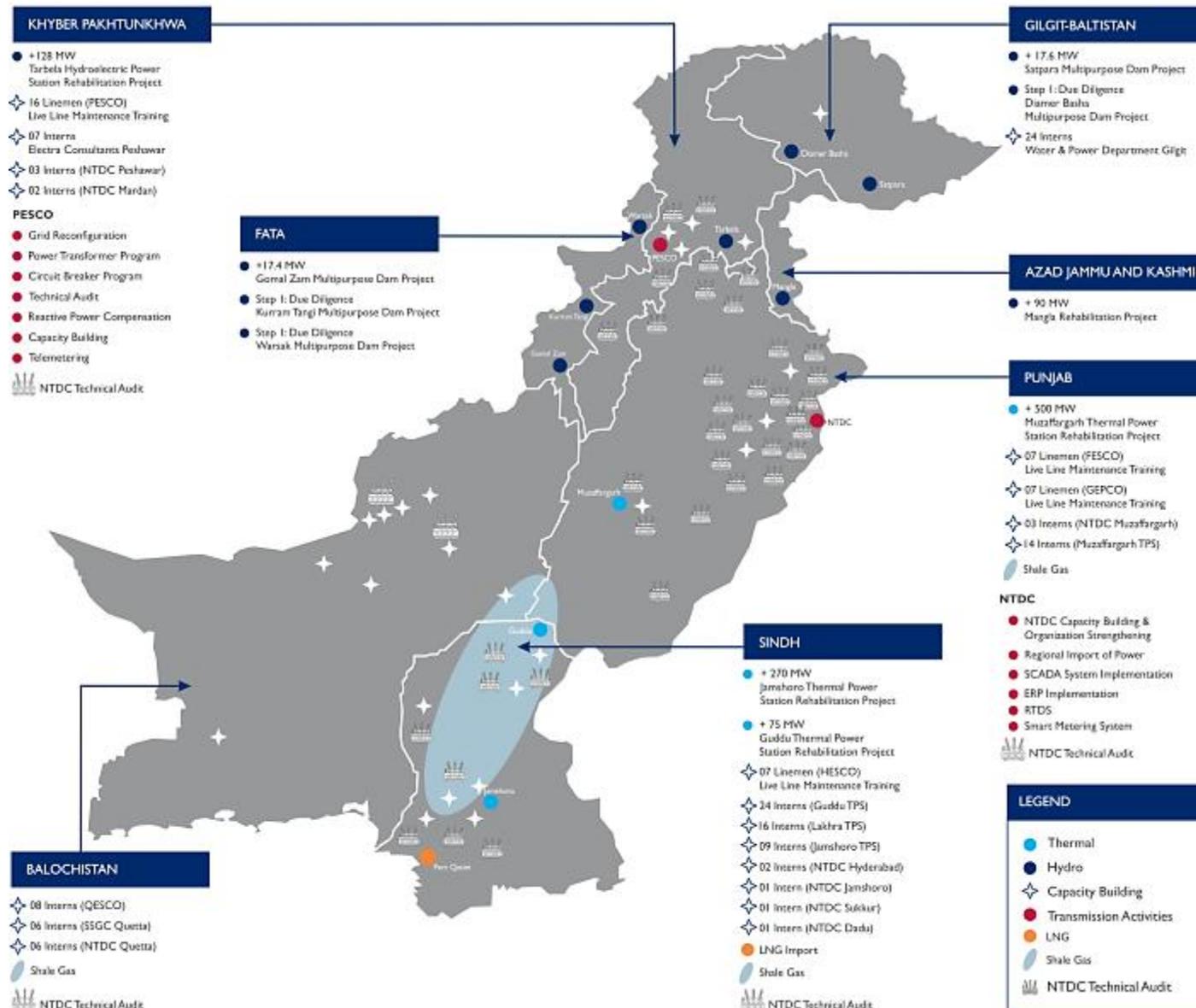
Component 3 – New Projects, Planning and Development: Based on frequently changing priorities and schedules of USAID and USG entities, EPP undertakes due diligence of projects and activities that are candidates for USG support.⁵ Specifically, EPP conducts and prepares due diligence reports on new projects under consideration for USG support in order to provide detailed information, reduce USG risk, and set a basis for creating Project Implementation Agreements for the selected projects.

Component 4 – New Activities: As a result of Modification Number 2 to the EPP Task Order Award, EPP supports the following efforts: a turnaround power distribution company (DISCO); identification of new, high-impact opportunities that promote continued support for governance; live line training for transmission linemen; technical assistance to the Ministry of Petroleum and Natural Resources (MPNR) (USAID pre-approved activities, including but not limited to, Liquefied Natural Gas (LNG), oil and gas (including shale gas), and advisory services to increasing natural gas supplies for power generation); targeted assistance to the National Transmission and Dispatch Company (NTDC) and the Natural Power Control Center (NPCC) to mitigate unscheduled shortages; help generation companies (GENCOs) to improve baseline efficiency measurements and improved operations and maintenance; and deliver technical assistance efforts in support of GOP and USAID activities that promote capacity building, increased public awareness, and targeted advisory services.⁶ EPP's capacity building program facilitates sustainability by enhancing local capability in critical areas.

⁵ C.4.4, Component Three, pg. 12 of 46, Contract No: AID-EPP-I-00-03-00004

⁶ C.4.5.1, Component Four, pgs. 3-9, , Amendment/Modification No. 2 of Contract No: AID-EPP-I-00-03-00004

Figure 2: Map of EPP Activity Areas



COMPONENT I: PROJECT MONITORING & IMPLEMENTATION

EPP provides monitoring and implementation support for the seven G2G signature energy Projects identified in the Task Order Award. These projects include rehabilitation of three Thermal power plants (Muzaffargarh, Guddu and Jamshoro), one hydropower plant (Tarbela Dam); construction of two new multipurpose dams (Gomal Zam Dam and Satpara Dam); and rehabilitation of Mangla hydropower plant. Total USG funding for these projects is U.S. \$291.7 Million (per revised agreements) with estimated gains of 953 MW.

As of June 2014, U.S. \$146.82 Million has been disbursed to GOP implementing partners, and 933 MW have been added to Pakistan’s national grid. Results achieved through the G2G projects are illustrated in the table below:

Table 3: Results Achieved through G2G Projects

Projects	USG Funding (U.S. \$ Million)	Paid (U.S. \$ Million)	Completion Date	MW Gains/Benefits	
				Target	Achieved (June 30, 2014)
Tarbela	16.50	13.95	12/31/14	128.0 MW	128.0 MW
Jamshoro	19.32	16.39	12/31/14	150.0 MW	270.0 MW
Guddu	19.12	17.34	12/31/14	75.0 MW	In progress
Muzaffargarh	15.77	15.14	12/31/14	475.0 MW	500.0 MW
Gomal Zam	45.00	45.00	Completed	17.4 MW	17.4 MW
Satpara	26.00	26.00	Completed	17.6 MW	17.6 MW
Mangla	150.00	13.00	12/31/2017	90 MW	In Progress
Total	291.71	146.82		953 MW	933 MW

During the reporting period, EPP technical experts visited the project sites regularly, verified deliveries, inspected equipment, and continuously monitored work progress.

Rehabilitation of Tarbela Hydropower Plant

USAID consented to the GOP’s request for U.S. \$25 Million in additional funds for the Tarbela Rehabilitation Project (Phase –II). The funding will aid the replacement of additional equipment that will support reliability and sustainability, and enhance the life of Tarbela by at least 15-20 years. This support will result in an additional 20 MW, approximately 60 GWh and U.S. \$12 Million in fuel oil savings per year. EPP drafted 611(e) MD-Action Memo for the Phase-II of Tarbela Rehabilitation Project and submitted it to USAID for review.

The rehabilitation work, to date, has resulted in the restoration of 128 MW. The replacement of the generator windings at Units 1, 3 and 4, and the installation of relief valve seals, guides and pumps are now complete. Digital governors have also been installed and commissioned at Units 3, 4, 5, 6, 7 and 9. Further, shutdown for the installations of the remaining four digital governors will take place during the “lean flow period” in October of this year. The digital governors will aid in the smooth operation of the power station.

In order to expedite the procurement of the remaining three items (spare winding, SCADA System, small drainage pump), EPP visited the site to discuss their status with WAPDA.

The remaining replacement/repair work will increase the reliability and sustainability of the power plant, but not support the restoration of additional megawatts.

Of the U.S. \$16.5 Million committed for Tarbela, the total disbursement as of June 2014 was U.S. \$13.95 Million.

Gomal Zam Multipurpose Dam Project (Project Completed)

With U.S. \$45 Million in funding committed, USAID supported WAPDA in the completion of the main dam, powerhouse, and switchyard and transmission line at Gomal Zam.

The dam has the capacity to generate 17.4 MW of electricity, and is capable of storing 1.14 million acre feet of water that will control flooding and irrigate 191,000 acres of land. The power generated by the dam is enough to meet the electricity consumption needs of **161,000** individuals. The project is now complete, and was inaugurated by U.S. Ambassador Olson in September 2013.

Satpara Multipurpose Dam Project (Project Completed)

EPP successfully achieved the Satpara Multipurpose Dam project objectives ahead of the anticipated completion date of December 31, 2013. The dam, four powerhouses, and irrigation canals are complete. The entire U.S. \$26 Million in committed funding has been disbursed to the GOP.

The dam has added 17.6 MW to the Skardu grid, and is capable of storing 0.09 million acre feet of water that will control flooding and irrigate 15,500 acres of land. The power generated by the dam is enough to meet the electricity consumption needs of **163,000** individuals.

Severe weather conditions created challenges for work on this project, but EPP completed the project ahead of schedule. The inauguration of the dam has been delayed due to poor weather.

Muzaffargarh Thermal Power Station Rehabilitation Project

EPP's support to Muzaffargarh Thermal Power Station (MTPS) has added 500 MW to the national grid. This is enough electricity to supply 4.63 million people. Major equipment has been installed and rehabilitated, and the procurement of remaining equipment required is in process.

During the reporting period, EPP inspected the new IP Turbine Rotor and ensured that it complied with the technical specifications given in the PIL. EPP also discussed the status of the remaining equipment to expedite their procurement.

EPP also supported MTPS in processing a tax exemption from USAID for equipment worth U.S. \$904,714.



Figure 3: Inspection of IP Turbine Rotor

With an amendment to the Activity Agreement, the project completion date has been extended to December 31, 2014. As of June 2014, out of the obligated amount of U.S. \$15.77 Million, the total amount disbursed to the GOP stands at U.S. \$15.14 Million.

Jamshoro Thermal Power Station Rehabilitation Project

USAID-funded rehabilitation efforts at Jamshoro Thermal Power Station (JTPS) have resulted in the restoration of 270 MW of power generation capacity, which exceeds the project's objective of 150 MW. During the reporting period, EPP continued to support JTPS in expediting the procurement process to obtain the remaining equipment, and minimize delays in rehabilitation work.

With EPP's support, USAID revised the Activity Agreement and extended the project completion date to December 31, 2014.

As of June 2014, out of the obligated amount of U.S. \$19.32 Million, the total amount disbursed to the GOP stands at U.S. \$16.38 Million for.

Rehabilitation of Guddu Thermal Power Station

Rehabilitation work at the Guddu Thermal Power Station began on March 13, 2014. The rehabilitation will take three months, and will restore 75 MW. This is enough power to supply electricity to **600,000 people**. EPP engineers visited the site to monitor the ongoing rehabilitation work.

As part of its project monitoring and implementation support, EPP provides a daily progress report to USAID, and also supports the Central Power Generation Company Limited⁷ (CPGCL) in preparing a weekly progress report.



Figure 4: Repair and Rehabilitation of Gas Turbine

In June, rehabilitation work to uprate three turbines (GT-7, GT-8 & ST-5) was completed, and all were commissioned and undergoing test runs to ensure reliability. After undergoing tests, the turbines will be capable runoff running at maximum capacity, and will add another 75 MW to the national grid; enough to supply electricity to 600,000 people.

In response to CPGCL's extension request, EPP helped USAID review the Activity Agreement and extend the project completion date to December 31, 2014. The total amount disbursed to the GOP as of June 2014 was U.S. \$17.34 Million.

Mangla Dam Rehabilitation Project

EPP supported USAID in finalizing and signing the Project Implementation Letter (PIL), which was signed in March. Subsequently, EPP supported WAPDA in regularizing the Mangla Assignment Account through the State Bank of Pakistan, and the first payment of U.S. \$13 Million was transferred to the account. EPP visited Mangla to discuss USAID's reporting requirements with WAPDA's Project Director, the status of major equipment procurements, and to inspect rehabilitation work.



Figure 5: Generators at Mangla Power Station

USAID is providing U.S. \$150 Million to the GOP for the Mangla Dam Rehabilitation Project, out of which U.S. \$72 Million was sub-obligated under an Activity Agreement signed on August 15, 2013. USAID will upgrade Units 5 and 6, as these units are of the most degraded. USAID will also fund the balance of the plant's units. This support

⁷ Established in 1998, CPGCL manages the operations of Guddu Thermal Power Station

will improve Mangla's efficiency, and extend the productive life of all 10 units. USAID anticipates an additional 90 MW of power generating capacity through this rehabilitation work.

Per the Activity Agreement, the project completion date is December 31, 2017, and the total amount disbursed to the GOP as of May 2014 is U.S. \$13 Million.

GENCOS Performance Efficiency Improvement Program

Having achieved substantial and highly-visible results through the replacement of equipment that resulted in increased power generation capacity and efficiency improvements, EPP is now focused on improving the commercial operations of the GENCOS. In this regard, EPP provides support to the GENCOS to conduct NEPRA-compliant heat rate tests. These tests will enable them to obtain a revised tariff that will reflect the actual costs they incur in producing electricity. The net result of this effort will be an increase in annual revenues through fuel saving of U.S. \$75 Million.

In June, EPP continued working level discussions with JPCL regarding USAID support for improving the commercial and technical performance of GENCOS. A Performance Efficiency Improvement Plan is being developed in consultation with JPCL. As part of a rapid assessment of the functional areas where support could be provided, EPP prepared an action plan which focused on sustaining the megawatt gains achieved with USAID funding, and to improve the plant's operating life.

Procurement and Calibration of Flow Meters

The procurement of the flow meters for the three GENCOS is complete. These meters were critical in ensuring that accurate instruments are in place prior to conducting NEPRA-compliant heat rate tests.

Heat Rate and Dependable Capacity Testing

Heat rate tests have been completed at Muzaffargarh and Jamshoro and achieved U.S. \$70 Million in annual fuel savings. With EPP support, a revised tariff petition has been filed with NEPRA for Jamshoro.

Capacity Building at GENCOS and WAPDA

In June, EPP delivered the final round of Best Practices in Thermal Operations and Maintenance Training for 20 participants from the GENCOS. The training sessions focused on improving operations at thermal power plants and promoting sustainability of existing infrastructure. EPP estimates that this training will ultimately result in improve financial operations at the three GENCOS, and improved management procedures.



Figure 6: Thermal O&M Training

COMPONENT 2: POLICY AND REFORM

SUPPORT TO MINISTRY OF WATER AND POWER

During this reporting period, EPP continued to lend targeted and impact-oriented support to the Ministry of Water and Power (MWP) in implementing the GOP's Power Sector Reform Program in generation, transmission, fuel diversification, policy and finance.

Improved Policy Implementation

Pakistan is moving to allow private sector participation in transmission as part of sector reform efforts. To support this, EPP reviewed the second Draft Policy Framework for Private Power Transmission Line Projects, and made a number of important suggestions to better reflect the reality that these sector entities face. Concerns centered on capping the ROE, the exclusion of all costs in the tariff, and the differential roles of NTDC and the private transmission operator.

More Autonomous Energy Sector Entities

EPP is working with GOP-owned and operated power sector entities, NTDC, and the GENCOs to improve efficiency, improve operational and management functions, and to help them perform more autonomously from the Ministry of Water and Power. During this reporting period, EPP lent the following support:

- **PPAs:** After a thorough analysis, EPP discussed the draft PPAs with the Joint Secretary for Policy, and will send proposed revisions out for stakeholder comment in July. The new contracts are designed to mimic commercial contracts, providing greater transparency and accountability.
- **NTDC:** EPP received and reviewed the NTDC/CPPA-G Business Transfer Agreement. Major concerns center on the misallocation of risk between parties, asset allocation and liabilities.

Improved Capacity of USAID-Supported Energy Public-Sector Entities

Policy decisions in Pakistan are often made without the benefit of detailed quantitative analysis. To better prepare senior decision makers, EPP has developed a tool (**PowerSIM**) for analyzing how key policy, regulatory and operational parameters impact important sector performance indicators such as circular debt, cash flow, generation, end-use quantities of electricity and tariffs. To improve the capacity of USAID-supported energy sector entities during this reporting period, EPP lent the following support:

- After successfully demonstrating the usefulness PowerSIM to major stakeholders, the model required testing and validation. During the month of June, the subcontractor responsible for model development made extensive changes based on feedback provided by EPP.
- PowerSIM requires extensive data which needs to be gathered from various sources. EPP decided to use publicly available data sources which would ensure that all stakeholders can easily access and update the data. The data is currently being uploaded and sourced, and the results are being compared for the base year. Arrangements are being made to work around the paucity of publicly available data for certain areas in the model.
- The PowerSIM User Manual Draft has been received by the EPP, and is undergoing a thorough review. The manual incorporated many of the changes and feedback provided through various stakeholder meetings and training sessions. EPP is reviewing the manual, and will make appropriate changes that reflect the latest version of the model.
- EPP conducted a full-day training session on PowerSIM for key staff nominated by the Ministry of Petroleum and Natural Resources, including the Director General Gas. For the training, EPP developed a complete training schedule, agenda and materials. The session included an overview of the power sector, a presentation on the salient features of PowerSIM, its capabilities and constraints. The uses of PowerSIM for the petroleum sector were discussed and a question and answer session was held. Further hands-on training and assistance will be provided as required.

- An introductory meeting with the Planning Commission Energy Wing took place to finalize the training schedule for PowerSIM.
- EPP will work with MWP to implement PowerSIM at the Ministry of Water and Power, and to work closely with senior management to generate results through use of the model. An initial meeting with the Joint Secretary Power was held, and EPP will work closely with him to demonstrate the usefulness of the model as a policy-making tool.

Issues and Constraints, and Measures Taken to Resolve Them

More Autonomous Energy Sector Entities

NTDC/CPPA Separation: EPP prepared comments and concerns on the draft and after initial discussions with the Joint Secretary Policy, and will meet with PDIP to discuss.

More Autonomous Energy Sector Entities

- Draft PPA/FSA ready for discussion with key stakeholders
- Meeting with NTDC to discuss its role in separation from NTDC
- Discussions with PDIP on the BTA to separate NTDC and CPPA

Improved Capacity of USAID-Supported Energy Public-Sector Entities

- The latest version of PowerSIM is being updated with the most recent data available from publicly available sources. The model is also being validated and tested for accuracy.
- The model and the User Manual will be available for circulation to stakeholders shortly.
- Further hands-on training at Ministry of Petroleum and Natural Resources is scheduled.
- Training on PowerSIM at the Planning Commission is scheduled.
- Introductory meetings to present PowerSIM to other stakeholders in the Power Sector have been scheduled.

Planning Commission

- EPP lent ongoing assistance to Planning Commission for the Power Sector Chapter of the 5 Year Plan.
- EPP lent ongoing assistance to the Planning Commission on PowerSIM and other analytical tools.

SUPPORT TO MINISTRY OF FINANCE

EPP's ongoing support to the Ministry of Finance provides impartial and transparent advice and support that promotes the GOP's and USG's shared vision for sector reform. During this period, EPP's embedded advisor provided the following assistance:

- EPP provided assistance to the Corporate Finance Wing of the Ministry of Finance (MOF) by reviewing the TDS claims submitted by the Distribution Companies through the Ministry of Water and Power for the month of April, 2014.
- Work continued on the Diagnostic Analysis of the Regulatory Framework for NEPRA. The comments received from various stakeholders are being examined by the committee constituted by the Ministry of Finance.
- EPP lent support to the Corporate Finance Wing of MOF as they prepared their comments on the draft summary for ECC that was submitted by the Ministry of Petroleum and Natural Resources regarding the revision of the Mari Wellhead Gas Pricing Agreement. The proposal provides changing the present gas pricing formula (cost plus) with a crude oil pricing formula. In support of this effort, EPP held a meeting on June 11 with the Ministry of Petroleum and Natural Resources to obtain more details. In this meeting, MPNR was asked to analyze the impact of this proposal on GOP fertilizer subsidies. Mari Gas is the major supplier of gas to fertilizer the sector. MPNR was also asked to provide information to MOF on the impact of their proposals related to the Gas Development Surcharge (GDS).

- The updated Draft Policy Framework for Private Sector Transmission Line Projects is undergoing a review in consultation with MOF's Corporate Finance Wing. These comments will be included in a summary that will be submitted by the Ministry of Water and Power to ECC.
- EPP helped prepare the Draft Security Documents for investment in Solar Power Generation Projects that were submitted by the Alternative Energy Development Board (AEDB). The draft documents are being examined in consultation with MOF's Corporate Finance Wing to help prepare their comments on these documents. These documents will ultimately be submitted by the Ministry of Water and Power to ECC for their approval.
- EPP supported MOF's Corporate Finance Wing in preparing a brief regarding payment of net hydel profits to KPK.
- EPP reviewed the power sector's additional revenue requirements in consultation with MOF's Corporate Finance Wing to ensure better power supply during the month of Ramadan.

SUPPORT TO MINISTRY OF PETROLEUM & NATURAL RESOURCES

EPP's Policy Team provides ongoing, targeted technical assistance in support of the Ministry of Petroleum and Natural Resources and other GOP entities in upstream oil and gas activities. This ongoing support includes policy and regulatory advice and oversight that will result in increased supplies of domestic and imported natural gas (including LNG and shale gas) for power generation and the economy. Specifically, EPP strategy for implementing this activity leverages a combination of different international consultants with highly specialized but complementary skill sets to ensure expeditious service delivery on upstream oil and gas issues in support of MPNR in implementing their E&P Policy

Shale Gas

During this reporting period, the data evaluation of 86 public domain wells continues to be analyzed at NuTech facilities in Houston for the Shale Gas Resource Assessment. The local training program for DGPC professionals by LMKR re-commenced on June 4.

Following the release of wire-line logs for confidential well data by OGDCL and PPL, LMKR initiated the process of identifying core intervals for review in consultation with NuTech. Additionally, the LMKR team visited NuTech's labs in Houston to oversee the work on Milestone # 3.

An amendment to the delivery order to provide flexibility to LMKR for non-labor expenses was executed, and the invoice for Milestone #2 was processed for payment.

Upstream Oil and Gas Support

EPP provided day-to-day advisory support to DGPC on various legal and regulatory issues. Weekly progress review meetings were held with PTS consultants during the reporting period to review the outstanding cases.

The pending case regarding the extension of a license under the 2009 Rules was examined by EPP, and necessary recommendations were presented to DGPC.

OGDCL's response on the NDA related to the release of data for depleting/marginal gas fields was received along with a draft NDA.

The Draft Supplemental Agreement for policy conversions was submitted by PTS after the required amendments EPP requested were included. The Draft Agreement was provided to USAID, and a copy of the Agreement was also sent to PPEPCA by DGPC for comments.

EPP provided recommendations regarding the Supplemental Agreement to PCA which included a revised lease deed for incorporating Tight Gas incentives.

Based on discussion with the Additional Secretary MPNR, the revised Draft Flare Gas Policy was sent by DGPC to PPEPCA for input. A copy of the draft policy was also submitted to USAID for review. EPP prepared MPNR's reply to the Law Division's response on the proposed amendment in the rules regarding the extension of leases and submitted to DGPC.

A media advertisement was published in leading local newspapers for hiring a Legal Advisor for providing advice to DGPC in upstream matters

The Indigenous Natural Gas Production/Consumption balance was prepared for July 2012 – June 2013.

LNG Imports

With EPP's direct support, the LNG Service Agreement (LSA) was signed between SSGC and ETPL on April 30, 2014. The signing ceremony took place at SSGC's Head Office in Karachi. A Revised Implementation Agreement (IA) was initialed between PQA and ETPL, as some differences had developed since the original was signed. These issues have been resolved.

Upon receipt of USAID's approval, media ads for hiring consultants for LNG commercial and legal support were published in widely-circulated local newspapers and the Gulf News in the Middle East. RFPs were also uploaded onto EPP's website. An amendment to the RFP's was issued extending the deadline for submitting proposals.

Port Qasim Authority (PQA) inputs were received on the proposed SOW for conducting the Full Bridge Mission Simulation (FMS) study. A media ad and an RFP for procuring consulting services for conducting the FMS study was finalized. An advertisement will be placed in the leading national newspapers on June 1, 2014, and the RFP uploaded on the EPP website.

SUPPORT TO MINISTRY OF PLANNING AND DEVELOPMENT

EPP staff seconded to the Ministry of Planning and Development provided ongoing assistance to the Acting Senior Chief (Energy). Specifically, EPP:

- Prepared first and second drafts of the Energy Chapter for the 11th, 5 Year Development Plan under "Pakistan Vision 2025." Specifically, EPP provided an overview of the current supply and demand situation throughout energy sector, updated and analyzed historic supply and demand scenarios for oil and gas (natural and LPG), and proposed steps to improve the current supply demand gap the energy sector is facing. LNG imports and their positive impact on the economy were also included in the chapter.
- Prepared a brief that examined demand-side fluctuations and management of energy entities (gas, petroleum products, LPG) for last 10 years, and the vital role renewable energy resources can play in mitigating the supply demand gap
- EPP helped analyze Pakistan's Primary Energy Balance Sheet to prepare a brief and presentation for the Acting Senior Chief (Energy).
- EPP drafted a brief for the Minister and Secretary for Planning, Development and Reform on the issuance of NOCs for new CNG stations by OGRA despite the ban imposed by the government.

COMPONENT 3: NEW PROJECTS, PLANNING AND DEVELOPMENT

EPP continued its close monitoring of the ongoing Rapid Environmental Analysis (REA) for two Run of River (RoR) projects – Alai Khwar and Duber Khwar – and provided management oversight and guidance throughout this reporting period to enable Hagler Bailly (HB) to develop a credible report.

A Draft Final Report by HB on the REA for the Allai Khwar and Duber Khwar Run-of-River (RoR) projects was discussed with USAID. HB will incorporate missing items and resubmit the report for final review before it is submitted to USAID.

The Rapid Environmental Analysis (REA) Report for the Allai Khwar and Duber Khwar Run-of-River (RoR) projects were completed and submitted to USAID.

EPP was successful in securing a preliminary Milestone and Payment Schedule from WAPDA for the Kaitu Weir Project. The schedule is needed to complete a Project Implementation Letter (PIL) for the G2G transfer of USAID funds. The information has been sent to USAID, and will be discussed following their review.

EPP advised USAID that WAPDA must take greater ownership of the Kaitu Weir Project by regularly sharing their Progress Reports and keeping USAID better informed of their activities.

As advisors, EPP will continue to support USAID in reviewing information and identifying and expediting the next step to move quickly towards signing a PIL. EPP also advised USAID that they may consider asking WAPDA to establish a Project Office at Spin Wam, close to the Kaitu Weir site, to demonstrate their commitment to the project.

COMPONENT 4: NEW ACTIVITIES

TRANSMISSION

EPP continued to focus on strengthening the power transmission network, and on capacity building for power sector entities involved in transmission, with a particular emphasis on the Peshawar Electric Supply Company (PESCO). To date, **321.1 MW of transmission throughput capacity have been added to PESCO's and NTDC's network as a result of EPP's assistance.**

PESCO

EPP's support to PESCO will improve and upgrade their transmission system by reducing transmission losses, improving reliability and adding more MW to the Pakistan's grid.

As part of this activity, EPP's Transmission Team has conducted detailed assessments (Technical Audits) of the primary plant at each grid station and overhead transmission line (OHTL). These assessments have identified needed system improvements, including all rouge feeders and faulty equipment. They also have included a detailed prioritized action plan, Bill of Material (BOM), and cost estimates to bring faulty/out of service equipment back into commission, and have identified areas for system expansion. To date, 321.1 MW of transmission throughput capacity have been added to PESCO's network as a result of EPP's assistance. 27 MW of throughput capacity were added in the month of June, alone. Specific activities in support of PESCO in June include:

The audits of Drosh and Jutilash 33 kV Grid Stations were completed. As of this reporting period, all of the PESCO grid stations (84/84) have been audited. The Audit Reports being compiled highlight the problems discovered, and propose corrective and preventive measures.

- 13 MVA of throughput capacity was added to PESCO's network following the commissioning of the repaired 20/26MVA power transformer at the Gadoon Amazai 132 kV Grid Station. The activity is will benefit 166,374 people.
- 14 MVA of throughput capacity was added to PESCO's network following the commissioning of an incoming panel for the new 40 MVA power transformer at the Jamrud 132 kV Grid Station. The activity will benefit 179,172 people.
- EPP's Transmission Team concluded the Technical Evaluations for the tower repair, transmission line and grid (T&G) equipment and bucket trucks procurements.

Power Transformer Program

- A new 40 MVA transformer (PTF) was commissioned along with ancillaries at the DI Khan 132 kV Grid Station. This transformer has resulted in an increase of 40 MW of throughput capacity in PESCO's network, and is likely to benefit 511,920 people.
- After commissioning the 11kV circuit breakers for the new 40 MVA PTF at the Hattar 132 kV Grid Station, 14 MVA of throughput capacity has been added to PESCO's network. This capacity addition is likely to benefit 179,172 people.



Figure 7: 40 MVA Transformer Installed at DI Khan Grid

Oil Sampling

During this period, oil sample test results from 12 power transformers were received. To date, results from oil sample tests of 169 out of 205 power transformers have been received. The results indicate required maintenance to increase transformer life.

Circuit Breakers

One 145kV SF6 circuit breaker (CB) was installed during this reporting period at the Balakot 132kV Grid Station. EPP has supported the replacement of 7 circuit breakers for PESCO. The CBs protect electrical circuits from damage under fault conditions, and enhance the safety and reliability of PESCO's network.

Telemetry

The damaged telemeters at Haripur 132 kV GS were replaced and tested on April 15, 2014.

The meters help measure energy flows, and report these values to the control center at PESCO. At the control center, these values are analyzed for managing discrete load demands in a timely manner. The data received, through meters, is stored in a database which can further be used for load forecasting, generation planning, and load flow studies.



Figure 8: 145 kV Circuit Breaker Installed at Balakot 132 kV Grid Station

Transmission Line

EPP continued work on developing a Scope of Work (SOW) for the repair of damaged towers, and work is expected to commence in the Second Quarter of FY 2014.

NTDC

EPP's support to NTDC helps improve the operation and maintenance of its transmission system and related equipment. Through technical assistance, training and technical audits, EPP's efforts strengthen the knowledge, skills and abilities of NTDC's management and technical staff to develop the processes and resources to achieve the goal of providing uninterrupted, reliable and quality electric power to consumers in Pakistan. Specific activities during the reporting period in support of this effort include:

- Technical Audits: 26 of 41 (63%) audits of NTDC grid stations have been completed. This month, the Burhan, Daud Khel, and Vehari 220 kV Grid Stations, as well as the Muzaffargarh 500 kV Grid Station were audited.
- On June 10, EPP met with CPPA's Director General IT to discuss pre-deployment issues related to the Secured Metering System (SMS). The site allocated for the deployment of servers was surveyed; and the cooling, housing and power requirements for the deployment were deemed satisfactory.
- On June 12, EPP interviewed candidates for the Storage Area Network (SAN) training. Eight candidates were shortlisted.
- On June 13, EPP met with NTDC's Consultant Planning and Chief Engineer Telecom to discuss helping make the communication medium for the SMS more reliable and secure. EPP proposed and delivered a pilot execution that performed optimally.
- On June 13, EPP met with NTDC's Manager Planning. The discussions centered on the Series Compensation Study. The deliberations with NTDC helped respond to queries raised by respondents to the Series Compensation Study RFP.
- From June 16-19, EPP conducted interviews for the proposed USEA Executive Exchange. Nine NTDC managers were shortlisted for the Grid System Operation (GSO) Exchange.
- EPP's Transmission Team completed the Technical Evaluation for the Auto Transformers procurement.

CROSS-CUTTING ACTIVITIES

EPP completed the final GENCO training program focused on best practices in thermal operations and maintenance (O&M) on June 20, 2014. This training will enable the GENCOs to identify deficiencies in their current maintenance practices, and increase their plants' efficiency. During the final training program, EPP recruited five female students from National University of Science and Technology (NUST) and Air University, a public research university run by the Pakistani Air Force. EPP will continually monitor and evaluate participants to ensure implementation of best practices for GENCO staff, and support the pursuit of energy sector careers for the five female students. In total, EPP trained the following:

Table 4: EPP Trained GENCO's Staff and Five Female Students

GENCOs	Batch I Participants (March 2014)	Batch II Participants (May 2014)	Batch III Participants (June 2014)	Total
Jamshoro	7	6	7	20
Guddu	7	7	6	20
Muzaffargarh	6	7	7	20
NUST & Air University Students	0	0	5	5
Total	20	20	25	65



Figure 9: Participants at the 2nd and 3rd Round of the O&M GENCO Training Program

The selected GENCO participants represent junior, senior and management-level engineers, with experience that ranges from 2 to 25 years in their respective technical areas of responsibility.

PowerSIM and the Ministry of Petroleum and Natural Resources

On June 21, EPP delivered Power Sector Integrated Model (PowerSIM) Training for staff from the Ministry of Petroleum and Natural Resources (MPNR). A total of seven senior managers (6 male and 1 female) attended the all-day training program. The training was designed to effectively use PowerSIM, and implement a routine to analyze the impact of policy interventions.

EPP will continue to monitor and evaluate MPNR participants and the utilization of PowerSIM. Going forward, EPP will host PowerSIM Training for the Planning Commission (PC) and potentially the Central Power Purchasing Authority (CPPA).

NTDC and CPPA Support

EPP conducted one-on-one interviews with NTDC's nominated participants for the October "Grid Operations Exchange" visit to the United States. EPP selected the top 9 candidates with 2 alternates for the exchange, and is awaiting USAID approval of nominees before commencing the J-1 Visa process.

EPP continues to develop a Design Department Rehabilitation and Capacity Building scope of work that will increase NTDC's design capacity, and its ability to better deliver transmission improvements.

EPP interviewed 8 nominees from CPPA, and selected 6 participants for the Storage Area Network (SAN) Training. SAN training will improve the effectiveness and productivity of CPPA executives in helping them perform internal maintenance. Training will take place at EPP's Lahore Office, and will be carried out by the SAN provider with EPP supervision and monitoring and evaluation support.

Live Line Training

Logistical and transportation delays in shipping the live line tools necessitate a refresher course for those Live Line Training (LLT) participants from HESCO, GEPCO, FESCO, and PESCO. EPP is developing a curriculum to coincide with the delivery of the tools and trucks to the four previously-trained DISCOs. The refresher course is tentatively scheduled for September 2014.

EPP received USAID's Country Code Exemption approval for the proposed assessment subcontractor. This subcontractor will report on NTDC's Tarbela Training Facility. After the final assessment report is delivered, EPP will train crews from IESCO, QESCO, LESCO, SEPCO, and MEPCO to support resolving transmission network bottlenecks.

Gender Equality Assessment

EPP collected baseline gender data from OGDCL, SNGPL, Jamshoro TPS, Guddu TPS, NTDC, WAPDA, and AEDB. EPP will compile all baseline data into a comprehensive report that will be reviewed by USAID. After the assessment, EPP will develop a gender strategy for the energy sector. EPP will submit the formal scope of work for this activity in July 2014.

Female Participation in Training Activities

As part of EPP's efforts to encourage female participation in training activities, 5 female electrical engineering students from Islamabad participated in the final batch of Best Practices in Thermal O&M Training in June. Four of the five women recently completed their Bachelors in Electrical Engineering from National University of Science and Technology (NUST). The fifth female participant is a lecturer from the Electrical Engineering Department, Air University.

EPP will continue to promote female participation in all future capacity building activities.



Figure 10: Female Participants from Islamabad

Data Quality Assessment and M&E Plan Update

On June 10, MSI conducted a Data Quality Assessment (DQA) of EPP's 16 indicators. MSI provided input into calculation methods, verification, data reliability, and documentation to be added to EPP's current M&E Plan.

Site Visits

EPP developed a comprehensive evaluation report outlining the responses of previous LLT participants, and determined improvements that will strengthen the refresher course and future sessions. These findings will be shared with the LLT Assessment Consultant. Additionally, EPP developed the post-training focus group discussion elements for site visits at GENCOs I, II, and III for August 2014. The purpose of these site visits is to review O&M training outcomes, as well as verify installations of equipment that have resulted in MW gains.

COMMUNICATIONS

EPP's communications activities promote and develop outreach strategies that highlight the program's ongoing efforts and achievements.

During the reporting period, the Communications team organized and facilitated the visit of USAID's Provincial Director for Sindh and Baluchistan, Mr. Leon Waskin, and USAID Islamabad's Energy Team to observe the ongoing rehabilitation of the Guddu Thermal Power Station. This was the first visit by USAID officials to Guddu since the 1980's.

EPP organized and hosted a certificate distribution ceremony to mark the completion of the third phase of training on Best Practices in Thermal Operation and Maintenance. Among the participants were USAID's Energy Office Director, Mr. Tim Moore, EPP's COR and Senior Program Manager, Mr. Saeed Anwar, the General Manager – Thermal of the GENCOs Holding Company Ltd., Mr. Ghulam Rasool Akhund, and the CEO of Muzaffargarh Thermal Power Station, Mr. Shoaib Rasheed.

The Certificate Distribution Ceremony was held on June 20, 2014 at the Serena Hotel in Islamabad; and 20 engineers were awarded certificates.

To strengthen communications and outreach efforts, the Communications Team began collecting data that will help develop success stories and one-pagers.

EPP launched the daily e-news of energy news roundup circulation among the USAID and AEAI staff members.

The Communications Team provided appropriate USAID branding and marking for the following EPP-generated reports:

- EDF/EMMP – LNG Activities
- Environmental Monitoring and Audit Report JTPS
- Environmental Monitoring and Audit Report THPS
- Environmental Monitoring and Audit Report MHPS
- Progress Report 1 of ROR
- Environmental Monitoring and Audit Report GTPS
- Environmental Monitoring and Audit Report THPS
- Environmental Monitoring and Audit Report JTPS
- Environmental Monitoring and Audit Report MTPS
- EDF/EMMP – Transmission Activities
- Initial Review of Implementation of Resettlement Action Plan - MDRP
- Progress Report 2 of ROR
- Visit Report of GTPS - May 6-9, 2014
- EDF/EMMP – LNG Activities
- EPP Presentation
- EDF/EMMP – Transmission Activities
- Updated Progress on 1st Environmental and Audit Report GTPS
- Progress Report 3 of ROR
- Rapid Environmental Analysis Duber Khwar Run-of-River Hydroelectric Power Project
- PowerSIM Presentation (for the training of MPNR staff)
- Environmental Monitoring and Audit Report THPS
- Environmental Monitoring and Audit Report JTPS
- Environmental Monitoring and Audit Report MTPS
- EDF/EMMP – Transmission Activities
- Initial Review of Implementation of Resettlement Action Plan - MDRP

Confidential information redacted

Confidential information redacted

Confidential information redacted

LIST OF KEY MEETINGS

Meeting with	Date	Location	Purpose	Outcome/Result
PQA, ETPL, EMS, EPP	April 1	Karachi	To address USAID concerns for environmental compliance.	Preparation of draft EDF-EMMP document.
SSGC, EPP	April 2	Karachi	To address USAID concerns for environmental compliance.	Preparation of draft EDF-EMMP document.
UNDP – Muhammad Ayub	April 8	Islamabad	As part of the Gender Assessment, EPP gathered data from other implementing partners.	Successfully established relationship with relevant gender integration staff and collaborating on future outputs in the energy sector.
DGPC, PTS, EPP	April 9	Islamabad	To review the draft Supplemental Agreement for conversion to 2007, 2009, and 2012 Policies.	PTS was asked to review the issues as highlighted by DGPC. The matter is under consideration and will be discussed again with DGPC in the 1st week of May.
Tim Moore, Margaret Harritt and Fernando Partida	April 10	Islamabad	EPP explained the assessment structure	Established contact with the Gender Office for all future work plans and ideas related to energy sector integration.
PESCO live line trainees	April 10	Peshawar	Conducted follow-up assessment for live line maintenance trainees.	Prepared report on trainee responses and feedback.
USAID M&E – Margaret Harritt	April 11	Islamabad	Discuss PakInfo, M&E Plan, updates to PIRs and DQA	M&E plan to be updated in May, DQA from MSI in May, and PakInfo quarterly updated in April.
World Bank – Gul Najam Jamy – South Asia Human Development Unit	April 14	Islamabad	As part of the Gender Assessment, EPP gathered data from other implementing partners.	Successfully established relationship with relevant gender integration staff and collaborating on future outputs in the energy sector.
Asian Development Bank – Uzma Altaf – National Implementation Consultant for Pakistan Resident Mission	April 14	Islamabad	As part of the Gender Assessment, EPP gathered data from other implementing partners.	Successfully established relationship with relevant gender integration staff and collaborating on future outputs in the energy sector.
OGRA	April 15	Islamabad	Advise OGRA on USAID LNG and Shale Gas support regarding capacity building	Agreed to review capacity building needs related to USAID activities that will require OGRA participation.

Meeting with	Date	Location	Purpose	Outcome/Result
Center of Excellence in Gender Studies – Dr. Farzana Bari, Director	April 15	Islamabad	As part of the Gender Assessment, EPP gathered data from gender experts in Pakistan.	Successfully established relationship with relevant gender integration staff and collaborating on future outputs in the energy sector.
OGDCL-Executive Director HR and Admin	April 15	Islamabad	Discuss gender baseline data and EPP assessment terms.	EPP will continue to gather data and draft gender integration assessment.
USAID Power Distribution Program – DCOP Art Sedestrom, Gender Strategy Team Lead Qurat Ibrahim, and Sarah Moin Gender Coordination Associate	April 16	Islamabad	As part of the Gender Assessment, EPP gathered data from other implementing partners.	Successfully established relationship with relevant gender integration staff and collaborating on future outputs in the energy sector.
Establishment Division, Department of Tourism	April 16	Islamabad	As part of the Gender Assessment, EPP gathered data from labor groups.	The Establishment Division follows the SOW sent by relevant agencies but was helpful in giving suggestions to increase female employment in energy sector.
Asia Foundation- Nadia Tariq Ali, Manager of GBV and Gender Equity Program	April 16	Islamabad	As part of the Gender Assessment, EPP gathered data from gender experts in Pakistan.	Successfully established relationship with relevant gender integration staff and collaborating on future outputs in the energy sector.
World Bank- Senior Energy and PPP Specialist Anjum Ahmad and Salma Omer, Senior Social Development Specialist	April 16	Islamabad	As part of the Gender Assessment, EPP gathered data from gender experts in Pakistan.	Successfully established relationship with relevant gender integration staff and collaborating on future outputs in the energy sector.
Alternative Energy Development Board	April 17	Islamabad	Discuss gender baseline data and EPP assessment terms.	EPP will continue to gather data and draft gender integration assessment.
GIZ Gender Advisor – Sumaira Akram	April 17	Islamabad	As part of the Gender Assessment, EPP gathered data from gender experts in Pakistan.	Successfully established relationship with relevant gender integration staff and collaborating on future outputs in the energy sector.
National Commission on the Status of Women	April 17	Islamabad	Discuss gender baseline data and EPP assessment terms.	EPP will continue to gather data and draft gender integration assessment.
WAPDA Member Power, GM Hydel	April 18	Lahore	To discuss the progress of Mangla Rehab project and issues related to remaining procurements at Tarbela.	1. Mangla's first invoice of \$13 million processed. 2. Tarbela pump to arrive in June 2014 to expedite disbursement of \$400,000.
NTDC Design Department	April 20	Lahore	Address rehabilitation of department and capacity building needs	Prepared draft SOW that will be submitted to USAID and NTDC in May

Meeting with	Date	Location	Purpose	Outcome/Result
Mr. Qazi M.Saleem Siddiqui, DG, Directorate General of Gas	April 21	DG GAS Office, Islamabad	Initial briefing on Power SIM	<ol style="list-style-type: none"> 1. Training of MPNR/Gas Directorate Staff on using Power SIM for Gas Sector Applications 2. Number of trainees and schedule of training to be discussed 3. Engagement of other Gas & Hydrocarbons Sector stakeholders
NTDC CPPA	April 21	Lahore	Capacity Building Plan for CPPA discussed and gathered organization buy-in	EPP will prepare questionnaire for CPPA regarding capacity building needs.
MWP Additional Secretary and Joint Secretary	April 21	Islamabad	Discuss gender baseline data and EPP assessment terms.	EPP will continue to gather data and draft gender integration assessment.
USAID Gender Equity Program	April 21	Islamabad	As part of the Gender Assessment, EPP gathered data from other implementing partners.	Successfully established relationship with relevant gender integration staff and collaborating on future outputs in the energy sector.
Saeed Anwar and Fernando Partida	April 21	Islamabad	EPP discussed the Gender Assessment and strategy with COR and the Gender Office.	EPP will continue to gather data and draft gender integration assessment.
USAID Project Manager for GENCOs	April 22	EPP Office	To discuss the status of GENCOs	<ol style="list-style-type: none"> 1. Rehab work started at Guddu on Mar 13. 2. Briefed the progress of GENCOs
WAPDA House – Member Power	April 22	Lahore	Capacity Building and Gender meeting for assessment to review WAPDA practices	WAPDA delivered gender disaggregated data and bought into the gender process that EPP is facilitating.
Mr. Arshad Malik (Chief Energy, Planning Commission Energy Wing) and his team	April 23	Islamabad	Initial briefing on Power SIM	<ol style="list-style-type: none"> 1. Training of staff on using Power SIM for analysis/papers 2. Application of Power SIM on 5-year Plan
Minister MPNR, MPNR (Secretary, Addnl. Secretary and other officials), PQA (Chairman and other officials), SSGC (MD and DMDs), ISGS (MD and other officials), ETPL (CEO) and EPP (COP and Dir. Policy).	April 23	Islamabad	Site confirmation for fast track LNG project	<ol style="list-style-type: none"> 1. The Ministry did not endorse QED recommendations for site confirmation 2. Information and findings related to various studies and response to concerns by other terminal operators. 3. Letter received on April 29 requesting PQA to expedite the issuance of a NOC for the LNG terminal.
University of Engineering and Technology –Lahore	April 23	Lahore	Discuss gender baseline data and EPP assessment terms.	EPP will continue to gather data and draft gender integration assessment.

Meeting with	Date	Location	Purpose	Outcome/Result
SNGPL	April 23	Lahore	Discuss gender baseline data and EPP assessment terms.	EPP will continue to gather data and draft gender integration assessment.
D.G.(ERU)	April 24	MOF, Islamabad	Discussions regarding diagnostic analysis of NEPRA in pursuance of CCI decision.	1st draft of the Report was developed and shared with all concerned for views/comments. The report mainly focuses on administrative/ HR development issues relating to NEPRA
GEPCO live line trainees	April 24	Gujranwala	Conducted follow-up assessment for live line maintenance trainees.	Prepared report on trainee responses and feedback.
Mr. Saif-Ullah , Engineering Adviser (Power), Head of Power Engineering Cell, Federal Flood Commission	April 25	Federal Flood Commission, Islamabad	To discuss the Tariff Differential Subsidy calculation mechanism for the DISCOs to incorporate into the Power SIM	Obtained the required information about the subsidy claims.
MPNR	April 25	Islamabad	Discuss gender baseline data and EPP assessment terms.	EPP will continue to gather data and draft gender integration assessment.
DGPC, LMKR, EPP	April 28	Islamabad	Technical visit of DGPC team to NuTech labs/facilities in USA, and coordination of LMKR with E&P companies on Shale Gas project.	<ol style="list-style-type: none"> 1. The visit plan is being reviewed by EPP in coordination with Training/Procurement departments. 2. LMKR is in a process to liaise with local E&P companies through DGPC, currently working on collating information pertaining to shale plays.
DG Petroleum Concessions	April 28	Islamabad	Revised shale gas exchange as a business trip, not capacity building program	Capacity building will support visa process for B-I
USAID and WAPDA	May 5	EPP Office, Islamabad	Discuss plan, activities, and progress on Kaitu Weir Project	WAPDA will provide information required to prepare PIL
CEO CPGCL, Director Chemical CPGCL	May 7	Guddu Power Station	To introduce EPP Cross Cutting staff the CEO and Director to garner buy-in for data collection regarding female employment at the GENCOs	Data collected and interviews conducted by EPP Cross Cutting staff
Guddu	May 8	Guddu	Discuss gender baseline data and EPP assessment terms.	EPP will continue to gather data and draft the gender integration assessment.
HESCO live line trainees	May 8	Hyderabad	Conduct a follow-up assessment for live line maintenance trainees	Prepared a report on trainee responses and feedback.

Meeting with	Date	Location	Purpose	Outcome/Result
Hagler Bailly (HB)	May 8	EPP Office, Islamabad	Progress report on REA of 2 RoR projects	Draft of Final Report will be submitted soon
Deputy Director, USAID Energy Office, Pakistan	May 12	EPP Office, Islamabad	To discuss the status of the GENCO's remaining procurements	Briefing conducted on the latest status of the procurements
Sr. J.S.(C.F)	May 12	Ministry of Finance, Islamabad	Release of funds to Tribal Areas Electric Supply Company (TESCO) for payment of the electricity dues of FATA consumers	A mechanism for verification of electricity dues of domestic consumers of FATA was worked out, to be followed by TESCO/ Ministry of Water and Power.
NTDC	May 13 & 14	NTDC Office, Lahore	Met with Planning Commission to gain greater insight into forecasting Met with Mr. Daud to discuss NTDC BTA, Wheeling Agreement. and business plan Met with various other staff to discuss business plan, multi-year tariff, and market rules.	General informational meeting to understand how NTDC was dealing with these issues, and where EPP expertise was needed.
Jamshoro	May 14	Jamshoro	Discuss gender baseline data and EPP assessment terms.	EPP will continue to gather data and draft the gender integration assessment.
NTDC GM Planning	May 14	WAPDA House, Lahore	Study for series compensation on 500kV Lines	The procurement for the series compensation study is underway. The queries we received from the bidders were discussed.
NTDC	May 15	WAPDA House, Lahore		<ul style="list-style-type: none"> • Gained an understanding of current conditions and challenges. • Awaiting Board Decision on Business Plan • Awaiting draft CPPA transfer agreement
Robert Granieri, Policy Advisor MWP, PDP Mary Clark Webster, Energy Consultant, PDP Abid Lodhi, Policy & Planning Advisor, PDP Hira Mumtaz, Associate Advisor Energy Policy, PDP	May 15	EPP Office, Islamabad	PDP Presented the Market Rules for CPPA Guarantee Limited, and discussed the new market structure that all stakeholders wish to move toward.	Draft Market Rules up for comments from EPP Team

Meeting with	Date	Location	Purpose	Outcome/Result
NTDC GM GSO	May 15	WAPDA House, Lahore	To discuss ongoing technical audits	Findings of the audits were discussed. GM was requested to meet our audit teams and let them know of any special requirements he feels necessary to be included in the audit reports.
NTDC MD	May 16	WAPDA House, Lahore	To discuss: <ul style="list-style-type: none"> New Wheeling Agreement and National Policy for Tariff and subsidies guideline 2014 Real Time Digital Simulator (RTDS) NTDC Business Plan TORs for dealing with renewable energy sources integration with National Grid SMS Project 	<ul style="list-style-type: none"> On RTDS: NTDC gave replies to the queries concerning RTDS... On business plan: no letter rcvd. yet... We would be in a position to talk about updates only upon receiving request letter On renewable energy sources: TORs received from NTDC and are being reviewed. EPP to initiate the procurement process in this month On SMS: Actions will be taken only upon receiving request letter(s) from NTDC
CE Mangla Power Station	May 17	Mangla Power Station	To discuss and brief on reporting, inspection, and monitoring requirements per the PIL	Template was shared with the CE, and a briefing was held on the reporting requirements per PIL
FESCO live line trainees	May 21	Faisalabad	Conducted a follow-up assessment for live line maintenance trainees.	Prepared a report on trainee responses and feedback.
CE Mangla Power Station	May 22	EPP Office	To discuss the issuance of the NOC from the State Bank of Pakistan	Facilitated issuance of the NOC, and reimbursement of that amount to the Mangla Account
Resident Representative, Karachi	May 23	Karachi	To discuss the opening of a letter of credit for the procurement under the Mangla Rehab Project	Ensured the timely opening of the letter of credit
USAID DMEO, USAID COTR, USAID program management specialist, Hagler Bailey (HB)	May 27	EPP Office	To discuss the comments on the draft REA report	HB is incorporating the comments and will submit the final report

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MD ISGS, EPP (COP and Director Policy Reforms)	May 27	ISGS Head Office, Islamabad	Follow-up on QED deliverables acceptance; upcoming LNG consulting services procurements.	<ul style="list-style-type: none"> ISGS facilitated obtaining stakeholders' acceptance of QED deliverables. ISGS agreed on the way forward for the following ongoing procurements: <ul style="list-style-type: none"> Consulting services for LNG import terminals at Port Qasim. Legal, commercial and technical advisory services for LNG procurement. Full Bridge Mission Simulation Study for PQA.
USAID and Hagler Bailly	May 27	EPP Office, Islamabad	Review Draft Final Report on REA of 2 RoR projects	Revised Draft to be prepared by HB
WAPDA	May 28	EPP Office, Islamabad	Discuss information needed by USAID for PIL	WAPDA will submit needed information to USAID with a copy to EPP
NTDC Senior Management (MD and GMs of GSO, Planning, GSC, TSG and others)	May 29	WAPDA House, LHR	Update NTDC management on EPP activities	NTDC executives received an update on NTDC related activities tasked to EPP
USAID and U.S. Army Corps of Engineers	May 30	EPP Office, Islamabad	Describe the Kaitu Weir and 2 RoR Projects, provide information requested and answer questions to enable review of the projects	EPP briefed the delegation on the projects. Army Corps of Engineers Team will be in touch with EPP over the next two weeks
USAID (Alternate Project Manager for Thermal Projects)	June 2	EPP Islamabad	Discuss the progress of the projects.	<ul style="list-style-type: none"> EPP briefed USAID on the progress of the projects and the remaining procurements.
CE, RE (Power)	June 7	Tarbela Power Station	Discuss progress and to expedite the process.	<ul style="list-style-type: none"> Issues discussed, and WAPDA is expediting the remaining procurements.
Tahir Manhood, Managing Director NTDC; NTDC Board Member Mosin Syed, and approximately 30 NTDC managers	June 9	NTDC Offices, Lahore	Explain Enterprise Resource Planning (ERP) to NTDC managers	<ul style="list-style-type: none"> Explained ERP project objectives, schedule, and expected outcomes to the team that will lead the ERP project at the NTDC. Answered questions on change management and other obstacles to implementation. Gained support from NTDC's senior management and project team for the ERP project.

Meeting with	Date	Location	Purpose	Outcome/Result
Mr. Hassan Mahmood	June 10	DG GAS Office, ISB	Training on PowerSIM for MPNR.	<ul style="list-style-type: none"> Discussed training for MPNR Discussed key items to be presented in training. Training schedule finalized.
Hagler Bailly and USAID Senior Energy Engineering Specialist	June 10	EPP Office	Update on PowerSIM status.	<ul style="list-style-type: none"> Presentation on changes made to PowerSIM. Discussed the way forward, including training and model updates. Finalized key activities for upcoming weeks.
Director General IT, CPPA	June 10	WAPDA House, LHR	Discuss SMS deployment and inspect readiness of installation site.	<ul style="list-style-type: none"> The site allocated for deployment of servers is satisfactory.
USAID, USACE, WAPDA	June 11	EPP Islamabad	Discuss the ROR Projects and, specifically, the cost validation.	<ul style="list-style-type: none"> WAPDA briefed on the projects and provided the required documents to USAID and USACE.
Mr. Arshad Malik (Chief Energy)	June 11	PC Energy Wing, ISB	Training on PowerSIM for PC.	<ul style="list-style-type: none"> Discussed training for PC. Discussed applications of PowerSIM.
Director Gas, Ministry of Petroleum and Natural Resources	June 11	Ministry of Finance chaired by Sr. Joint Secretary, Corporate Finance	Discuss Mari wellhead Gas Pricing Agreement. Changing present gas pricing formula (cost plus) to crude oil pricing formula already allowed to PPL.	<ul style="list-style-type: none"> The meeting helped obtain information about the impact of the change in pricing formula on Gas Development Surcharges (GDS) being paid to the provinces, and the subsidy for fertilizer sector.
NTDC	June 12	Lahore	Conduct interviews with nominees for SAN training.	<ul style="list-style-type: none"> EPP Selected 6 participants for the SAN training scheduled to take place in August 2014.
MPNR (Addl. Sec., DGPC, DG(Gas), DD(DGPC)), EPP (Advisor O&G, O&G Specialist), PTS	June 13	MPNR	Draft Flare Gas Guidelines 2014	<ul style="list-style-type: none"> Draft Flare Gas Guidelines were reviewed. Some suggestions were made by the Additional Secretary. MPNR advised DGPC to share the final draft with PPEPCA for their input. The final Draft Flare Gas Guidelines were provided to DGPC.

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Consultant Planning and Chief Engineer Telecom, NTDC	June 13	WAPDA House, LHR	Discussed options for making the communication medium reliable for SMS.	<ul style="list-style-type: none"> EPP experts proposed taking advantage of the existing OPGW and PLC network of NTDC for data communication. The pilot execution, as proposed by EPP, was a success.
Manager Planning, NTDC	June 13	WAPDA House, LHR	Discuss queries concerning Series Compensation Study.	<ul style="list-style-type: none"> The queries raised by bidders on the Series Compensation Study were discussed. Clarifications were given to bidders after deliberations with NTDC executives.
NTDC	June 16-18	Lahore	Conduct interviews with nominees for Grid Operations Exchange Visit.	<ul style="list-style-type: none"> EPP selected 9 participants and 2 alternates for the first of three exchange visits on Grid Operations planned for October 2014.
Atif Rais Khan, CEO LMKR	June 19	LMKR Offices, Islamabad	Introduce COP to LMKR, a critical subcontractor for upstream gas program	<ul style="list-style-type: none"> Developed working relationship with CEO and COO. Gained knowledge of service provided by LMKR.
USAID (Deputy Director Energy Office, COTR), EPP (COP, DCOP, DPR, Advisor O&G, Advisor LNG, Advisor Policy, O&G Specialist)	June 19	EPP Office	Review of Petroleum Sector Programs	<ul style="list-style-type: none"> EPP briefed USAID on the progress of ongoing petroleum sector programs (LNG, Shale Gas Program, Upstream Oil & Gas Support). USAID requested that EPP provide the documents and information related to major Milestones along with the schedule for petroleum sector programs. All requested information was provided to USAID.
USAID (COTR), EPP (COP, DPR, Advisor (O&G, O&G Specialist)	June 19	LMKR Office	Review of Milestone #3	<ul style="list-style-type: none"> LMKR made a presentation on the progress of Milestone #3. USAID and EPP also visited the LMKR facilities.
Project Director	June 20	Mangla Power Station	Discuss the progress of the project.	<ul style="list-style-type: none"> Issues discussed and WAPDA is expediting the remaining procurements.

Meeting with	Date	Location	Purpose	Outcome/Result
MPNR (DGPC), EPP (DPR, Advisor O&G, O&G Specialist)	June 20	DGPC Office	Lack of Counterpart Support from DGPC	<ul style="list-style-type: none"> The issue regarding non-availability of DGPC counterpart officers was highlighted as it was affecting the work plan. It was agreed that DGPC will discuss the matter with Secretary MPNR for further action.
USAID – Training for Pakistan	June 20	Islamabad	Participation in the 2nd Participant Training Working Group hosted by USAID and Training for Pakistan.	<ul style="list-style-type: none"> EPP will continue to work with other USAID implementing partners related to capacity building.
Qazi Mohammad Saleem (Director General Gas) MPNR TEAM 1. Hassan Mehmood, Director (Gas) 2. Muhammad Ashiq, Deputy Director 3. Sohail Anwar, Deputy Director 4. Shahid Zaman, Accountant 5. Shabana Kifayat, Accountant Imran Ahmed, Director	June 21	EPP Office	PowerSIM Training Session	<ul style="list-style-type: none"> Delivered a briefing on the power sector. Lent an overview of salient features of PowerSIM and its applicability to MPNR. Gauged feedback from participants on modeling requirements in the petroleum sector. Discussed next steps for MPNR and further in-depth training on PowerSIM.
6. CEO, CE (Tech Director)	June 23	Muzaffargarh Thermal Power Station	Discuss the progress of the project.	<ul style="list-style-type: none"> Issues discussed and MTPS was asked to expedite the procurement of the remaining equipment.
Mr. Arshad Malik (Chief Energy)	June 24	PC Energy Wing, ISB		<ul style="list-style-type: none"> Lent assistance to PC in providing cost estimates from hydels that EPP had worked with so that reliable comparisons can be made.
USAID, IRG	June 25	EPP Islamabad	Film documentary of the projects.	<ul style="list-style-type: none"> EPP will provide support to USAID for the site visits.

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Mr. Zargham Eshaq Khan (Joint Secretary, MWP)	June 26	Ministry of Water & Power, Islamabad	Discussions on GENCO Power Purchase Agreements	<ul style="list-style-type: none"> The new provisions in the PPA were discussed in detail with regards to bolstering their commercial terms. Way forward on dealing with Fuel Supply Agreement.
Dinsons	June 26	Islamabad	Departure of Dr. Ilyas by the deadline which was June 28, 2014.	<ul style="list-style-type: none"> Issue resolved
Mr. Zargham Eshaq Khan (Joint Secretary, MWP)	June 27	Ministry of Water & Power, Islamabad	Discussion on the Draft Business Transfer Agreement between CPPA Guarantee and NTDC	<ul style="list-style-type: none"> The BTA provisions were discussed in the context of protecting NTDC and the GENCOs. Discussed the way forward on the two parties meeting to sort out the rights and obligations of each party, and to amend the document accordingly.
				<ul style="list-style-type: none">

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