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# USAID ENERGY POLICY PROGRAM

## MONTHLY PROGRESS REPORT

### June 2015

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# ACRONYMS

AEAI	Advanced Engineering Associates International, Inc.
CPPA	Central Power Purchasing Authority
ECC	Economic Coordination Committee
EETL	Engro Elengy Terminal Limited
ECIL	Engineering Consultants Int. Pvt. Ltd.
DGPC	Director General Petroleum Concessions
DISCO	Distribution Company
DES	Delivered Ex. Ship
EPP	Energy Policy Program
FWO	Frontier Works Organization
FARA	Fixed Amount Reimbursable Agreement
FGE	Facts Global Energy
G2G	Government-to-Government
GENCO	Generation Company
GOP	Government of Pakistan
JPCL	Jamshoro Power Company Limited
LNG	Liquefied Natural Gas
LSA	LNG Services Agreement
MPNR	Ministry of Petroleum and Natural Resources
MW	Megawatt
MWP	Ministry of Water and Power
MMP	Mott Macdonald Pakistan
MSPA	Master Sales Purchase Agreement
NEPRA	National Electric Power Regulatory Authority
NPCC	National Power Control Center
NTDC	National Transmission and Dispatch Company
PESCO	Peshawar Electricity Supply Company
PIL	Project Implementation Letter
PowerSIM	Power Sector Integrated Model
PPA	Power Purchase Agreement
PTS	Petroleum Technology Solutions
PPEPCA	Pakistan Petroleum Exploration and Production Companies Association
PQA	Port Qasim Authority
PSO	Pakistan State Oil Company
SBLC	Standby Letter of Credit
SSGC	Sui Southern Gas Company
SIGTTO	Society of International Gas Terminals and Tankers Association
USAID	United States Agency for International Development
WAPDA	Water and Power Development Authority
WB/IMF	World Bank/International Monetary Fund
WFW	Watson Farley & Williams

# EXECUTIVE SUMMARY

The Energy Policy Program (EPP) continued to provide support to GOP for improvement of the Generation and Transmission network, diversification fuel supply and furtherance of policy reforms. During the reporting month, EPP facilitated USAID visit to the Satpara Multipurpose Dam Project upon its completion. The project is now capable of generating 17.6 MW of electricity and also irrigating 15,500 acres of land. EPP also facilitated USAID in visiting Jamshoro and Guddu Thermal Power Stations. Major rehabilitation work is already completed, however the visits were critical to expedite the installation of the remaining equipment at these projects.

EPP engineers visited Tarbela Power Station for inspection of remaining equipment under phase-I rehabilitation including drainage and dewatering pumps on units 1-10 and upgrading of the SCADA System on units 1-14. Following the visit, EPP certified Water and Power Development Authority (WAPDA) Tarbela invoices of \$1.3 million for this equipment. With this, procurement of only one remaining spare pump is underway to complete Tarbela phase-I.

EPP's Environmental Expert visited the Mangla Dam, Jamshoro and Guddu thermal power Project to ensure that the rehabilitation work underway is in compliance with the Government of Pakistan and United States Government regulations as recommended in the approved Environmental Monitoring and Mitigation plans (EMMP). Subsequently, EPP submitted an environmental monitoring and audit reports to USAID.

**Ministry of Petroleum and Natural Resources.** The liquefied natural gas (LNG) Services 'Waiver Agreement' and 'Time Charter Party Agreement' with Elengy Terminal Pakistan Ltd. (EETL) for transporting the next four LNG cargoes from Qatar on an FOB basis were concluded. EPP provided support to the GOP in finalizing Government to Government (G2G) agreement with Qatargas, including the LNG SPA negotiations with Qatargas in Islamabad May 7 and 8.

The Security Risk Assessment conducted during May 5-8 at Port Qasim was declared acceptable by Qatargas. Port tariff for LNG carriers calling at Port Qasim Authority (PQA) was revised by EPP on the basis of additional inputs and parameters communicated by PQA. A draft gazette notification for port tariff for LNG carriers was also prepared and submitted to PQA, which approved the port tariff model for LNG vessels in a meeting held May 15.

A review meeting with EPP partners was held May 27 to discuss infrastructure, technology, and costs for Shale Gas production. Response is awaited regarding the possibility of re-visiting the provisions with a view to providing a pre-policy guidance document. A model supplemental agreement for incentive for 10% incremental production under the 2012 Exploration and Production Policy for tight gas, low BTU gas, and marginal/stranded gas has been prepared and is under EPP review.

## **New Projects, Planning, and Development.**

Subsequent to USAID meeting with WAPDA on upcoming G2G projects, EPP is working with WAPDA to identify eligible costs of works/equipment, and develop project construction schedules to draft a completion milestone and associated payment schedule for the proposed \$81 million USAID funding for Kaitu Weir (Kurram Tangi Dam) and \$36 million for the Golen Gol projects.

**Ministry of Water and Power.** EPP jointly with Power Distribution Project (PDP) continued support towards making Central Power Purchasing Authority (CPPA) an independent entity from NTDC. EPP team is currently in process of developing a Connection Agreement as required under the National Transmission and Despatch Company's (NTDC) Grid Code, and the Business Transfer Agreement which has already been approved by the NTDC Board. New Power Purchase Agreements (PPA) are also being developed in line with an independent CPPA.

Under direction from Chairman BOD/NTDC Strategic Business Plans are developed for NTDC identified that includes meeting the Strategic Plan Performance Targets for Frequency Response; Operating Reserve Margin; SCADA System Functionality; Addressing Network Overloading

Conditions; Development of HVDC Training Program; and Central Power Purchasing Authority (CPPA) Separation.

EPP continued working with the Technical Staff of Ministry of Planning and Development for designing and implementation of the Local Area Network (LAN) at Energy Wing, Planning Commission. Through its seconded staff, EPP continued to provide general technical assistance, and system and network administration to the offices of Member Energy.

**Ministry of Finance.** The PowerSIM model, which was introduced in the Energy Reforms Unit of Ministry of Finance, was well received and acknowledged for its capability to project the cash flows of the power sector. EPP's team updated the model with 2013-14 data and demonstrated the capabilities of the model to Ministry officials. Training on PowerSIM has started and will be continued through the next month.

# COMPONENT I: PROJECT MONITORING AND IMPLEMENTATION

EPP continues to provide monitoring and implementation support for the seven G2G Signature Energy Projects. EPP Engineer visited Tarbela Power station for inspection of Upgrading of SCADA System. Afterwards EPP certified WAPDA/Tarbela invoice of \$ 0.9 Million against the arrived equipment as per Activity Agreement. In order to expedite the procurement of remaining equipment under Tarbela phase I, EPP met WAPDA.

EPP submitted their assessment on the cost estimates provided by WAPDA for equipment's under Tarbela phase II, also shared the finalize payment milestone schedule and equipment's technical specifications to USAID, this will help in finalizing its Project Implementation Letter. The project will add additional 20 MW to the national grid and will enhance the sustainability of power plant. EPP also facilitated WAPDA & GENCOs in preparing the quarterly accrual report and submitted to USAID.

EPP facilitated in arranging a meeting of USAID with CEO GHCL & CEOs of all the GENCOs; the meeting was critical in expediting the procurement of the remaining equipment's at Jamshoro, Guddu & Muzaffargarh thermal power stations. EPP circulated the minutes of meeting held between USAID, CEO GHCL & CEOs of all the GENCO. Subsequently, EPP provided response of GENCOs to USAID on the issues highlighted in the meeting.

**Table I: Results Achieved through G2G Projects**

Projects	USG Funding (U.S. \$ Million)	Disbursed (U.S. \$ Million)	Completion Date	MW GAINS/BENEFITS	
				Target	Achieved (June 27, 2015)
Tarbela (Phase I)	16.50	15.55	12/31/15	128.0 MW	128.0 MW
Jamshoro	19.32	19.32	7/31/15	150.0 MW	270.0 MW
Guddu	19.12	18.91	7/31/15	75.0 MW	80.0 MW
Muzaffargarh	15.77	15.71	7/31/15	475.0 MW	500.0 MW
Gomal Zam	45.00	45.00	Complete	17.4 MW	17.4 MW
Satpara	26.00	26.00	Complete	17.6 MW	17.6 MW
Mangla	150.00	13.00	12/31/17	90 MW	In progress
Tarbela (Phase II)	25.00	Signing of PIL is in Progress	12/31/16	20 MW	In progress
<b>Total</b>	<b>316.71</b>	<b>153.49</b>		<b>973 MW</b>	<b>1013 MW</b>

## REHABILITATION OF TARBELA HYDROPOWER PLANT

### Phase-I:

EPP Engineers visited Tarbela Power station for inspection of SCADA System, under Tarbela Phase I project. Subsequently, EPP certified WAPDA invoices of \$0.9 Million against the arrived equipment and forwarded to USAID for further process. SCADA system will increase the sustainability and reliability of the power plant operations. EPP also facilitated Tarbela in preparing the quarterly accrual report and submitted to USAID. EPP met WAPDA to expedite the procurement of the remaining equipment's.



### Phase-II:

EPP submitted their assessment on the cost estimates provided by WAPDA for equipment's under Tarbela phase II to USAID, and also shared the payment milestone schedule and equipment's technical specifications to USAID. This will help in finalizing the project implementation latter (PIL). The project will add 20MW to the national grid and add to the sustainability of the power plant operations.

## MANGLA DAM REHABILITATION PROJECT

EPP also facilitated Mangla in preparing the quarterly accrual report and submitted to USAID.

## GUDDU THERMAL POWER STATION REHABILITATION PROJECT

EPP facilitated in arranging a meeting of USAID with CEO GHCL & CEOs of all the GENCOs; the meeting was critical in expediting the procurement of the remaining equipment's at Jamshoro, Guddu & Muzaffargarh thermal power stations. Subsequently, EPP circulated the minutes of the meeting and also provided response of Guddu to USAID on the issues highlighted in the meeting. EPP also facilitated Guddu in preparing the quarterly accrual report and submitted to USAID.

EPP also submitted a draft heat rate test report conducted at GT-7, GT-8 & ST-5 (rehabilitated under USAID funding) to Guddu for their review and comments. The test were conducted by independent engineering firm (Pakistan Engineering Services) and will help Guddu to obtain a revised tariff from NEPRA.

## JAMSHORO THERMAL POWER STATION REHABILITATION PROJECT

EPP facilitated in arranging a meeting of USAID with CEO GHCL & CEOs of all the GENCOs; the meeting was critical in expediting the procurement of the remaining equipment's at Jamshoro, Guddu & Muzaffargarh thermal power stations. Subsequently, EPP circulated the minutes of the meeting and also provided response of Jamshoro to USAID on the issues highlighted in the meeting. EPP also facilitated Jamshoro in preparing the quarterly accrual report and submitted to USAID.

## MUZAFFARGARH THERMAL POWER STATION REHABILITATION PROJECT

EPP facilitated in arranging a meeting of USAID with CEO GHCL & CEOs of all the GENCOs; the meeting was critical in expediting the procurement of the remaining equipment's at Jamshoro, Guddu & Muzaffargarh thermal power stations. Subsequently, EPP circulated the minutes of the meeting and also provided response of Muzaffargarh to USAID on the issues highlighted in the meeting. EPP also facilitated Muzaffargarh in preparing the quarterly accrual report and submitted to USAID.

## COMPONENT 2: POLICY AND REFORM

### SUPPORT TO MINISTRY OF WATER AND POWER

During the month, EPP met with senior officials of MWP to discuss the on-going and proposed activities with MWP. The major activities undertaken during the month are given below:

**Connection Agreement.** During the month, EPP continued development of a Connection Agreement that is required under the Grid Code. The new PPAs do not include Grid Code requirements for connection of a customer (i.e. DISCOs). A connection agreement will be required for each connection point on the NTDC's system. EPP will meet with MWP get additional direction on the proposed connection code agreement before it can be implemented.

**Thermal Power Purchase Agreement.** The final draft of the Thermal PPAs was sent to MWP and to the GENCOs. EPP prepared the PPAs. EPP responsibility for the preparation of the thermal PPAs is complete. As part of the continuing support to MWP, EPP is awaiting comments from the GENCOs will update the PAAs as appropriate for the comments received from the GENCOs.

**Energy Sector Case Study.** During the month, EPP worked on a report for MWP highlighting the energy sector of Turkey. The report will include an overview of the energy sector, sector organization and outlook. Reviewing the energy sector of different countries will be useful to determine how Pakistan can benefit from the experiences of other countries.

**Market Rules.** The Market Rules for the next step in the development of the new energy market were placed on the NEPRA web site and have been notified by NEPRA. EPP had provided comments to the Market Rules and worked with MWP in the final phase of development.

**Power Generation Policy 2015.** During the month, EPP reviewed the Power Generation Policy 2015 and provided comments to MWP. The main items included recognizing the removal of CPPA from with NTDC and making it consistent with the Grid Code and ensuring that new generation coming online should be consistent with the official NTDC Lease Cost Development Plan.

**Power Sector Analysis.** During the month, EPP prepared a report analyzing the Indian Power sector to determine areas in which Pakistan can benefit from the experiences of that country. The report included an overview of the power sector in India, mandates of federal and provincial governments and provides insight into successful reform practices that can be modeled by Pakistan. It will particularly be useful to analyze the differences between the power sectors of the two countries and for reviewing the current Electricity Act for Pakistan (which is based primarily upon the Indian Act 2003).

### SUPPORT TO NATIONAL TRANSMISSION AND DESPATCH COMPANY

**NTDC Strategic Business Plan.** EPP held various meetings with NTDC Management, NTDC Strategic Planning Group and NTDC Board Strategic Planning Committee during the month of June to review the key performance measures included in the plan. The Strategic Planning group meeting was held on June 16th in Lahore. The agenda for the meeting was to present Key Performance Measures developed for Objectives 1 through 5 to the NTDC Senior Management and receive their feedback and comments.

EPP met with the NTDC Board Strategic Planning Committee on June 23 in Lahore to review the final recommended performance measures and KPI Scorecard. The KPI scorecard in the Strategic Plan is the basis for the KPIs included in the NTDC Board Performance Contract. Adjustments were

made to the Scorecard as a result of the meeting. This final scorecard for the Strategic Plan and NTDC Board Performance Contract will be presented to the NTDC full board for approval in July board meeting.

**Business Transfer Agreement.** EPP team met with WPPO Finance Director the week of June 15 to collect data for BTA Schedules I, II and III and obtain employee information to update the list of WPPO and CPPA employees to be seconded to CPPA-G. The team was informed the information on CPPA employees will be provided by the NTDC Human Resources. The Staff also requested data on the outstanding receivables, liabilities and commitments related to the CPPA responsibilities of procurement and sale of electricity. Work will continue on completing the supporting schedules for the BTA in July.

**PPA Administrative Agreement.** The separation of CPPA from NTDC and restructuring of NTDC results in a requirement for an Administration Agreement for the PPAs. EPP Policy Group coordinated the preparation of an Administration Agreement among NTDC, WAPDA and CPPA-G for performing the former responsibilities of CPPA in the procurement of electricity and sale to the DISCOs. The agreement was reviewed and changes were made by NTDC legal advisor. The final agreement was approved by the NTDC Board of Directors on June 2, 2015.

**Corporate Governance Summary.** At the request of NTDC Board Chairman, EPP prepared a summary of the Corporate Governance Rules 2013 for Public sector entities. The summary included the list of governance requirements in the rule that could be applicable to NTDC Board. The BOD Chairman requested a list of policies a Board is expected to have to support Corporate Governance. The Chairman request included preparation of a checklist to determine the extent to which compliance has been achieved.

## SUPPORT TO MINISTRY OF PLANNING AND DEVELOPMENT

EPP continued to provide advisory support to the Energy Wing throughout the month on a variety of tasks as requested by Member Energy and Secretary Planning.

**Implementation of E-Governance.** During the month, EPP continued working with the Technical Staff of Planning Commission for development/implementation of the Local Area Network (LAN) at the Energy Wing. EPP also provided system and IT assistance to Member Energy in daily activities.

**Technical Assistance.** Through its seconded staff, EPP continued to provide general technical assistance, system and network administration to the offices of Member Energy and provided support for routine tasks. EPP also updated the daily power supply demand scenario and short fall in the NTDC system based on the daily data received from NPCC. At the request of Member Energy, EPP updated the Power Generation Plan 2015-19 in coordination with officials from the Prime Minister Delivery Unit (PMDU).

**Power SIM.** During the month, EPP continued trainings at the Energy Wing. The trainings included providing the participants with details of the model structure, limitations, input sheets and policy analysis.

**GIS Mapping.** During the month, EPP continued assisting Planning Commission with datasets of Nationwide Transmission System, Power Generation Plants and upcoming projects underway in collaboration with SUPARCO and Director General Petroleum Concessions. EPP also assisted in organizing a GIS Core Group meeting this week at the Energy Wing to discuss status of tasks assigned to each GIS working group.

**Project Documentation.** During the month, EPP prepared a list of documents that were delivered to USAID/GOP over the span of the project period, using the Quarterly Reports. This is a

requirement for closeout and MSI audit. EPP has started collecting and compiling copies of all the deliverables submitted to MWP and Planning Commission.

## SUPPORT TO MINISTRY OF FINANCE

EPP team at Ministry of Finance continued to provide advisory support throughout the month on a variety of tasks as requested by the Finance Wing, Ministry of Finance.

- Corporate Finance Wing, Ministry of Finance was assisted in finalizing the tariff differential subsidy allocation for revised budget 2014-15 and for the next financial year 2015-16.
- Corporate Finance Wing, Ministry of Finance was assisted in analyzing the funds requirement of CPPA for ensuring un-interrupted power supply at the time of SEHRI and IFTAR during the Holy month Ramadan.
- Assistance is being provided to Corporate Finance Wing, Ministry of Finance to work out the level of tariff differential subsidy (TDS) for distribution companies after the decision of NEPRA on their Review Petitions.
- Corporate Finance Wing, Ministry of Finance is being assisted in reconciliation of pending claims of tariff differential subsidies submitted by Ministry of Water and Power.
- Assistance was provided to Corporate Finance Wing, Ministry of Finance on the summary for ECC submitted by Ministry of Water and Power regarding incentives for recovery of outstanding amounts and anti-theft campaign in DISCOs.
- Assistance is being provided to Corporate Finance Wing, Ministry of Finance in working out the arrears of tariff subsidy claims of PESCO for the year 2012-13 and 2013-14.
- Assistance is being provided to C.F.Wing, Ministry of Finance to monitor the receipt of dividend to be paid by the energy sector companies to Ministry of Finance before the close of current financial year.

## SUPPORT TO MINISTRY OF PETROLEUM AND NATURAL RESOURCES

### Liquefied Natural Gas Imports

#### **Liquefied Natural Gas Procurement.**

- Facts Global Energy (FGE) and Watson Farley & Williams (WFW) provided further inputs to frame responses to queries raised by bidders on the spot LNG tender. The finalized response was uploaded on the PSO web site.
- WFW and FGE supported Pakistan State Oil (PSO) in the bids review process for spot LNG tender in Karachi from June 15-18, 2015. PSO has now finalized the bids evaluation.
- WFW submitted the amended Delivered Ex. Ship (DES) Master Sales Purchase Agreement (MSPA) to PSO revised in light of the bidders comments received in response to the recently published tender for procuring spot LNG cargoes.
- WFW and FGE reviewed the DES MSPA provided to PSO by Qatargas for procuring LNG cargo for Ship to Ship (STS) commissioning of the LNG terminal.

#### **Support to Port Qasim Authority.**

- Final revised version of Terminal regulations prepared by Engro Elengy Terminal Limited (EETL) was reviewed by Granada and forwarded to PQA for acceptance.
- Engineering Consultants Int. Pvt. Ltd. (ECIL) participated in a meeting with Chairman PQA on 11<sup>th</sup> June to further discuss the port tariff for LNG vessels calling at PQA.
- Conditions of Use (COUs) annexed to the SOPs for LNG vessels calling at PQA were further revised by Granada in light of additional comments provided by Qatargas and forwarded to PQA which has now been provided to PSO for onward transmission to Qatargas.

- After submission of the pending required documentation by Engro Elengy Terminal Limited (EETL), ECIL-Granada team resumed its review for closing of issues arising out of various gap studies conducted for LNG terminal design and quality.
- Granada prepared the draft response for consideration of PQA in respect of the recent Economic Coordination Committee (ECC) decision on waiver to follow Society of International Gas Terminals and Tankers Association (SIGTTO) guidelines for LNG carriers calling at Port Qasim.

## Shale Gas

- Various meetings were held with LMKR/KMR to discuss the possibility of re-visiting the provisions of infrastructure, technology and costs for Shale Gas production (Milestones 5, 6 and 7) and to provide proper pre-policy guidelines. LMKR proposal for elaboration of Milestone-6 has been finalized and request for USAID consent is in process.
- Final report on Milestone-4A (Shale Gas resource assessment) has been received.

## Upstream Oil and Gas

- Advisory work on day to day issues of Director General Petroleum Concessions (DGPC) continued. Necessary advice was rendered on various regulatory, commercial and legal issues.
- Weekly progress review meetings with Petroleum Technology Solutions (PTS) were held throughout the month.
- GOP has extended the term of a major mining lease by one year. In the meantime, a way forward for further extension of the lease will be considered and necessary recommendations will be made to the GOP.
- Secretary Ministry of Petroleum and Natural Resources (MPNR) was briefed on the status of the support being provided to MPNR in a meeting held on 10<sup>th</sup> June. A copy of the proposal regarding rationalization of producer prices was also handed over to Secretary to decide whether the proposed study desired by the Minister MPNR is to be undertaken or not.
- After discussions with Director General Petroleum Concessions (DGPC), it was agreed to take up the matter with the E&P companies to expedite the submission of draft Supplemental Agreements w.r.t. the options exercised by them earlier under the various E&P Policies. Subsequent to these discussions, a draft letter has been submitted to DGPC requesting the E&P companies to expedite the submission of draft Supplemental Agreements.
- Legal opinion on acquisition of shares of a local E&P company was provided to Director General Petroleum Concessions (DGPC).
- Deliverable regarding amendments in rules and agreements in respect of tight gas policy, low BTU gas price policy and marginal/stranded gas field guidelines was finalized.
- Amendments in the E&P Rules for 1986, 2001, 2009 and 2013 have been finalized and sent back to PTS for presentation to seek DGPC input.

## COMPONENT 3: NEW PROJECTS, PLANNING, AND DEVELOPMENT

### KURRAM TANGI/KAITU WEIR PROJECT

Evaluation of Technical Proposal of bids received in March 25, 2015 for construction of the Kaitu Weir, feeder tunnel linking Kaitu River to Kurram Tangi Reservoir, Two power houses with installed capacity of 18.4 MW, two irrigation canals (Spaira Ragma and Sheratella) and associated structure, is finalized and approved by WAPDA Authority. The bid is from the consortium led by FWO and Descon is considered as technically responsive. Financial Proposal under 2<sup>nd</sup> envelop is also opened and under negotiation with bidder. Successful contractor is expected to mobilize in July 2015.

WAPDA, FATA, USAID, EPP and Political Agent have held meetings on 20, 2015 to discuss Land Acquisition process and issues related to Resettlement Action Plan in line with USAID funding requirement. WAPDA General Manager North, Project Director Kaitu Weir, MMP Consultants, Assistant Political Agent of FATA, Deputy Director USAID Peshawar Office, Program Director, USAID Islamabad, USAID Mission (A) Environmental Officer, representative from USAID Finance Office attended the meetings. EPP continued efforts to collect the documents related to Land Acquisition process and Resettlement Action Plan.

USAID and EPP are working with WAPDA to identify eligible costs of works and finalize Activity Agreement. Milestone dates for funding disbursement and associated payment schedule for the proposed \$ 81 Million USAID funding is under preparation for PIL. Planning Commission PC I of the project amounting to \$126 million is already approved by GOP. It consists of \$ 81 million for Kaitu Weir & associated structure and command area development to be financed by USAID and 45 million Italian loans under discussion by Economic Affairs Division (EAD) with Italian Government.

### GOLEN GOL PROJECT

EPP completed and submitted Due Diligence Report on Golan Gol Project to USAID in January 2015. USAID accordingly has indicated WAPDA \$ 36 million funding for power house Electrical & Mechanical equipment (Lot 3.2 of contract). Total cost of Lot 3.1 & Lot 3.2 contracts is \$ 75.5 million. Kuwait Fund is providing \$ 37 Million loan for construction for Powerhouse civil works and E&M equipment with short fall of about \$ 38.5 million.

The Saudi fund is providing a soft loan of almost \$97 Million for civil structures (Intake structure, diversion weir, headrace tunnel, surge chamber and pressure shaft) (Contract Lot 2), while OPEC Fund is funding \$30 Million for Transmission Lines and Grid Stations (Lot 4.1 & Lot 4.2). Over all funding gap in overall project cost is \$ 71 million.

EPP has finalized and submitted Activity Agreement for \$ 36 million USAID funding of Golen Gol. The Project is 38 % completed and expected to be completed by August 2017 and provide 438 GWh of annual energy to National Grid. Revenue from Golen Gol will be over \$33 million a year and this cheaper power will replace electricity production from thermal plants using imported fuel oil of about \$65 million per annum.

## COMPONENT 4: NEW ACTIVITIES

### PESHAWAR ELECTRIC SUPPLY COMPANY

To date, 505.2 MW of transmission throughput capacity have been added to PESCO's network as a result of EPP's assistance.

**Bucket Trucks.** Four (04) telescopic bucket trucks have been delivered at PESCO warehouse on April 28, 2015. Registration process is underway. This will help PESCO in effective and efficient maintenance of their facilities.



Newly Procured Bucket Truck for PESCO

**Technical Audits.** Individual audit reports have been sent to PESCO. The reports highlight shortcomings/bottlenecks found and recommend preventive & corrective measures. The final summary report was hand delivered to PESCO CEO on June 26.

**Power Transformer Program.** Two 40 MVA power transformers have arrived at sites. These transformers are likely to get commissioned in first week of August. EPP is in the process of procuring two oil filtration plants for PESCO's operations and maintenance staff. The plants are expected to arrive by end of July.

**Transmission and Grids (T&G) Equipment.** PO has been awarded to M/s. Ikram Corporation for supply of T&G equipment. Some of the tools (17/37) have already been delivered; the contractor is to deliver remaining equipment by mid-July, 2015. Remaining items need custom clearance for delivery by vendor.

# NATIONAL TRANSMISSION AND DESPATCH CENTRE

## Technical Audits

- Technical Audit and final reports of 45 out of 45 (100%) GS have been compiled. A hardcopy of the report and a disk with all the backup data for the original 39 stations has been provided to the MD. The reports propose steps necessary for carrying out both preventive and corrective maintenances and also recommend infrastructure upgrade/augmentation where necessary.
- Final report will be hand delivered to MD on June 30.

**NTDC System Studies.** Integration of intermittent renewable resources with national grid: the PO executed and work begun. Expected completion: mid-September 2015.

**Real Time Digital Simulator.** FAT successfully conducted last month. The simulator is due to arrive in 1<sup>st</sup> week of July.

## Auto-Transformer Program

- Two JHSP 250MVA, 220/132kV Auto Transformers arrived at Karachi Port. Delivery at site expected by end-July 2015.
- Fire Protection System: It has been shipped by M/s. Xuming. Delivery expected in July 2015.
- Circuit Breakers, conductor, connectors and other ancillaries are likely to be delivered in July 2015.

## Hardware and Software for NTDC Design

- Hardware for NTDC's Design Department: the vendor has delivered all the items.
- Software and Training for NTDC's Design Department: the training ended on June 19, 2015.

## Advisory Services to NPCC

- EPP experts completed their advising at NPCC.

## Live-Line Maintenance

- Live Line refresher course for FESCO linemen started on May 26, 2015. The course and training sessions ended on June 19, 2015.
- The live line training for twenty linemen from LESCO and QESCO started on May 18, 2015. It will be completed on Oct 2, 2015.

# PROGRAM SUPPORT ACTIVITIES

## CAPACITY BUILDING

**Live Line Maintenance.** EPP met with Live Line Maintenance (LLM) crew to conduct an M&E session with the participants from FESCO on June 19, 2015 at Faisalabad Electric Supply Company and compiled a report based on the feedback given by the engineers and linemen. EPP gave Ramadan Break to QESCO and LESCO trainees from June 20 – July 26, 2015. The linemen will resume their training at NTDC Tarbela Training Center in the last week of July, 2015. To date EPP has completed the three of the five refresher courses at IESCO, PESCO and FESCO; the fourth refresher course at GEPCO to commence in July, 2015.

**HYDRO O&M Training.** Focus group discussion was conducted on June 2, 2015 at Ghazi Barotha Power Station to monitor the progress made on the techniques learned and challenges highlighted during the post training interviews. Participants highlighted the improvements made in the optimal operations of the plant where the categorization is in process based on different departmental criteria. The discussion session included the participants, senior engineers, and shift engineers. Post-training findings will assist in the planned on-site program scheduled for the fourth quarter.

**NTDC Design Center:** EPP's Design Center training was completed on June 19, 2015 at NTDC, Lahore in 11 different courses, i.e. AUTOCAD, PLS – Power, PLS- Tower, PLS – Pole, SAPS, SAGSEC, CAISON, ARCGIS, Bentley STAAD-PRO, Bentley Sub-Station, MS Project. EPP conducted an M&E session on June 16 – 17, 2015 with the participants to ensure sustainability of the design center rehabilitation program. The feedback report will be shared for future improvements.

**LNG Business Management Certificate.** EPP completed the LNG business management certificate training on June 12, 2015 where EPP hosted 14 participants from OGRA, SSGCL, and PQA in Kuala Lumpur. The program focused on improving SSGCL, PQA, and OGRA's commercial capacity and port operations standards. EPP is planning to host a debriefing and M&E session with all the participants in August, 2015.

## GENDER ACTIVITIES

**Increased Female Participation.** EPP trained 27% females from NTDC in exchange visits. Between April – June 2015, EPP trained the following percentage of females during Design Center Training course at NTDC i.e. 36% in AUTOCAD, 21% in PLS-CADD, 23% in PLS-Tower, 20% in PLS- Pole, 20% in SAPS, 37% in SAGSEC, 25% in CAISON, 36% in ARCGIS, 33% in MS Project, and 27% in Bentley substation.

## MONITORING & EVALUATION

**Post-Training.** EPP hosted multiple post-training evaluation sessions for participants from Hydro Operations and Maintenance, NTDC Design Center, and live line maintenance.

**Confidential information redacted**

**Confidential information redacted**

# PROGRESS IN NUMBERS

**Table 3** below provides the EPP indicators, targets, and achievements for May 2015. **Table 4** presents EPP Indicators by component for May 2015.

**Table 3: EPP Indicators and Achievement for May 2015**

Indicator	Unit	LOP Target	Achieved in May FY2015	Total Achieved as of May FY 2015	LOP % Achieved as of May FY2015
I.a: GWh of energy sold	GWh	7880	0	9,182	117%
I.1.a: Number of beneficiaries with improved energy services due to United States Government assistance	Individuals	13,624,226	0	15,847,956	116%
I.1.b: GWh of energy availability	GWh	7880	0	9,182	117%
I.1.c: MW available to meet power sector demand as a result of USG assistance	MW	1,303	0	1,518.2	117%
I.1.1.a: MW of electrical power added or saved as a result of USG improvements	MW	875	0	1,027.2	117%
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.	181	1	157	87%
I.1.1.d: Number of transmission bottlenecks resolved	No.	121	3	121	100%
I.1.4.a: Public and private funds leveraged by the USG for energy infrastructure projects	U.S. \$	193.5 million	0	58.5 Million	30%
I.2.1.a: Number of key policies and regulations in various stages	No.	12	0	27	225%
I.2.2.a: Number of policies following international best practices	No.	6	0	3	50%
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	6	60%
I.2.4.b: Number of public forums resulting from USG assistance in which government officials and citizens interact	No.	12	0	5	42%

**Table 4: EPP Indicators by Component May 2015**

Indicator	Unit	Component	LOP Target	Achieved in May FY2015	Total Achieved as of May FY 2015	LOP % Achieved as of May FY2015
I.I.a: Number of beneficiaries with improved energy services due to United States Government assistance	Individuals	Total	13,624,226	0	15,847,956	116%
		I-Generation	7,993,106	0	9,382,406	117%
		IV-Transmission Throughput Capacity	5,477,544	0	6,283,818	115%
		IV – Transmission Added/Saved	153,576	0	181,732	118%
I.I.b: GWh of energy availability	GWh	I & IV	7880	0	9,182.1	117%
		I-Generation	4,796	0	5,642.29	118%
		IV-Transmission Throughput Capacity	2999.4	0	3,440.926	115%
		IV – Transmission Added/Saved	84	0	99.506	118%
I.I.c: MW available to meet power sector demand as a result of USG assistance	MW	I & IV	1,303	0	1,518.2	117%
		I-Generation	863	0	1,013	117%
		IV-Transmission Throughput Capacity	428	0	491	115%
		IV – Transmission Added/Saved	12	0	14.2	118%
I.I.Ia: MW of electrical power added or saved as a result of USG improvements	MW	I & IV	875	0	1027.2	117%
		I-Generation	863	0	1,013	117%
		IV – Transmission Added/Saved	12	0	14.2	118%

# ANNEXES

## ANNEX III: LIST OF KEY MEETINGS

**Annex Table 5: List of Key Meetings Conducted in May 2015**

Meeting with	Date	Location	Purpose	Outcome/Result
<b>Component 1: Project Monitoring &amp; Implementation</b>				
Mr. Sher Afzal Khan	May 28 & 29 2015	Tarbela Power Station	To inspect Phase I equipment received at site, discuss the progress of remaining equipment's and collection of documents of Phase II	SCADA system was inspected and CE was advised to expedite the procurement of remaining item. Relevant documents collected from Tarbela under Phase II project.
Member(P) WAPDA	June5, 2015	WAPDA House Lahore	To discuss progress on Mangla	Revised documents and data obtained from WAPDA
Mr. Iftikhar Aziz ( CEO GENCO-I), Mr. Khalid Alvi (CEO GENCO-II), Mr Shoaib Rasheed (CEO GENCO-III), Mr. Imran (CEO GHCL), Rabia Bukhari (USAID)	June 4, 2015	EPP office Islamabad	To discuss the progress and procurement status of the remaining equipment's	GENCOs submitted a time extension request to USAID
PES Technical Team (Mr. Khurram, Mr. Shakil)	June 5, 2015	PES office Lahore	To discuss delays in submission of heat rate about Guddu	Draft report is submitted to Guddu for review and comments.
Rabia Bukhari (USAID), Akram Sheikh (Additional Procurment Manager GENCO-III)	Jun 25, 2015	EPP office Islamabad	To discuss the time extension request in order to complete the remaining procurements	Muzaffargarh submitted a time extension request to USAID.
<b>Component 2: Policy and Reform</b>				
CEO GENCO Holding Company, Director Monitoring and Evaluation	3 <sup>rd</sup> June	GHCL Office, Islamabad	To confirm status of PPAs and Schedules	Based on the discussion, the PPAs to be finalized with the GENCOs.

Meeting with	Date	Location	Purpose	Outcome/Result
CEO GHCL, CPGCL CEO and Chief Engineer	3 <sup>rd</sup> June	GHCL Office, Islamabad	To discuss assistance from EPP team in the tariff petition for CPGCL.	<ul style="list-style-type: none"> <li>• Provided information to CPGCL on plant status, block wise generation capabilities, maintenance needs and plans.</li> <li>• EPP to provide assistance to CPGCL on tariff filing with NEPRA.</li> </ul>
NTDC Senior Management	16 <sup>th</sup> June	Avari Hotel, Lahore	Presentation of performance measures developed for Objectives 1 to 5	<ul style="list-style-type: none"> <li>• Follow up meetings with individual departments to discuss and finalize KPIs.</li> <li>• Make changes based on discussion/comments</li> </ul>
Mr. Akhtar Ali (Member Energy Planning Commission)	17 <sup>th</sup> June	Planning Commission	Meetings with Jane Wilson (AEAI VP) on EPP support	<ul style="list-style-type: none"> <li>• Briefing on on-going support to through EPP</li> <li>• Feedback on future assistance and tasks</li> </ul>
Mrs. Azra Mujtaba (Additional Secretary Corporate Finance)	17 <sup>th</sup> June	Ministry of Finance	Meetings with Jane Wilson on EPP support	<ul style="list-style-type: none"> <li>• Briefing on on-going support to through EPP</li> <li>• Feedback on future assistance and tasks</li> </ul>
Advisor, Ministry of Petroleum	17 <sup>th</sup> June	Ministry of Petroleum	Meetings with Jane Wilson on EPP support	<ul style="list-style-type: none"> <li>• Briefing on on-going support to through EPP</li> <li>• Feedback on future assistance and tasks</li> </ul>
Mr. Zargham Khan (Joint Secretary, MWP)	19 <sup>th</sup> June	Ministry of Water and Power	Meetings with Jane Wilson on EPP support	<ul style="list-style-type: none"> <li>• Briefing on on-going support to through EPP</li> <li>• Feedback on future assistance and tasks</li> </ul>
USAID, World Bank	June 5, 2015	World Bank, Islamabad	Discussion on FT LNG project	<ul style="list-style-type: none"> <li>• EPP gave a briefing on the Fast Track LNG project to World Bank representatives.</li> </ul>
USAID, PQA, EETL	June 15, 2015	PQA, Karachi	Visit of EETL LNG terminal	<ul style="list-style-type: none"> <li>• USAID visited the EETL LNG terminal and was briefed by EETL on the project.</li> <li>• USAID/EPP support to the project was acknowledged by Chairman PQA and EETL.</li> </ul>

Meeting with	Date	Location	Purpose	Outcome/Result
USAID, LMKR	June 17, 2015	EPP Office, Islamabad	Presentation on shale gas resource assessment study	<ul style="list-style-type: none"> <li>• LMKR made a presentation on the shale gas resource assessment study.</li> <li>• USAID advised that LMKR invoice could be cleared on receipt of the final invoice for Milestone-4.</li> <li>• USAID further advised to finalize the proposal for Milestone-6 which would incur additional budget and seek its approval.</li> </ul>
Minister, Advisor & other MPNR officials, DGPC, USAID, LMKR	June 26, 2015	MPNR, Pak Sect., Islamabad	Presentation on shale gas resource assessment study	<ul style="list-style-type: none"> <li>• Report on shale gas resource assessment was presented to MPNR. As a follow up, pilot drilling program will be considered by MPNR.</li> <li>• Minister showed interest in the results of Component-2, which is expected to be completed by August.</li> </ul>
Program Support Activities				
Ghazi Barotha Power Station	June 2, 2015	Ghazi Barotha Power Station, Ghazi Barotha	Conducted a focus group discussion with Ghazi Barotha's 9 O&M Hydro Participants	EPP hosted a focus group discussion regarding the key takeaways and challenges participants are facing during the implementation of their newly acquired skills during O&M training at Serena.
NTDC Design Center Training – Session I	June 16, 2015	WAPDA House, Lahore	M&E session for participants to share their experience with EPP regarding their Design Center Training	EPP hosted an M&E session to follow-up with the participants to formally share their experience with EPP regarding key takeaways, action plan developments, and future plans based on the newly acquired skills during the course of their Design Center Training.
NTDC Design Center Training – Session II	June 17, 2015	WAPDA House, Lahore	M&E session for participants to share their experience with EPP regarding their Design Center Training	EPP hosted an M&E session to follow-up with the participants to formally share their experience with EPP regarding key takeaways, action plan developments, and future plans based on the newly acquired skills during the course of their Design Center Training.

Meeting with	Date	Location	Purpose	Outcome/Result
Faisalabad Electric Supply Company	June 19, 2015	FESCO, Faisalabad	Conducted a M&E Post – LLM training session	EPP's M&E team conducted a post LLM training session with 7 linemen at FESCO completed their refresher course on June 19, 2015. M&E session included feedback forms highlighted linemen individual training experience followed by a 2 minute sound bite and group photo with the demonstrator and supervisor.
EPP Program Over View Meeting	June 25, 2015	EPP Islamabad Office	EPP gave an overview of the Program to USAID in presence of COR, COP, and all the component heads	EPP hosted a program overview session for USAID at EPP Islamabad office in presence of COR, COP, and component heads for achievements and future reporting.

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