PDP MONITORING & EVALUATION PLAN

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USAID POWER DISTRIBUTION PROGRAM

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PDP MONITORING & EVALUATION PLAN

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Acronyms

ABC – Aerial Bundled Cable

AEB – Area Electricity Boards

AMR – Automatic Meter Reading

BOD – Board of Directors

CDA – Capital Development Authority

CEO – Chief Executive Officer

CIS – Customer Information System

CPPA – Central Power Purchasing Agency

CP-22 – Commercial Procedures-22

C-1 – Component 1

C-2 – Component 2

C-3 – Component 3

COS – Cost of Service

DISCOs – Distribution Companies

DO – Development Objective

DQA – Data Quality Assessment

DSM – Demand Side Management

ERP– Enterprise Resources Planning

FESCO – Faisalabad Electric Supply Company

GEPCO – Gujranwala Electric Supply Company

GOP – Government of Pakistan

GPRS – General packet radio service

GSM – Global System for Mobile

GWh – Gigawatt hours

HESCO – Hyderabad Electric Supply Company

HHU – Hand Held Unit

HR – Human Resource

HT – High Tension

IESCO – Islamabad Electric Supply Company

IMR – Improved Meter Replacement

JD – Job Description

KPIs – Key Performance Indicators

KV – Kilovolt

KVA – Kilo Volt Ampere

KVAR – Kilo Volt Ampere Reactive

KW – Kilo Watt

KWH – Kilo Watt Hour

KWSB – Karachi Water and Sewerage Board

LDI – Load Data Management

LESCO – Lahore Electric Supply Company

LT – Low Tension

MEPCO – Multan Electric Supply Company

M&E – Monitoring and Evaluation

MSI – Management System International

MW – Mega Watt

MWh – Megawatt hours

MVAR – Mega Volt Ampere Reactive

MWP – Ministry of Water and Power

NEPRA – National Electric Power Regulatory Authority

NPCC – National Power Control Center

NTDC – National Transmission & Dispatch Company

ORD – Outage Reduction Devices

Org A&R – Organization Assessment and Re-structuring

PDC – Power Dispatch Center

PEPCO – Pakistan Electric Power Company

PESCO – Peshawar Electric Supply Company

PDP– Power Distribution Program

P&E – Planning and Engineering

PIAP – Performance Improvement Action Plan

PIP – Performance Improvement Project

PIRS – Performance Indicator Reference Sheets

M&E PLAN – Monitoring & Evaluation Plan

PMU – Project Management Unit

PQM – Power Quality Management

QESCO – Quetta Electric Supply Company

RF – Results Framework

RF Enabled – Radio Frequency enabled

SECP – Securities and Exchange Commission of Pakistan

SEPCO – Sukkar Electric Supply Company

SO – Strategic Objective

TOU – Time of Use

USAID – United States Agency for International Development

USG – United States Government

VSDs – Variable Speed Drives

VVO – Volt VAR (Volt Ampere Reactive) Optimization

WAPDA – Water and Power Development Authority

1. PROJECT BACKGROUND

Pakistan's power sector is currently in a state of transition from one that is wholly Government-owned and managed to one that is fully autonomous in which companies operate independently with regards to the generation, transmission, dispatch and distribution of electricity.

The USG-funded Power Distribution Program (PDP) was mobilized in late September 2010 to help facilitate the transition of distribution companies (DISCOs) to full autonomy. It has since completed the first phase (Component 1) of its activities that culminated with evaluations of performance improvement needs and action plans for each DISCO. DISCO operational challenges were captured in operational audit reports that were the product of intensive data collection, field studies, and analyses of operational challenges at all levels of DISCO governance, management, and operations. Thereafter, DISCOs drafted performance improvement action plans to document the specific performance improvement interventions that were needed at each DISCO.

PDP embarked on the second phase (Component 2) of its activities in 2011, which mainly focused on assisting DISCOs to implement the performance improvement plans developed during Component 1. Under Component 2 (C-2), PDP implemented a number of interventions that combine improved electric distribution technology with improved DISCO management practices. These interventions resulted in a significant reduction in technical and non-technical losses, increased revenues, improved engineering practices and operations, and improved human resource management at individual DISCOs. When rolled out across all nine DISCOs, these interventions are further expected to produce significant power savings across the entire system as measured in megawatts (MW).

Most of the activities implemented under C-2 will continue under Component 3 (C-3) of PDP, which began in December 2012 and is expected to last through October 2015. C-3 interventions include the following tasks:

Task 1 has two parts. Task 1-A focuses on improving MEPCO and PESCO with initiatives resulting in enhanced revenue generation, significant loss reduction and overall performance improvement to demonstrate how poorly performing DISCOs can be improved. Task 1-B focuses on providing technical assistance towards the transition of selected distribution companies from public management to private management. PDP will work for transition of these distribution companies both at the national level and at the distribution company level.

Other tasks include Energy Conservation and Demand Side Management (Task 2), Cost Reflective Tariffs and NEPRA Reform (Task 3), Capacitors at Tube-wells for Power Factor Improvement and Loss Reduction Project (Task 4), Feeder Optimization for Loss Reduction (Task 5) and High Impact Projects (Task 6). Under Task 6, high impact projects initiated under Component 2 such as governance, communications/outreach and lineman training programs will continue and will be expanded to benefit all DISCOs

2. OBJECTIVES AND SCOPE OF THE M&E PLAN

This document presents PDP's Monitoring & Evaluation Plan (M&E PLAN) for its C-2 and C-3 interventions. The M&E PLAN focuses on the performance indicators defined by USAID Pakistan Energy Office in its Results Framework (RF) (Figure 1). This M&E Plan will be applied until the close of the current project timeline, ending in September 2015. The M&E PLAN is a tool to help plan and manage the process of measuring and reporting progress toward achieving project objectives. It includes results indictors along with definitions, data sources, and targets- that the project tracks and reports internally to PDP's management and externally to USAID over the life of the project.

The M&E PLAN ensures that collection and reporting of performance indicators is timely and useful to the project team and to USAID. It also helps ensure the use of a consistent methodology for the generation of time-series information over the life of project. In constructing the M&E PLAN, we have endeavored to ensure that it uses definitions and measurements that conform to- and feed directly into USAID Pakistan's RF.

3. RESULTS FRAMEWORK

PDP falls under Development Objective (DO) 1 of USAID Pakistan's Energy Program Framework "Increased Sustainable Energy Supplied to the Economy" (Figure 1). The performance indicators that relate directly to PDP interventions are as follows:

DO 1: Increased Sustainable Energy Supplied to the Economy

b) Percent change in un-planned load shedding

IR 1.1: Increased Energy Supply

a) Number of beneficiaries with improved energy services due to United States Government assistance (4.4.1-31)

b) Gigawatt-hours (GW·h) of energy availability

c) Power (megawatts) available to meet power sector demand as result of USG assistance

IR 1.1.2: Improved Efficiency of Consumption and the Distribution Systems

a) Megawatts (MW) of electrical power saved as a result of United States Government support to distribution companies

b) Number of installations and operations and maintenance improvements

IR 1.1.3: Increased Financial Sustainability of Power Supply

a) Financial Performance of Distribution Companies
b) Percent change in meter reading cycle days of selected areas
c) Number of days for fuel adjustment process

IR 1.1.4: Increased Non-USG Investment in the Energy Sector

a) Public and private funds leveraged by the United States Government for energy infrastructure projects (alternative F indicator 4.4.1-32)

IR 1.2.1: Improved Policy Implementation

a) Number of key policies and regulations in development stages of analysis, drafting, stakeholder consultation, legislative review, approval, or implementation as a result of United States Government assistance

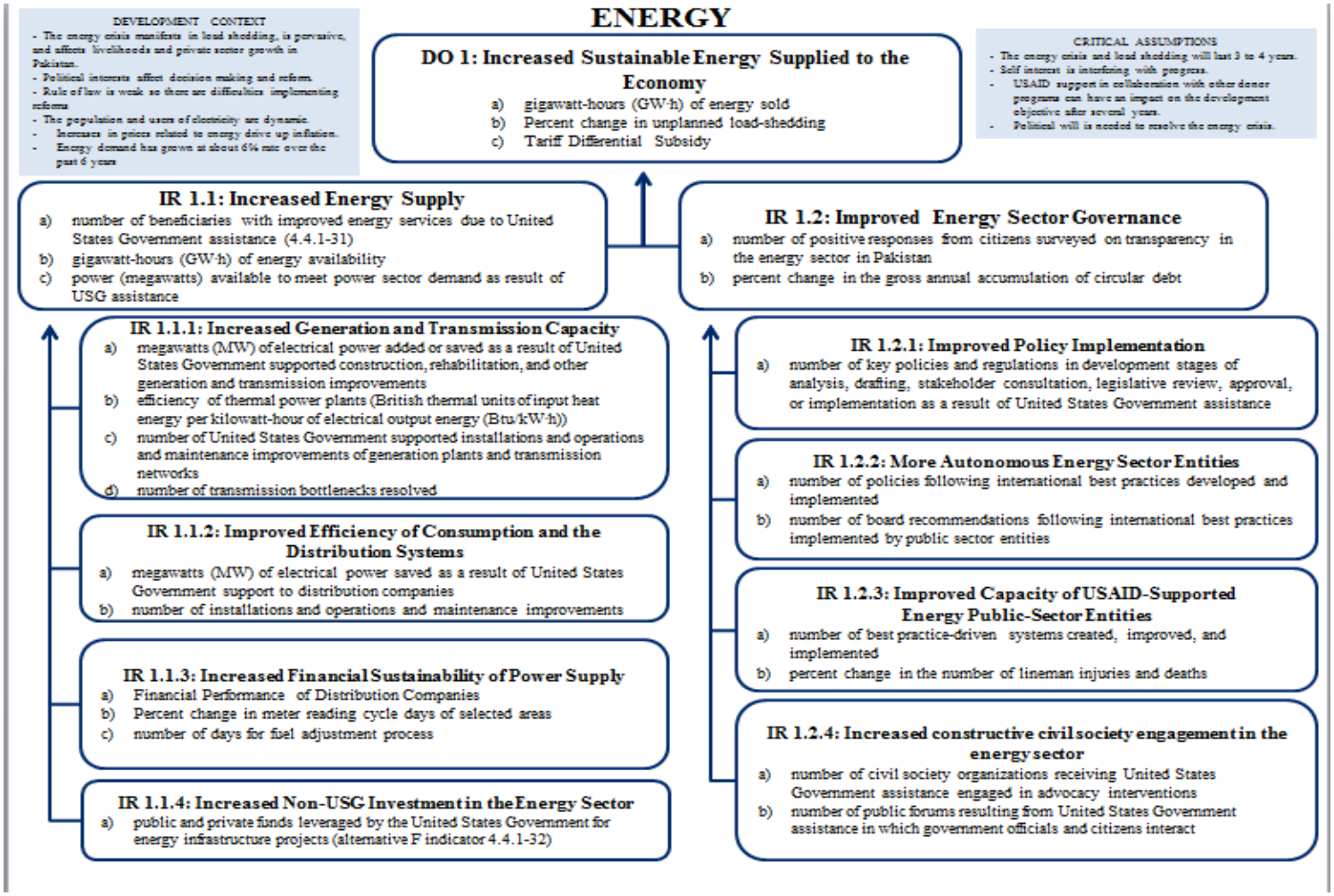
IR 1.2.2: More Autonomous Energy Sector Entities

a) Number of policies following international best practices developed and implemented
b) Number of board recommendations following international best practices implemented by public sector entities

IR 1.2.3: Improved Capacity of USAID-Supported Energy Public-Sector Entities

a) Number of best practice-driven systems created, improved, and implemented
b) Percent change in the number of lineman injuries and deaths

DO1 (b), IR 1.1 (a,b & c); Sub-IRs 1.1.2 (a & b), and 1.1.3 (a, b & c) apply to PDP interventions being implemented by its Technical, Commercial, Communication and Finance functional teams. On the other hand, IR 1.2.1 (a), IR 1.2.2(a & b), IR 1.2.3 (a & b) apply to PDP interventions being implemented by its Governance and Human Resources & Change Management functional teams. Also, IR1.1.4 (a) applies to all PDP interventions.



3.1 Figure 1: USAID Results Framework

4. PDP PERFORMANCE IMPROVEMENT FOCUS

PDP Interventions

PDP interventions for C-2 and C-3 are designed to address DISCO's performance challenges concerning governance, human resource management, financial and commercial management, and technical as well as non-technical loss reduction so as to improve long-term financial sustainability and increase energy savings in Pakistan's power sector. PDP interventions can be grouped into the following categories:

- Increase power saving through technical and non-technical loss reduction
- Improve billing, collection and cash management cycles
- Improve finance and accounting practices
- Improve governance through Board training, certification program and preparation of comprehensive Board policies
- Introduce new technologies in operations and maintenance to improve efficiency and customer services
- Modernize business systems and human resource practices
- Provide training and capacity building
- Facilitate energy conservation and demand side management conservation and demand side management

In C-2, PDP's strategy was to first implement interventions in targeted areas at each DISCO as a pilot project. The idea was that the pilot projects will demonstrate benefits of the interventions leading the DISCOs to implement the intervention on a wider scale using both internal funding and external funding raised from donors or private investors.

In C-3, the focus has been shifted to turning around two selected DISCOs; transforming them into higher performing electric distribution utilities. The resulting impacts at the selected DISCOs will be substantial, as compared to our approach in C-2 where demonstration projects have been implemented all across nine DISCOs on a smaller scale.

Throughout C-2 and C-3 implementation period, it is necessary to monitor progress towards achieving targets defined against each USAID mission RF indicator specific to PDP. The following discussion describes performance indicators and parameters that are monitored to measure progress towards these and other objectives under C-2 and C-3.

PDP is designed to introduce improved technology and management practices and to build internal capacity at DISCOs to produce sustainable performance improvements. The primary areas that have been targeted for performance improvement are those described below.

4.1.a Commercial Performance

The nine DISCOs can be divided into two groups, including those that are relatively better performing and those that have high commercial and technical losses. The DISCOs as a group have failed to adopt commercial practices in true sense, which has led to significant issues with meter reading, data transfer, and energy accounting.

PDP interventions aimed at commercial performance improvement are designed to focus on introducing improved technologies, practices and procedures. These interventions are intended to reduce commercial losses (non-technical losses) through improved meter reading (IMR), metering and implementation of customer information management system (CIS).The successful implementation of these interventions will also result in enhanced control over theft detection and improved decision making at DISCOs. The following PDP interventions are aimed at reducing non-technical losses.

4.1.1 Metering (Electronic meters, AMR, RF-enabled meters and HHUs)

DISCOs have outdated metering system based on electro-mechanical metering, which is subject to inaccurate manual readings, theft and field tampering.

In C-2 PDP aimed to focus on installing new electronic meters and re-fixing customer services—mainly to replace antiquated, broken and inaccurate electro-mechanical meters. Hand Held Units (HHUs) were also provided at specific subdivisions to have improved control over meter readings. Under C-2 PDP also installed Automatic Meter Reading (AMR) at distribution feeders. Installation of AMR, removes the human factor from the meter reading process, thereby eliminating the opportunity for corruption and increasing the accuracy of customer billings. DISCOs can closely monitor the distribution feeders where automatic meters are installed, which will allow them to measure directly the effect of this intervention. Power savings resulting from the AMR intervention is measured in KWh savings and increased revenue.

In C-3, PDP will assist both PESCO and MEPCO to carry out a meter replacement program. The primary focus of the meter replacement intervention will be to improve meter reading accuracy and enhance revenue collection. The large scale metering program in C-3 will also include electronic meters in rural areas, RF-enabled meters in urban areas, AMRs (GSM/GPRS) for high-end commercial and industrial customers, and replacement of bare secondary conductor with insulated Arial Bundled Conductor (ABC) in target circles. In

order to improve the commercial performance of the DISCOs, AMR meters will be installed on high end bulk, industrial and commercial consumers. The metering program will also include the implementation of GSM/GPRS networks for high end commercial and industrial and commercial consumers.

PDP will also assist MEPCO to improve their revenue in this area by focusing on installing AMR meters with remote disconnect and connect capability; which will be installed on all tube-well customers in the Multan Circle.

4.1.2 Revenue Protection Cell

In C-3, another program designed to improve the commercial performance of MEPCO and PESCO, is the establishment of revenue protection and enforcement cell in PESCO & surveillance cell in MEPCO. This program is aimed at revenue enhancement through theft control and procedure enforcement.

4.1.3 Improved Meter Reading (IMR)

PDP C-2 was focused on defining an IMR process that minimizes the manipulation of manual meter readings, first, through procedures and, second, through possible introduction of simple HHU. This intervention showed the potential to provide accurate consumption data for all metered consumers, a fundamentally important goal towards correcting losses and improving DISCO revenues in all consumer categories and in all service territory areas. The IMR intervention was further expanded by DISCOs in selected subdivision and the related commercial offices to introduce the improved practices and procedures and gaining the confidence of the commercial management through these pilot efforts.

In C-3, IMR/HHU will be implemented in 14 subdivisions of Multan Circle. At the same time, MEPCO will implement IMR/HHU in another 14 subdivisions of the same circle. The project involves changes to current meter reading procedures and practices and setting performance indicators (KPI) for meter readers.

Under the IMR initiative, PDP will also update customer information, conduct audit of existing meter configurations, implement HHUs for meter reading and train the meter readers in best practices for meter reading. As part of this project increasing the ability of the meter readers to accurately read every meter every month and reducing the opportunities for data manipulation/error, will result in loss reduction leading to power and energy savings and improved revenue.

4.1.4 Customer Information System (CIS)

In C-3, as part of implementing Enterprise Resource Planning (ERP) project, a standard utility Customer Information System (CIS) will be implemented for both PESCO and MEPCO. Its implementation will allow both DISCOs to accurately bill and collect revenue from customers as well as be able to resolve billing discrepancies in a timely manner; leading to reduction in non-technical losses and improve commercial performance.

4.1.b Key Performance Indicators for Commercial Performance

Performance improvement achieved through commercial procedures optimization and defective meter replacement will be measured using the following USAID RF indicators (Figure 1):

1. Number of beneficiaries with Improved Energy Services due to USG Assistance (IR1.1.a)

This indicator measures the number of people who benefit from improved energy services due to USG assistance. These numbers of beneficiaries will result in increased access to energy that is saved by reduction in non-technical losses. This indicator applies to IMR and metering interventions described under this section. For more details, please refer to the relevant PIRS in Appendix B.

2. Gigawatt-hours (GWh) of energy availability (IR1.1.b)

This indicator measures the increase in Gigawatt-hours (GWh) of energy made available as a result of the intervention mentioned above under this section. The value for this indicator will be measured based on information provided in DISCOs' commercial book including Commercial Procedure (CP)-22. This indicator applies to IMR and metering interventions described under this section. For more details, please refer to the relevant PIRS in Appendix B.

3. Megawatts (MWs) of electrical power saved as a result of USG support to distribution companies (IR1.1.2.a)

This indicator measures the reduction in non-technical losses in terms of MW saved through the implementation of IMR and metering interventions. This indicator applies to IMR and metering interventions described under this section. For more details, please refer to the relevant PIRS in Appendix B.

4. Number of installations and operations and maintenance improvements (IR1.1.2.b)

This indicator measures the number of meters and meter reading devices including AMR, RF-enabled meters, electronic meters, Aerial Bundled Cables (ABC), local area networks, wide area networks, data centers, end-

user computers, and HHUs that are installed and the number of line material that is replaced. For more details, please refer to the relevant PIRS in Appendix B.

5. Financial Performance of Distribution Companies (IR1.1.3.a)

This indicator measures the improvement in revenue (increased or saved) at DISCOs as a result of IMR, CIS, metering and establishment of revenue enhancement cell. For more detail, please refer to the relevant PIRS in Appendix B.

6. Percent change in meter reading cycle days of selected areas (IR1.1.3.b)

This indicator measures the percent reduction in meter reading cycle days of the selected sub-divisions. Following intervention are counted under this indicator: HHU, AMR, and RF-enabled meters. For more detail, please refer to the relevant PIRS in Appendix B.

7. Number of board recommendations following international best practices implemented by public sector entities (IR1.2.2.b)

This indicator measures the number of board recommendations following international best practices implemented by DISCOs. Following intervention related to commercial performance are counted under this indicator: 1) Revenue Protection Cell, 2) CIS implementation, 3) HHU implementation and 4) AMR metering. For more details, please refer to the relevant PIRS in Appendix B.

8. Number of best practice-driven systems created, improved, and implemented (IR1.2.3.a)

This indicator measures the number of 'best practice' driven systems created, improved or implemented at DISCOs. Best practice-driven systems counted for this indicator with respect to commercial performance improvement include CIS, AMRs and HHUs. For more details, please refer to the relevant PIRS in Appendix B.

9. Public and private funds leveraged by the United States Government for energy infrastructure projects (alternative F indicator 4.4.1-32) (IR 1.1.4)

This indicator can be defined as direct investment in PDP projects for technical assistance, contribution to USG-managed fund and in kind support by public sector organizations or other donors (public sector organizations include NEPRA, MWP, DISCOs and other government organizations). The dollar amount leveraged in this case is attributable to USG efforts in that they would not have been leveraged without USG-involvement.

4.2.a Technical Loss Reduction

DISCO line losses consist of a combination of technical and non-technical losses. Non-technical losses are due to commercial inefficiencies and consumer theft, and are addressed by the commercial performance interventions described in the previous section. Technical losses are due to thermal losses resulting from energy flows through the medium voltage and low voltage distribution systems, including conductors, transformers, and other electric power distribution system components.

The following loss reduction demonstration projects were executed in C-2 and most of them also planned for C-3. These interventions illustrate how technical losses can be minimized in very densely populated urban centers, as well as in rural areas where irrigation and agricultural processing loads dominate energy consumption.

4.2.1 Power Factor Correction

PDP engineering interventions offer power factor improvement of tube-well pump motors as well as grid stations across Pakistan to provide power savings to DISCOs and the national grid. These savings will come from reduced losses and reduced power demand due to the installation of high tension (HT) and low tension (LT) capacitors.

In C-2, PDP provided advice, training and technical assistance to DISCOs to replace worn out HT capacitors and installed new ones where they were missing. Furthermore new LT capacitors were installed at tube well motors in five DISCOs. The power factor correction through installation of LT capacitors resulted in loss reduction, system demand reduction and power savings.

Under C-3, LT capacitor installation program is further expanded to maximize the nationwide program in order to reduce the peak MW demand, through installation of capacitors for the purpose of power factor correction. The losses in the line feeding a pump with a lower power factor (around 80%) are substantially higher compared to a pump with a power factor of 95%. The PDP team will achieve this reduction in power demand through installation of capacitors on tube well pump-sets all across the country..

4.2.2 Congested Area Strategies and Network Modifications

Congested area strategies and network modifications under C-2 involve physical improvements to the distribution system in high loss areas of assisted DISCOs. Under this project, a set of technologies specific to congested areas and network modifications developed in conjunction with DISCOs' engineering staff. These

interventions piloted in the selected subdivision of DISCOs to improve quality of service, reduce losses and result in a more secure environment for line workers and consumers. This also include GIS mapping of the high-tension (HT) and low-tension (LT) network of all feeders in a subdivision and modeling of all feeders using power flow software to determine the actual technical losses.

The power savings resulting from these interventions is measured in terms of reduced technical losses of the targeted feeders. These losses are closely monitored by the DISCOs, and these figures are used to measure the before and after difference in losses for the affected feeders.

4.2.3 Energy Loss Reduction (ELR) Program

In C-3, as part of Energy Loss Reduction (ELR) Program, PDP team will re-fix existing good meters, secure service drop cable, install PG/compression connectors, install AMRs (GSM/GPRS) for high-end residential, agricultural, commercial and industrial customers and all of the tube well connections with remote disconnect / reconnect capability, in one of the selected subdivision of Multan Circle. In addition PDP will replace bare secondary conductor with insulated Aerial Bundled Conductor (ABC), extend insulated HT line, install inter-set transformers and Outage Reduction Devices (ORD) to curb technical loss and improve safety conditions in selected congested area.

4.2.4 Planning and Engineering Capacity Building Program

The Planning and Engineering (P&E) program is focused on improved engineering functions within DISCOs, which involves assisting each DISCO in establishing a Power Quality Monitoring (PQM) unit dedicated to monitoring power quality conditions.

In C-2, the P&E program was focused on improved planning and engineering functions within the DISCOs, which involved assisting each DISCO to establish a Power Quality Monitoring (PQM) unit dedicated to monitor power quality conditions. Moreover, a P&E Cell was established at each DISCO and was equipped with the distribution planning software, associated computer hardware, GPRS devices, plotter and other office facilities. The main responsibility of this cell is to identify discrepancies in the quality of power provided and correct and improve system performance.

In C-3, eight fully functioning GIS mapping and planning centers will be created in MEPCO circle. PDP staff will continue working side-by-side with DISCO staff, training them to collect data for GIS mapping, prepare distribution network maps, and conduct power flow analysis. This activity and the resulting data will allow Planning and Engineering Cell to carry out load flow studies for all the 8 centers across MEPCO circle, as well as segregate technical and non-technical losses.

The simple act of line surveying will yield increased revenue by identifying meters for repair, customers that are being supplied electricity and need to be regularized, and maintenance that will have an impact on reducing service interruptions and/or safety issues. At the same time, the survey will capture the physical location of each connection point. This information will be included in the electronic database thereby increasing the accuracy of customer information. This will lead to a positive impact on energy loss, commercial cost recovery, and service interruption even before the GIS database is completed. Subsequent to the database completion, significant improvements in effective billing and collections, as well as more efficient use of utility staff to service particular districts, will be clearly apparent.

4.2.5 Linemen Training Tools and Equipment

A good portion of the technical line losses at this time, are a direct result of scant attention paid to linemen training and training facilities by DISCO management, and inadequate investment in tools, materials, training and procedures.

Linemen Training, Tools and Equipment is an essential intervention for transforming DISCOs front-line operations to match that of well-run utilities. Tools and equipment will be procured (in conjunction with the transportation intervention) and consolidated at central training locations. The DISCO will be required to provide some equipment, which has been determined to be of acceptable quality. Groups of line staff from the sub-divisions will be brought to the location and trained in the use and care of the tools. Improved customer satisfaction and decreased technical losses, are the direct result from the proper tooling and training of linemen as workmanship in line maintenance leads to improved system performance. Under this program, PDP will also provide the DISCOs with new connectors for HT and LT extensions, which when installed will improve the binding of joints in the distribution system. This in turn will not only save MWs and improve revenues for the DISCOs, but also improve upon the safety (employees and general public), reliability of supply and customers satisfaction.

4.2.6 Energy Conservation and Demand Side Management

An Energy conservation and Demand Side Management (DSM) program was executed in C-2 which aimed at introducing various interventions that would help in the conservation of energy at the consumer level. The introduction of modern equipment such as energy efficient pumps, motors and VSDs resulted in reduced power consumption and, hence, increased power saving in MWs.

a) Municipal DSM Program

The Municipal DSM Program was designed to replace inefficient pump-sets in the publicly-owned water and sewerage utilities. These municipal water and sewerage pump-sets are a large load on each Pakistani DISCO from a MW standpoint as well as a financial revenue recovery standpoint.

In C-2, PDP team replaced inefficient municipal and sewerage pump-sets at the Capital Development Authority (CDA) (Islamabad), Karachi Water and Sewerage Board (KWSB) and Peshawar Local Government & Rural Development Department.

b) Industrial DSM Program

The Industrial DSM Program was focused on the replacement of inefficient motors with efficient ones and the Variable Speed Drives (VSDs) were also introduced. Industrial motors are estimated to contribute between 60%-80% of industrial electricity consumption in most Pakistani industrial sectors. As part of C-2, motors and VSDs were installed all across Pakistan, which resulted in reduced power consumption and increased power savings.

4.2.7 Load Data Improvement Project (LDI)

Unscheduled load shedding is a serious problem in Pakistan. It causes serious civil disturbances with property damage and loss of life and is a focal point for civil disobedience. Unscheduled load shedding occurs when the National Power Control Center (NPCC) must take action to reduce load quickly to prevent the national grid from failing. The operators making these decisions do not have near real-time data available on actual system loading upon which to make decisions. If a DISCO does not follow the plan to shed load, the NPCC does not realize the problem until system frequency starts to drop, and they must then make decisions to take unscheduled load shedding actions. Currently none of the nine DISCOs or NPCC is able to know in near real-time the actual load the individual DISCOs are taking from the National Transmission and Distribution Company (NTDC) grid or the total aggregate load being drawn by all the DISCOs.

As part of C-3, PDP is assisting DISCOs and NPCC to obtain load flows information on a near real-time basis by installing AMRs - data acquisition meters on all incomers and outgoing feeders of all DISCO grid stations. This information will be supplied to NPCC and DISCO upgraded Power Dispatch Centers (PDCs). The use of this system so far, has resulted in reduction of unscheduled load shedding across Pakistan, improved DISCO load management, improved timeliness and quality of data required for investment planning.

4.2.8 Volt VAR Optimization (VVO)

MEPCO has serious problems managing its reactance and voltages on feeders. To assist in improving this situation, in C-3 PDP will implement a Volts/VAR Optimization (VVO) program utilizing MEPCO Planning and Engineering function to identify locations where application of 11 kV switched and un-switched capacitors and voltage regulating equipment can help realize substantial savings while significantly improving customer relation, particularly on selected feeders of Multan Circle in excess of 50 Kilometers length. With the introduction of VVO devices, it is expected to achieve considerable loss reduction of about 5% on individual feeders where these devices will be installed.

4.2.b Key Performance Indicators for Technical Loss Reduction

Performance improvement achieved through technical interventions aimed at technical loss reductions, as described above, will be measured using the following USAID RF indicators: (Figure: 1)

1. Decrease in Unplanned Load Shedding (DO-1.b)

This indicator will measure reduction in unscheduled load shedding by comparing incidence of unscheduled load shedding incidence before and after the Load Data Improvement (LDI) project is implemented.

2. Number of beneficiaries with improved energy services due to the USG's assistance (IR-1.1.a)

This indicator calculates the number of people who benefit from improved energy services as a result of MWs saved through technical interventions. This indicator applies to following technical interventions including: 1) HT capacitor installation, 2) LT capacitor installation, 3) Feeder Optimization, 4) Pumps installation, and 5) Motors installation 6) Energy loss reduction program and 7) Lineman Training Tool and Equipment program. For more details, please refer to the relevant PIRS in Appendix B.

3. Gigawatt-hours (GW·h) of energy availability (IR-1.1.b)

This indicator measures the increase in GW-h of energy made available as result of energy technical intervention initiated at DISCOs by PDP. The value for this indicator will be measured by converting MWs of energy saved by technical interventions into GW-h. This indicator applies to following technical interventions including: 1) HT capacitor installation, 2) LT capacitor installation, 3) Feeder optimization, 4) Pumps installation, and 5) Motors installation, 6) Energy loss reduction program and 7) Lineman Training Tool and Equipment program. For more details, please refer to the relevant PIRS in Appendix B.

4. MWs of electrical power saved as a result of USG support to distribution companies (IR1.1.2.a)

Reduction in losses and demand in the distribution system and the resulting power saved in MWs is achieved through installation following technical interventions including: 1) HT capacitor installation, 2) LT capacitor installation, 3) Feeder optimization, 4) Pumps installation, 5) Motors installation, 6) Energy loss reduction program, 7) Lineman Training Tool and Equipment Program. For more details, please refer to the relevant PIRS in Appendix B.

5. Number of installations, operations and maintenance improvements (IR-1.1.2.b)

This indicator measures the number of line material and equipment that is newly installed or renovated in USG-assisted DISCOs. For the interventions discussed under this section, the items counted for this indicator include: 1) HT/LT line extensions, 2) efficient transformers, (3) disconnect switches, , (4) fault indicators, (5) LT capacitors, (6) engineering planning computer equipment, (7) power analyzers, (8) GPS devices (9) municipal water pumps (10)industrial motors, 11) Lineman Training Tools, 12) Service drop cables, 13) PG/compression connectors 14) AMR and outage reduction devices and 12) VVO devices. For more details, please refer to the relevant PIRS in Appendix B.

6. Financial Performance of Distribution Companies (IR1.1.3.a)

This indicator measures the increase in revenue generated at DISCOs as well as deferred investment cost in generation due to PDP interventions at DISCOs. This indicator applies to following technical interventions discussed under this section: 1) HT capacitor installation, 2) LT capacitor installation, and 3) Feeder Optimization. For more details, please refer to the relevant PIRS in Appendix B.

7. Number of board recommendations following international best practices implemented by public sector entities (IR1.2.2.b)

This indicator measures the number of board recommendations following international best practices implemented by DISCOs. The board recommendations counted under this indicator include: 1) HHUs, 2), Load Data Improvement, 3) Outage Reduction, 4) Lineman Tool and Equipment and 5) Power Factor Improvement.

8. Number of best practice-driven systems created, improved, and implemented (IR1.2.3.b)

One of the major objectives in elevating the DISCOs' performance is to introduce specific systems using KPIs as performance benchmarks. This indicator measures the number of 'best practice' driven systems created or improved to measure the performance of USG-assisted DISCOs. Best practice-driven systems counted for this indicator under this section include Planning and Engineering interventions.

9. Public and private funds leveraged by the United States Government for energy infrastructure projects (alternative F indicator 4.4.1-32) (IR 1.1.4)

This indicator can be defined as direct investment in PDP projects for technical assistance, contribution to USG-managed fund and in kind support by public sector organizations or other donors (public sector organizations include NEPRA, MWP, DISCOs and other government organizations). The dollar amount leveraged in this case is attributable to USG efforts in that they would not have been leveraged without USG-involvement.

4.3.a Financial Management

An important driver of financial sustainability targeted by PDP's financial management interventions is the collection of accurate and timely data to assist decision-making and monitor the achievement of performance goals. In particular PDP is working with DISCOs to maintain the financial sustainability of the DISCO through following interventions:

4.3.1 ERP Manual

In particular, DISCOs need to replace and modernize their legacy financial systems with modern Enterprise Resource Planning (ERP) systems so as to enhance the accuracy, accountability, transparency, and reliability of business data. Before an ERP system can be put into place, however, it is necessary to evaluate current business systems to determine the adaptations required for ERP implementation. Toward this end, has assisted the DISCOs by documenting current and future business processes and creating a roadmap for successful ERP implementation. In C-2, PDP produced a comprehensive business blueprint for ERP implementation and made available to all DISCOs. The ERP modules focused on financial, materials management, project management and payroll applications and can be used as a model for other platform applications as well. The project provided technical assistance to DISCOs for the implementation of financial ERP applications which consolidated the various financial reporting requirements of the organization.

4.3.2 10-year Financial Forecast Model

In C-2, in partnership with DISCOs, PDP designed, developed and provided DISCOs with a financial forecasting tool which can be used to improve their business planning processes. This would include a business planning tool which can be used for annual budgeting, tariff petitions, revenue requirements, funding requirements and strategic business planning. Technical assistance was provided in the area of consulting services and support.

4.3.3 Internal Audit Process Optimization and Internal Audit Co-Sourcing

In C-2, PDP redrafted, revised and updated the existing accounting and internal audit manuals to meet all governmental, regulatory and international standards consistent with well-run modern electric utilities. PDP introduced process improvements which improved the overall financial operational efficiencies and effectiveness of the organization. Also PDP's implementing partner- BDO, is working in collaboration with DISCOs on internal audit co-sourcing in order to get the improvements implemented.

4.3.4 ERP Implementation

Under C-3, PDP will implement ERP in PESCO and MEPCO, based on the knowledge and experience gained from the development of the ERP documentation manual under C-2. PDP will assist the DISCOs to implement the key functionalities of a standard ERP system so as to demonstrate the effectiveness of an ERP environment. This intervention is expected to produce significant improvements in the quality of information to management and staff, which will result in improved operational performance. PDP envisions a fully integrated financial ERP solution, which is scalable to include other applications (i.e. customer information and billing). ERP implementation will streamline processes and workflows, improve operational efficiency, and produce reliable and precise financial information.

4.3.5 Strategic Business Planning

In C-3, PDP will facilitate the preparation of a five-year Business Plan for FY 2015-2019, for PESCO and MEPCO. The objective of the Business Plan is to identify what activities are important through development of Strategic Objectives and related Strategic Goals. PESCO and MEPCO will then need alignment of the DISCO's activities around the Strategic Objectives (SO) and Goals.

4.3.b Key Performance Indicators

Improvement in financial management will be measured through the following USAID RF indicators:

1. Financial Performance of Distribution Companies (IR1.1.3.a)

This indicator measure the revenue generated through internal audit process optimization and accounting process optimization at the nine DISCOs

2. Number of best practice-driven systems created, improved, and implemented (IR1.2.3.a)

This indicator measures the number of 'best practice' driven financial management systems created or improved at the assisted DISCOs. Best practice-driven financial management systems counted for this

indicator include: (1) 10 year Financial Forecast model, (2) ERP implementation etc. Performance will be measured by counting the number of best practice driven systems created or improved at each DISCO.

3. Number of board recommendations following international best practices implemented by public sector entities (IR1.2.2.b)

This indicator measures the number of board recommendations following international best practices implemented by DISCOs. The board recommendations counted under this indicator include: 1) Audit Manual, 2) Accounting Manual, 3) ERP Manual, and 4) Ten year financial forecast model (5) Strategic Planning for MEPCO and PESCO.

4. Public and private funds leveraged by the United States Government for energy infrastructure projects (alternative F indicator 4.4.1-32) (IR 1.1.4)

This indicator can be defined as direct investment in PDP projects for technical assistance, contribution to USG-managed fund and in kind support by public sector organizations or other donors (public sector organizations include NEPRA, MWP, DISCOs and other government organizations). The dollar amount leveraged in this case is attributable to USG efforts in that they would not have been leveraged without USG-involvement.

4.4.a Governance & Advisory Assistance

It is widely accepted that DISCO independence has been hindered by conflicting interests on the part of the Board of Director (BOD) members, most of who were selected from PEPCO / WAPDA positions. One of the cornerstones of the power sector reform process as designed and implemented by the Ministry of Water and Power (MWP) was to redesign the governance structure of the DISCOs with the intention of ensuring a higher degree of independence and a greater degree of professionalism so as to improve the policy and decision-making processes. Towards this end, the BODs were dissolved for all nine DISCOs with new BOD members selected from private sector institutions, together with highly respected leaders from key institutional beneficiaries.

On the completion of the selection process, the MWP requested PDP to design training and mentoring processes for the newly appointed BOD members.

4.4.1 Governance at DISCOs Level

Under C-2, PDP has offered a series of BOD orientation workshops, and it will follow up with more focused BOD competency training to provide instruction regarding the nature of electric utility decision-making, the

process of modernizing DISCOs, the importance of transparency and good governance for DISCO long-term sustainability, and the role of BOD in utility modernization. PDP intends to create a BOD certification process that provides a standardized training package to BOD members. BOD members that successfully demonstrated competence would be recognized as Certified Board Members.

Under C-3 PDP will further support policy and governance assistance aimed to support policy making at the national level and as well as enhanced director training for DISCO boards. C-3 improved governance activities will be designed to promote improved transparency in decision-making and overall improved governance in the power sector as a whole, and of the DISCOs in particular.

4.4.2 Cost of Service (CoS) & Tariff Design

PDP has designed the Cost of Service (CoS) component to specifically focus on the needs of the DISCOs, the role of NEPRA as the regulator, and the urgent need to implement cost reflective tariffs for the DISCOs.

Under C-2, PDP developed an allocated CoS Model and held training workshops to train future users of the model. The model was customized for IESCO but can easily be revised for use by the other DISCOs. PDP is holding additional training workshops to train future users of the model at all DISCOs.

Under C-3, PDP will undertake detailed CoS calculations for the rest of the 8 DISCOs (LESCO, FESCO, GEPCO, MEPCO, PESCO, HESCO, SEPCO and QESCO) and assist them in preparation of their tariff petition.

4.4.3 Creation of independent (CPPA)

PDP is working to create an independent Central Power Purchasing Agency (CPPA). The CPPA will be counted as "independent" when the following steps have been completed:

- The GOP appoints BOD members to the CPPA and their names have been submitted to the Securities and Exchange Commission of Pakistan (SECP).
- The Chief Executive Officer (CEO) is appointed.
- The company's organization structure is completed. To date, no key positions have been appointed, including the Company Secretary as per the Memorandum and Articles of Association. An amendment was made to the Memorandum and Articles of Association (due to inconsistencies) to allow the company to create a banking account for fund transfers. This must be submitted by the BOD and approved by shareholders. This will allow seed money to be used to start the operations of CPPA.
- Power sale / purchase agreements with DISCOs are completed. Power sale / purchase agreements with DISCOs are an essential element to enable the CPPA to enter into contracts with power

producers. Currently, none of the DISCOs has any power sale / purchase agreement, and because of this, cash flows cannot be traced and controlled contributing to the problem of circular debt in the country. One of the features of CPPA is that DISCOs have escrow accounts as security against the purchase of power from the CPPA. Power sale / purchase agreements are pre-requisites for opening such escrow accounts. One of the features of escrow accounts is that all collections by DISCOs are credited to this account, which is under the control of the CPPA.

- The CEO develops job descriptions for key management positions.
- The CEO starts hiring new employees.

The BOD develops and adopts the "Rules of Service" and "Employment Rules."

4.4.4 Dissolution of PEPCO

The key steps that PDP intends to achieve for the dissolution of PEPCO where PEPCO will be considered "dissolved" are stipulated below:

- Organizational assessments of PEPCO functions are completed.
- MWP completes the transfer of functions to DISCOs.
- PEPCO BOD completes the SECP required steps for "winding up."
- MWP requests PEPCO BOD meeting to pass the "Declaration of Solvency" resolution.
- PEPCO to hold an Annual General Meeting of Shareholders to pass the "winding up" resolution.
- MWP appoints a liquidator to complete the steps towards winding up.
- Prime Minister signs the closing of PEPCO.

4.4.5 Assistance to NEPRA

Following PDP interventions will improve the capacity of NEPRA to the level that it starts delivering and playing its role as an effective regulator.

a) Organizational re-structuring of NEPRA

Changes in the organizational structure of NEPRA are required to improve its capacity to deliver. This will involve carrying out an organizational and functional analysis of NEPRA, implementing performance management systems, creating revised JDs (Job Descriptions) and compensation and benefits study to make sure NEPRA can play the role of an effective regulator of the power sector in Pakistan.

The objective of Organizational Assessment & Restructuring project at NEPRA is to have in place an organizational set-up, reflecting a strong and progressive corporate culture, and have well defined job descriptions (JDs). A reinvigorated NEPRA structure and improved clarity of functional and technical roles

will support management to be endowed with appropriate authority and acceptance of employees of their responsibilities.

b) Review of Electricity Sector Market Framework

PDP will review electricity market frameworks in other countries and develop a vision of the competitive market structure that may ultimately be established. A course of action for eventual transition to deregulated and competitive environment will be devised. Consultant will be engaged for the purpose.

c) Modification in Tariff Rules and Regulations

PDP did the first CoS based petition for IESCO in 2013. Based on the process and current rules, regulations and methodology for tariff determination, PDP will recommend venues for improving the overall process. PDP will thoroughly review how the rate cases are being conducted and recommend more efficient approaches.

d) Regulatory Partnerships

PDP will work to establish relationships between NEPRA and international regulatory bodies (preferably countries in the region or with similar environments) and facilitate trainings, workshops and information exchange through fielding international experts in Pakistan. PDP will identify separate regulatory training programs for commissioners/members and for professional staff and facilitate such trainings/workshops. PDP plans to send NEPRA experts to other regulators via exchange programs so that the experts can have hands-on experience of working with other regulators, and gather experience on how regulators function in open electricity markets. PDP has completed two exchange programs in USA and will be planning for a regional training on regulatory affairs.

e) Regulatory Changes

The market practices have changed significantly locally, regionally and internationally, which need to be understood and adopted by the regulator as being prudent and beneficial for the competition process itself. Propose changes in regulatory laws or find solutions through which international best practices can be introduced. This will involve assessment and review of existing market practices that have been adopted by various regulatory authorities and have proved beneficial for the overall environment. The concept will be to find solutions that will move the market to the next stage without bringing any significant change to the regulatory laws. Consultant will be engaged for the purpose.

4.4.6 Technical Assistance for the Transition of Selected Distribution Companies from Public Management to Private Management

a) Legal and Regulatory Due Diligence

In C-3, PDP will assist the GIP through the building of a solid foundation upon which to conduct the sale of a minority share in stock holding in two or more state-owned distribution companies. In preparation for the offering of a minority share in the stock of a state-owned distribution company PDP will conduct a comprehensive review and analysis of the legal and regulatory requirements impacting commercial activities, private investment, electricity, land and other relevant requirements that are expected to be encountered during the proposed partial privatization.

The legal due-diligence team may interact on regular basis with the private-sector entities that are independently conducting their own technical and financial due diligence analyses. The task team will provide periodic reports on the state-of-affairs for this task of the PDP engagement.

The legal due-diligence team will participate in and cooperate with the technical and financial due diligence task team during the preparation of the integrated due diligence package for the joint use by the Privatization commission and the Ministry of Water and Power (MWP).

b) Technical Due Diligence

PDP will identify and contract an expert international private company with proven, relevant experience to conduct the technical due diligence for one or more of the distribution companies that have been selected for partial privatization. Conclusion of this technical due diligence will be presented to key decision makers and shall be an important input for the determination of a baseline for the financial value of the selected distribution companies.

c) Financial Due Diligence

PDP will identify and contract an expert international private company with proven, relevant experience to conduct the financial due diligence for one or more of the distribution companies that have been selected for partial privatization. Conclusions of this financial due diligence will be presented to key decision makers. In particular, this analysis is important for the determination of a reservation price for the stock offering. And lastly it will provide the GOP and the MWP with an independently determined, unbiased picture of the financial state of the state-owned distribution companies that are selected for partial privatization.

4.4.7 Governance at MWP

PDP will support policy and governance assistance aimed to support policy making at the national level and as well as enhanced director training for DISCO boards. Following PDP activities are designed to promote

improved transparency in decision-making and overall improved governance in the power sector as a whole, and of the DISCOs in particular

a) Assist MWP in Amendment of Legal Acts and Laws in the Power Sector

PDP will provide assistance to MWP whenever it is necessary to amend the legal Acts and Laws. The PDP Governance Team will assist MWP when required to amend the Electricity Act in order to improve the performance of the Pakistan power sector and to make power theft a criminal offence. PDP will also assist MWP in providing a road map for market reform that will lead power sector to a cost-beneficial future.

b) DISCO Reform

Support will be provided to DISCO BOD's through MWP for their commercial reforms so as to operate in a comprehensive and rational manner. A policy note on the commercial reforms and proposals for adjustment of the roles of MWP and NEPRA will be produced. The team also would work with the SECP to define public sector code of corporate governance for public sector companies. The team would work with MWP to ensure that NTDC and the DISCOs prepare a five-year Integrated Generation, Transmission and Distribution Plan for approval by NEPRA that will become the basis for a business plan, multi-year tariff (MYT) and performance contracts for the DISCOs.

c) Assistance to MWP on National Safety Code

PDP will assist MWP with the adoption of a safety code for the protection of public, system assets and linemen.

d) Improvement of NEPRA Performance

PDP will provide assistance to NEPRA to improve the recommendations provided by NEPRA staff, the application of administrative law and procedures, the resolution of regulatory issues by NEPRA members and the conduct of different types of regulatory hearings.

4.4.b Key Performance Indicators

To measure effectiveness of PDP initiatives by the Governance team, the data for the following USAID RF indicators will be collected and reported:

1. Financial Performance of Distribution Companies (IR 1.1.3.a)

This indicator measure the revenue generated through implementation of CoS model at all nine DISCOs.

2. Number of key policies and regulations in development stages of analysis, drafting, stakeholder consultation, legislative review, approval or implementation as a result of the United States Government's assistance (IR1.2.1.a)

This indicator will measure the number of policy reforms/regulations/administrative procedures drafted and presented by United States Government (USG) implementers and discussed with local stakeholders in the Ministry of Water and Power (MWP). This indicator covers corporate policies being developed and implemented for MWP, key steps taken to create independent CPPA and key steps taken towards dissolution of PEPCO. For more information on this indicator, please refer to Appendix B.

3. Number of policies following international best practices developed and implemented (IR1.2.2.a)

This indicator measures the number of policies following international best practices developed and implemented through governance related interventions. This indicator covers policies/procedures with reference to 1) Fuel Cost Adjustment, 2) Tariff making and dispersion of the general subsidy, 3) Submission of cost-saved tariff to NEPRA, 4) Newly established CPPA-G, 5) Production of a 5-year integrated generation/transmission and distribution expansion and investment plan, 6) Production of multi-year tariff for three DISCOs, 7) Legal, Technical and Financial due diligence and 8) Amendment of anti-theft law. For more information on this indicator, please refer to Appendix B.

4. Number of board recommendations following international best practices implemented by public sector entities (IR1.2.2.b)

This indicator measures the number of board recommendation following international best practices suggested to NEPRA and DISCOs. PDP initiatives counted under this indicator include: 1) Assistance to NEPRA, 2) Strategic Business Plan, 3) TOU metering,4) Tariff Design Structure, 5) Legal and Regulatory due diligence, 6) Technical due diligence, 7) Financial due diligence and 8) Performance contracts . For more information on this indicator, please refer to Appendix B.

5. Number of best practice-driven systems created, improved, and implemented (IR1.2.3.a)

One of the major objectives in elevating the DISCO's performance is to introduce specific systems using KPIs as performance benchmarks. This indicator measures the number of 'best practice' driven systems created or improved to measure the performance of USG-assisted DISCOs. Best practice-driven systems counted for this indicator under this section include: 1)Cost of Service model at all DISCOs and 2) Financial Model for due diligence for PESCO and MEPCO. For more information on this indicator, please refer to Appendix B.

6. Public and private funds leveraged by the United States Government for energy infrastructure projects (alternative F indicator 4.4.1-32) (IR 1.1.4)

This indicator can be defined as direct investment in PDP projects for technical assistance, contribution to USG-managed fund and in kind support by public sector organizations or other donors (public sector organizations include NEPRA, MWP, DISCOs and other government organizations). The dollar amount leveraged in this case is attributable to USG efforts in that they would not have been leveraged without USG-involvement.

4.6.a Human Resources & Change Management

Performance improvement at the DISCOs is closely tied to the level of professional capacity of DISCO staff and their sense of mission and identification with the jobs they are performing. The results of the human resource assessments undertaken during the operational audit process under C-1 revealed that there are significant human resource issues at all DISCOs from senior management down to the lower operational and functional levels. The following PDP interventions have been planned, for C-2 and C-3 to cater to the human resource issues faced by the distribution companies:

4.6.1 Change Management and Human Resources Development

PDP has implemented a change management intervention to facilitate a change in culture at the DISCOs. Changing the DISCOs legacy culture to a corporate commercial culture that focuses increasingly on providing high quality service and managing the DISCOs with high standards of professional service is directly related to improved DISCO performance. Without changing DISCO's culture and without significant human resource capacity development programs, performance improvements at the DISCOs will either be frustrated or will be short-lived. The human resource management and change management interventions implemented under C-2 will focus on improving functional competencies, managing change, and creating and implementing systems with the aim of long-term organizational sustainability.

Under C-3, the PDP change management strategy includes supporting the Turn-around DISCOs by focusing on governance, leadership and management, training and capacity building, process and system automation, and the creation of a supporting organizational structure. These are necessary concurrent changes that result in fundamentally changing the character of the organization. To facilitate these fundamental changes, PDP will promote a robust change management program for the target DISCOs. PDP will establish a Project Management Unit (PMU) at MEPCO and PESCO that will be a key mechanism for facilitating the changes.

4.6.2 Organizational Restructuring

Organizational Assessment & Restructuring (Org A&R) is a major intervention which mainly focuses on developing a complete and optimized organizational structure with improved reporting lines for better coordination between functional groups and clear responsibilities to avoid duplication of efforts and conflicts of interest.

PDP already took up this intervention at MEPCO under C-2 which will be extended under C-3 for MEPCO and PESCO focusing on changing the traditional DISCO orientation from staff advancement by seniority to merit-based advancement and reward. This includes restructuring and alignment of the current organization structure with the business requirements, the other main deliverables are performance-based evaluation system together with job descriptions, key performance indicators and a consolidated human resource manual.

4.6.3 HR Development/Training and Capacity Building

BOD and CEO training and capacity building are critical components required to facilitate strategic vision for modern electric distribution utilities. Substantial focus will be given to training and capacity building interventions throughout C-2 and C-3.

The capacity-building programs initiated under C-2 will continue under C-3 for full-scale implementation at MEPCO and PESCO. This intervention will provide training to BOD and Executives in HR development, management development and change management component, functional areas, and lineman safety, while also upgrading the regional training center in video production, communications technology, and curriculum development. An aim is to provide controlled content, uniform training during classroom and field training exercises, and flexibility to adapt curriculum as needed so as to support long-term sustainability of the training programs.

Another important area of emphasis for PDP's human resource intervention is employee safety. The current safety procedures and trainings at the DISCOs are not up to international standards, and the safety reporting system also needs revamping. PDP will incorporate additional measures in safety reporting, in addition to the current practice of quantifying fatalities for staff and the public, to include "lost time" accidents.

Under C-2, the PDP HR and Change Management team has launched a quick impact safety training program for linemen in two of the DISCOs. After completing these initial trainings, PDP replicated the same trainings in the rest of the DISCOs. This training resulted in a decrease in fatal and non-fatal accidents at the DISCOs,

which in turn improved their overall operational productivity. The C-2 intervention in employee safety trainings to DISCO employees will be extended under C-3 in PESCO and MEPCO.

4.6.b Key Performance Indicators

Improvements in HR management will be measured through the following USAID RF indicators:

1. Number of board recommendations following international best practices implemented by public sector entities (IR-1.2.2.b)

This indicator measures the number of board recommendation following international best practices implemented by DISCOs. The board recommendations counted under this indicator include: 1) Regional Training Center upgrade, 2) Census, and 3) Utility Exchange Program

2. Number of best practice-driven systems created, improved, and implemented (IR-2.3.1.a)

One of the major objectives in elevating the DISCO's performance is to introduce specific systems using KPIs as performance benchmarks. This indicator measures the number of 'best practice' driven systems created or improved to measure the performance of USG-assisted DISCOs. Best practice-driven systems counted for this indicator include the following nine KPI driven systems: (1) performance management, (2) benefits and compensation, (3) health and medical, (4) recruitment policy, (5) training and development, (6) disciplinary procedures, (7) separation and exit, (8) Human Resource Information System (Business Value Proposal), and (9) preventative maintenance (PESCO City Division). Performance will be measured by counting the number of KPI-driven systems created or improved at each DISCO.

3. Percent change in the number of lineman injuries and deaths (IR 1.2.3.a)

This indicator measures percent reduction in injuries and deaths through provision of safety trainings to DISCO employees.

4. Public and private funds leveraged by the United States Government for energy infrastructure projects (alternative F indicator 4.4.1-32) (IR 1.1.4)

This indicator can be defined as direct investment in PDP projects for technical assistance, contribution to USG-managed fund and in kind support by public sector organizations or other donors (public sector organizations include NEPRA, MWP, DISCOs and other government organizations). The dollar amount leveraged in this case is attributable to USG efforts in that they would not have been leveraged without USG-involvement.

5. APPENDIX A – M&E PLAN TABLE

MONITORING & EVALUATION PLAN (M&E PLAN) TABLE

Indicator	Disaggregate by	Disaggregate type	Unit of Measure	Actual 2011-2012	Actual 2012-2013	Target 2013-2014	Target 2014-2015
DO 1: Increased Sustainable Energy Supplied to the Economy							
Percent change in unplanned load shedding	N/A	N/A	%	-	-	90%	90%
Gigawatt-hours (GW·h) of energy sold	This indicator is reported through IR 1.1-b: Gigawatt-hours (GW·h) of energy availability, please refer below						
IR 1: Increased Energy Supply							
Number of beneficiaries with improved energy services due to USG assistance (4.4.1-31)	Gender	Male	Person	591,957	181,654	666,210	560,475
		Female		524,943	161,089	590,790	497,025
		Total		**1,116,900**	**342,743**	**1,257,000**	**1,057,500**
Gigawatt-hours (GW·h) of energy availability	Interventions	LT Capacitor	GW-h	16.2	41.8	175.0	178.0
		HT Capacitor		308.3	-	-	-
		Meters		1.8	10	-	-
		Commercial		-	4.8	-	-
		Municipal Pumps		8.6	7.8	30.3	-
		Industrial Motors		-	39.9	18.3	-
		Total		**334.9**	**104.3**	**223.6**	**178.0**
	DISCOs	FESCO		92.5	14.4	5.1	8.6
		GEPCO		16.3	1.6	8.6	8
		HESCO		30.3	10.6	32.1	2.2
		IESCO		20.3	4.1	8	-

		LESCO		2.7	20.2	8	151.2
		MEPCO		94.4	16.7	55.5	-
		PESCO		44.2	14.8	66.4	-
		QESCO		7	14.8	23.9	8
		SEPCO		25.6	0.9	16	-
		KESCO		1.6	6.2	-	-
		Total		**334.9**	**104.3**	**223.6**	**178.0**

IR 1.1.2: Improved Efficiency of Consumption and the Distribution Systems

Indicator	Disaggregate by	Disaggregate type	Unit of Measure	Actual 2011-2012	Actual 2012-2013	Target 2013-2014	Target 2014-2015
MWs of electrical power added or saved as a result of USG support to DISCOs	Interventions	HT Capacitors	MW	66	-	-	-
		LT Capacitors		6	15.6	65.3	66.4
		Municipal Pumps		1.2	0.8	4.3	-
		Industrial Motors		-	5.4	2.6	-
		Meters		0.5	1.1	9.8	-
		Commercial		0.7	-	-	-
		Linemen Training		-	-	1.8	4.1
		Total		**74.4**	**22.9**	**83.8**	**70.5**
	DISCOs	FESCO		20.1	3.3	1.5	-
		GEPCO		3.5	0.1	3.2	3.2
		HESCO		6.6	1.3	16.7	3
		IESCO		3.9	0.7	3	0.8
		LESCO		0.8	4.5	3.8	-
		MEPCO		22.3	4.7	20.3	58.15
		PESCO		10.2	1.8	20.6	2.38
		QESCO		1.5	5.5	8.7	-
		SEPCO		5.5	0.1	6	3
		KESCO		-	0.9	-	-
		Total		**74.4**	**22.9**	**83.8**	**70.5**

	Task	Component-2	MW	74.4	22.4	25.4	-
		C3-Task 1A-i		-	-	-	-
		C3-Task 1A-ii		-	-	-	-
		C3-Task1B		-	-	-	-
		C3-Task 2		-	-	-	-
		C3-Task 3		-	-	-	-
		C3-Task 4		-	0.5	56.6	66.4
		C3-Task 5		-	-	-	-
		C3-Task 6		-	-	1.8	4.1
		Total		**74.4**	**22.9**	**83.8**	**70.5**
Number of Installations	DISCOs	FESCO	No. of LT Capacitors	95	1,064	-	-
		GEPCO		-	-	2,131	2,131
		HESCO		-	-	8,000	2,000
		IESCO		98	344	2,000	550
		LESCO		89	969	-	-
		MEPCO		1,388	1,587	12,500	37,500
		PESCO		-	374	8,626	-
		QESCO		-	3,480	12,520	-
		SEPCO		-	-	4,000	2,000
		Total		**1,670**	**7,818**	**49,777**	**44,181**
		FESCO	No. of Electronic Meters	-	8,409	-	-
		HESCO		-	421	-	-
		LESCO		835	10,555	-	-
		MEPCO		1,800	2,746	16,000	12,000
		PESCO		2,024	11,179	48,000	32,000
		Total		4,659	33,310	64,000	44,000
		LESCO	No. of RF Enabled Meters	-	-	2,400	-
		PESCO		-	-	13,000	29,000
		Total		**-**	**-**	**15,400**	**29,000**

FESCO	No. of AMR Meters	-	-	1,052	-
GEPCO		-	-	833	-
HESCO		-	-	565	-
IESCO		-	-	1,095	-
LESCO		-	-	1,674	-
MEPCO		-	-	1,245	32,000
PESCO		-	-	1,005	13,200
QESCO		-	-	659	-
SEPCO		-	-	552	-
Total		**-**	**-**	**8,680**	**45,200**
IESCO	No. of Pumps	129	6	-	-
KESC		4	40	31	-
Total		**133**	**46**	**31**	**-**
FESCO	No. of Motors	-	137	55	-
HESCO		-	58	8	-
IESCO		-	2	0	-
LESCO		-	283	222	-
MEPCO		-	119	60	-
PESCO		-	5	25	-
SEPCO		-	1	0	-
KESC		-	39	39	-
Total		**-**	**644**	**409**	**-**
FESCO	No. of VSDs	-	12	21	-
HESCO		-	4	2	-
LESCO		-	32	37	-
MEPCO		-	18	1	-
PESCO		-	331	14	-
Total		**-**	**397**	**75**	**-**
MEPCO	Km. of	-	-	150	350

		PESCO	ABC Cable	-	-	150	350
		Total		**-**	**-**	**300**	**700**
IR 1.1.3: Increased Financial Sustainability of Power Supply							
Indicator	**Disaggregate by**	**Disaggregate type**	**Unit of Measure**	**Actual 2011-2012**	**Actual 2012-2013**	**Target 2013-2014**	**Target 2014-2015**
Financial Performance of Distribution Companies	None	None	Million USD	27.7	17	42	115
Financial Performance of Distribution Companies	Interventions	HT Capacitors	Million USD	26.1	1.5	-	-
		LT Capacitors		1.1	4	14.2	14.7
		Meters		0.2	1.2	1.6	13.9
		Commercial		0.3	0.1	0.7	1.2
		Linemen Training		-	-	0.8	1.8
		ERP/CIS		-	-	-	6.3
		Audit Co-Sourcing		-	9.8	7.5	-
		Cost of Service		-	-	2	61
		PESCO Wide		-	-	107.4	
		Total		**27.7**	**16.6**	**134.2**	**98.9**
	DISCOs	FESCO		7.7	1.7	0.5	4
		GEPCO		1.4	0.8	1.2	3.7
		HESCO		2.7	0.7	3.1	7.7
		IESCO		1	1.2	3.4	0.2
		LESCO		0.2	2.5	0.8	2
		MEPCO		8.2	2.3	6.5	37.9
		PESCO		3.8	0.9	112.0	31.8
		QESCO		0.6	5.9	5	6
		SEPCO		2.1	0.6	1.7	5.6
		KESC		0	0	0	0
		Total		**27.7**	**16.6**	**134.2**	**98.9**

	Task	Component-2		27.7	16.6	9.2	-
		C3-Task 1A-i		-	-	108.3	9.6
		C3-Task 1A-ii		-	-	1.4	11.8
		C3-Task1B		-	-	-	-
		C3-Task 2		-	-	2	61
		C3-Task 3		-	-	-	-
		C3-Task 4		-	-	12.5	14.7
		C3-Task 5		-	-	-	-
		C3-Task 6		-	-	0.8	1.8
		Total		**27.7**	**16.6**	**134.2**	**98.9**
Number of days in meter reading cycle of selected areas	DISCO	HHU				2 days per batch for each sub-division	
Number of days for fuel adjustment process			No. of days	N/A	N/A	35	
IR 1.1.4: Increased Non-USG Investment in the Energy Sector							
public and private funds leveraged by the United States Government for energy infrastructure projects (alternative F indicator 4.4.1-32)	**Interventions**	Public	$ million				
		Private	$ million				
IR 1.2.1: Improved Policy Implementation							
Indicator	**Disaggregate by**	**Disaggregate type**	**Unit of Measure**	**Actual 2011-2012**	**Actual 2012-2013**	**Target 2013-2014**	**Target 2014-2015**

Number of key policies and regulations in development stages of analysis, drafting, stakeholder consultation, legislative review, approval, or implementation as a result of USG assistance	Types of policy	Corporate policies	No.	-	14	8	7
		Key steps to create independent CPPA		-	5	2	-
		Key steps towards dissolution of PEPCO		-	4	3	-
		Total		-	23	12	12

IR 1.2.2: More Autonomous Energy Sector Entities

Indicator	Disaggregate by	Disaggregate type	Unit of Measure	Actual 2011-2012	Actual 2012-2013	Target 2013-2014	Target 2014-2015
Number of policies following international best practices developed and implemented	N/A	N/A	Number	-	-	6	5
Number of board recommendations following international best practices implemented by public sector entities	DISCOs	FESCO	Number		8	3	
		GEPCO			6	3	2
		HESCO			6	4	2
		IESCO			10	3	
		LESCO			8	4	
		MEPCO			11	3	3
		PESCO			9	3	3
		QESCO			8	1	1
		SEPCO			7	2	1
		TESCO					

		Total			73	26	12
IR 1.2.3: Improved Capacity of USAID-Supported Energy Public-Sector Entities							
Indicator	**Disaggregate by**	**Disaggregate type**	**Unit of Measure**	**Actual 2011-2012**	**Actual 2012-2013**	**Target 2013-2014**	**Target 2014-2015**
Number of best practice-driven systems created, improved, and implemented	Type of Systems	ERP manual	Number	-	9		
		ERP Implementation				4	4
		HR		-	8	2	2
		CIS		-	5		5
		COS		-	1	4	4
		Financial Model for due diligence		-		1	1
		Total		-	23	11	16
	DISCOs	FESCO		-	1	1	
		GEPCO		-	1		1
		HESCO		-	1		1
		IESCO		-	2		
		LESCO		-	1	1	
		MEPCO		-	14	8	2
		PESCO		-	1	1	10
		QESCO		-	1		1
		SEPCO		-	1		1
		Total		-	23	11	16
Percent change in the number of lineman injuries and deaths	Fatal/Nonfatal	Fatal	%	70%	70%	50%	50%
		Nonfatal		66%	66%	50%	50%

6. APPENDIX-B: PERFORMANCE INDICATOR REFERENCE SHEETS

PERFORMANCE INDICATOR REFERENCE SHEET (PIRS)
Indicator- # *and Title* **1(a):** Percent change in unplanned load-shedding
Development Objective - # *and Title* **(DO1):** Increased Sustainable Energy Supplied to the Economy
Intermediate Result - # *and Title* **(IR):** N/A
Sub-Intermediate Result - # *and Title* **(Sub-IR):** N/A
Relationship between the Sub-IR and IR or IR and DO: *Enter the explanation of the linkage between the lowest level of result represented by the indicator, and the next level of result up; address the "so what?" question to move from outputs to outcomes, or outcomes to impact; explain in terms of the development hypotheses, do not simply restate the structure of the Results Framework.* It is a DO indicator
INDICATOR DESCRIPTION
Precise Definition(s): *Enter the precise definition of the indicator so it can be operationalized; define all terms, elements, implied actions and calculations; [for example, "farmers using better production techniques" – define "better production" and "techniques". Describe how this will be determined – e.g. Index, scale, standards]. For indicators that are percent or proportions explain how it will be calculated and what will serve as the numerator and denominator. If the indicator is cumulative, made up of stages or phases, or is a yes-no, please specify this and explain the stages/phases or how it is cumulative. If it is a Standard Program Structure ("F") Indicator, use and if necessary, refine the standard definition* This KPI will measure reduction in unscheduled load shedding by comparing magnitude of unscheduled load shedding incidence before and after the Load Data Improvement (LDI) project implementation. The unplanned load shedding is a function of DISCOs inability to implement the allocated quotas by NPCC, before the LDI system was installed there was no real time information of what has been drawn and allocated to the DISCOs was available, that resulted into frequent over-draw than allocations, resulting into unplanned outages. LDI provides real time information on power flows to DISCOs , NPCC and other entities in power sector, ensures transparency, enabling operators to make more informed and timely decisions that will result in reduced unplanned load shedding. Reduction percentage is calculated by using following formula: % reduction in unplanned load shedding = (Magnitude of unplanned load shedding in corresponding quarter before LDI – Magnitude of unplanned load shedding in the quarter under report) / Magnitude of unplanned load shedding in the corresponding quarter before LDI

Unit of Measure:	**Type of Indicator:**	**Category:**		**Desired Direction:**
Enter unit of measure (e.g. "number of___", "percent of ___" etc.)	*Enter "output", "outcome" or "impact".*	*Enter "Standard F" or "Custom"*	*If "Standard F indicator", enter the number*	*Enter "increasing", "decreasing" or 'static" to indicate the direction of success result.*
% reduction in the magnitude of forced load noted at NPCC	Outcome	Custom	N/A	Decreasing

Aggregation Process: *If indicator will be collected by more than one source, explain how the data will aggregate across*

these multiple sources (e.g. in the case of # of jobs, demonstrate how data definitions for what is counted as a "job" is consistently interpreted across sources and specify that he data reported by each partner will be added together for a combined total; or in the case of a stage of phase indicator, state how data from different partners will combine into one final data). Also specify the timeline for aggregation (e.g. all sources will be added together each quarter).

N/A

Disaggregates: *Enter all disaggregation titles/ categories and values (e.g. title: Household Head Type; values: Female no Male Adult households, Male no Female Adults households, Male and Female Adult households, Child no Adult households.)*

N/A

DATA COLLECTION, STORAGE, and ANALYSIS

Name of IP/ Responsible Party for Data Collection:	**Frequency of data collection:** *Enter how often the data will be collected (Weekly, Monthly, etc.)*
IRG/PDP	Monthly

Data Source: *Enter where IP obtains data (e.g. self-collected, GOP records or private sector).*	**Data Entry Frequency into PakInfo:** *Enter the anticipated frequency of regular data entry into PakInfo (e.g. Quarterly, Annually, etc)*	**Responsible Party for Data Entry into PakInfo:** *Enter who will be responsible for inputting and submitting data via PakInfo.*
NPCC and LDI database	Quarterly	PDP's M&E team

Data collection method: *Enter the tools and methods to be used for data collection and indicate for each method who (IP, USAID or third party) will collect the data. (e.g. telephone survey of household sample, reading assessment administered by third-party, sign-in sheets of training participants by IP)*

The baseline data will be collected from NTDC/NPCC and DISCOs reports prior to LDI project implementation.

The % change in total magnitude of unplanned load shedding will be calculated as the LDI project moves forward and data is made valid over time. *(magnitude (MW) of unplanned load shedding)*

Data Analysis Plan: : *Enter how the data will be analyzed, including description of methodology (e.g. descriptive, comparative, qualitative or quantitative) as well as who will participate in the data analysis process (e.g. activity manager, chief of party, other stakeholders, GOP representatives, etc.)*

The data is analyzed using the quantitative and comparative analysis methods. Relevant team leads do monthly analysis of data by measuring progress against the target and take corrective measure where required.

DATA QUALITY

Data Quality Assessment (DQA)*: Enter the date the DQA was conducted and the person who conducted the DQA*

DQA has not been conducted for this indicator.

Date: *(MM/YY)*	**DQA completed by:**
N/A	N/A

Key Data Quality Limitations (if any) and Actions Planned to Address Those Limitations: *Enter data limitations identified in the data quality assessment process related to the five quality standards, namely validity, integrity, precision, reliability and timeliness; discuss the significance of data weakness that may affect the conclusions about the extent to which performance goals have achieved; describe corrective actions planned or taken for addressing data weakness.*

Limitations could be measurements of error (human error) and a reliance on statistics provided by NTDC/NPCC and DISCOs reports. This is being overcome by robust data management system / audits by PDP.

BASELINE

Baseline Year:	**Baseline Data:**	**Reason for Postponement/Other Comments:**

2012-13	0% reduction	N/A
2013-14	Up to 75%	

TARGET		
Initial Target: 75% reduction	**Date for Achievement of Initial Target:** LOP	**Date Initial Target was Set:** Mid 2013
Revised Target:	**Date for Achievement of Revised Target:**	**Date Revised Target was Set:**
2nd Revision to Target:	**Date for Achievement of Revised Target:**	**Date Revised Target was Set:**

OTHER NOTES / NEXT STEPS
If the indicator is pending, explain why and expected date when collection will begin. As appropriate, indicate any other important information about the indicator and/or its data collection as well as actions needing to be taken.

CHANGES & UPDATES			
Date *(MM/YY)*	**Name** *Enter who made updates*	**Change or Update Made:**	**Reason for Change or Update:**

PERFORMANCE INDICATOR REFERENCE SHEET (PIRS)
Indicator - # *and Title* **1.1(a):** Number of beneficiaries with improved energy services due to United States Government assistance (4.4.1-31)
Development Objective- # *and Title* **(DO 1):** Increased Sustainable Energy Supplied to the Economy
Intermediate Result- # *and Title* **(IR 1.1):** Increased Energy Supply
Sub-Intermediate Result - # *and Title* **(Sub-IR: 1.1.2):** N/A
Relationship between the Sub-IR and IR or IR and DO: *Enter the explanation of the linkage between the lowest level of result represented by the indicator, and the next level of result up; address the "so what?" question to move from outputs to outcomes, or outcomes to impact; explain in terms of the development hypotheses, do not simply restate the structure of the Results Framework.* Power Distribution Program (PDP): Increased number of beneficiaries of USG assistance indicates the increased availability of energy for more rapid and sustained economic growth
INDICATOR DESCRIPTION
Precise Definition(s): *Enter the precise definition of the indicator so it can be operationalized; define all terms, elements, implied actions and calculations; [for example, "farmers using better production techniques" – define "better production" and "techniques". Describe how this will be determined – e.g. Index, scale, standards]. For indicators that are percent or proportions explain how it will be calculated and what will serve as the numerator and denominator. If the indicator is cumulative, made up of stages or phases, or is a yes-no, please specify this and explain the stages/phases or how it is cumulative. If it is a Standard Program Structure ("F") Indicator, use and if necessary, refine the standard definition.* PDP: This indicator measures the number of individuals who benefit from improved energy services due to USG assistance. This is calculated by using a multiplying factor of 15,000 beneficiaries per MW saved or added in the system. PDP's methodology that 15,000 individuals will get benefit if 1 MW of power is saved through USG assisted interventions is calculated by using data from the following reliable sources: 1. DISCOs Performance Statistics Report published by PEPCO. 2. Pakistan Bureau of Statistics Report for average number of persons per house hold. 3. Pakistan Census statistics conducted by Population Census Organization, Government of Pakistan.

Unit of Measure:	**Type of Indicator:**	**Category:**		**Desired Direction:**
Enter unit of measure (e.g. "number of____", "percent of ____" etc.)	*Enter "output", "outcome" or "impact".*	*Enter "Standard F" or "Custom"*	*If "Standard F indicator", enter the number*	*Enter "increasing", "decreasing" or 'static" to indicate the direction of success result.*
PDP: # of individuals	PDP: Outcome	PDP: Standard	PDP: Standard F indicator No. : 4.4.1-31	PDP: Increasing

Aggregation Process: *If indicator will be collected by more than one source, explain how the data will aggregate across these multiple sources (e.g. in the case of # of jobs, demonstrate how data definitions for what is counted as a "job" is consistently interpreted across sources and specify that he data reported by each partner will be added together for a combined total; or in the case of a stage of phase indicator, state how data from different partners will combine into one final data). Also specify the timeline for aggregation (e.g. all sources will be added together each quarter).* PDP: Data for this indicator will be collected by two different programs; PDP and EPP. PDP interventions will

result in MWs saved, whereas EPP interventions will result in MWs added. MWs saved and added through all the relevant interventions will aggregate across both the programs and the total figure will be counted under this indicator. Common collection instruments will be established across all data collection/reporting entities.

Disaggregates: *Enter all disaggregation titles/ categories and values (e.g. title: Household Head Type; values: Female no Male Adult households, Male no Female Adults households, Male and Female Adult households, Child no Adult households.)*

PDP:
Sex (Male/Female)
According to the official statistics of Department of Census Pakistan, male-to-female proportion of the population of Pakistan is 53:47. Therefore same proportion is used to calculate the gender disaggregates.

DATA COLLECTION, STORAGE, and ANALYSIS

Name of IP/ Responsible Party for Data Collection:	**Frequency of data collection:** *Enter how often the data will be collected (Weekly, Monthly, etc.)*
IRG/PDP	PDP: Monthly

Data Source: *Enter where IP obtains data (e.g. self-collected, GOP records or private sector).*	**Data Entry Frequency into PakInfo:** *Enter the anticipated frequency of regular data entry into PakInfo (e.g. Quarterly, Annually, etc)*	**Responsible Party for Data Entry into PakInfo:** *Enter who will be responsible for inputting and submitting data via PakInfo.*
PDP: PDP's project teams / subcontractors / DISCOs	PDP: Quarterly	PDP: PDP's M&E Team

Data collection method: *Enter the tools and methods to be used for data collection and indicate for each method who (IP, USAID or third party) will collect the data. (e.g. telephone survey of household sample, reading assessment administered by third-party, sign-in sheets of training participants by IP)*

PDP:
The number of beneficiaries is calculated by multiplying each megawatt saved by PDP interventions by a factor of 15,000; based on PDP's estimates that each megawatt saved contributes to providing electricity to 15,000 people. This methodology is devised by the PDP's technical experts in collaboration with EPP by using data from the following reliable sources:

1. DISCOs Performance Statistics Report published by PEPCO.
2. Pakistan Bureau of Statistics Report for average number of persons per house hold.
3. Pakistan Census statistics conducted by Population Census Organization, Government of Pakistan

Data Analysis Plan: *Enter how the data will be analyzed, including description of methodology (e.g. descriptive, comparative, qualitative or quantitative) as well as who will participate in the data analysis process (e.g. activity manager, chief of party, other stakeholders, GOP representatives, etc.)*

PDP:
Since this indicator is directly linked with the indicator for MWs saving, the data is analyzed using the same quantitative and comparative analysis methods. Relevant team leads do quarterly analysis of data by measuring progress against the target and take corrective measure where required. The data analysis is shared with management on monthly basis and any issues or deviations are discussed for further action.

DATA QUALITY

Data Quality Assessment (DQA): *Enter the date the DQA was conducted and the person who conducted the DQA*

PDP:
The DQA for this indicator was conducted by MSI in December 2012.

Date:	**DQA completed by:**

PDP: 12/2012	PDP: MSI

Key Data Quality Limitations (if any) and Actions Planned to Address Those Limitations: *Enter data limitations identified in the data quality assessment process related to the five quality standards, namely validity, integrity, precision, reliability and timeliness; discuss the significance of data weakness that may affect the conclusions about the extent to which performance goals have achieved; describe corrective actions planned or taken for addressing data weakness.*

PDP:

The main limitation of this indicator is the assumption that each megawatt saved contributes to providing electricity to a certain number of people which is difficult to estimate. For this purpose PDP has devised a comprehensive methodology that calculates based on certain facts and figures that around 15,000 persons get benefited from saving one MW of power.

BASELINE

Baseline Year: *(YYYY)*	**Baseline Data:**	**Reason for Postponement/Other Comments:** *If no baseline was established, enter the explanation and rationale for not establishing a baseline. Also indicate any other issues related to the baseline collection or data (such as rolling baselines or baselines from different sources rolling into one.*
PDP: FY 2010-11	PDP: 0	N/A

TARGET

Initial Target:	**Date for Achievement of Initial Target:**	**Date Initial Target was Set:**
PDP: 1,903,500	LOP	PDP: 9/2011
Revised Target:	**Date for Achievement of Revised Target:**	**Date Revised Target was Set:**
PDP: 3,774,143	LOP	PDP: 4/2014
2nd Revision to Target:	**Date for Achievement of Revised Target:**	**Date Revised Target was Set:**

OTHER NOTES / NEXT STEPS

If the indicator is pending, explain why and expected date when collection will begin. As appropriate, indicate any other important information about the indicator and/ or its data collection as well as actions needing to be taken.

The initial target was revised to include Component-3; the work plan of which was approved in April 2014.

CHANGES & UPDATES

Date *(MM/YY)*	**Name** *Enter who made updates*	**Change or Update Made:**	**Reason for Change or Update:**
12/13	Harritt/Bukhari	Incomplete PIRS	Finalizing PIRS
04/2014	Maryia Naseem Khan	Target revised	Work plan update

PERFORMANCE INDICATOR REFERENCE SHEET (PIRS)

Indicator - # *and Title* **: 1.1(b)** Gigawatt-hours (GW·h) of energy availability

Development Objective- # *and Title* **: (DO 1)** Increased Sustainable Energy Supplied to the Economy

Intermediate Result- # *and Title* **: (IR 1.1)** Increased Energy Supply

Sub-Intermediate Result (Sub-IR)- # *and Title* **:** N/A

Relationship between the Sub-IR and IR or IR and DO: *Enter the explanation of the linkage between the lowest level of result represented by the indicator, and the next level of result up; address the "so what?" question to move from outputs to outcomes, or outcomes to impact; explain in terms of the development hypotheses, do not simply restate the structure of the Results Framework.*

United States Government (USG) assisted interventions are designed to improve the efficiency of the distribution system, which will result in energy savings. In the current energy shortage regime in the country, energy saved is equivalent to more energy supplied to the economy.

INDICATOR DESCRIPTION

Precise Definition(s): *Enter the precise definition of the indicator so it can be operationalized; define all terms, elements, implied actions and calculations; [for example, "farmers using better production techniques" – define "better production" and "techniques". Describe how this will be determined – e.g. Index, scale, standards]. For indicators that are percent or proportions explain how it will be calculated and what will serve as the numerator and denominator. If the indicator is cumulative, made up of stages or phases, or is a yes-no, please specify this and explain the stages/phases or how it is cumulative. If it is a Standard Program Structure ("F") Indicator, use and if necessary, refine the standard definition*

This indicator refers to Gigawatt hours of energy made available in the system as a result of increased energy saved through USG assistance. Gigawatt hours (GW-h) is a unit for measuring energy representing one million kilowatt hours, while a kilowatt-hour is equivalent to a steady power of one kilowatt running for one hour.

The total GWh is calculated by summing up the GWh from the individual interventions described in data collection method using following formula:

$GWh = GWh_{LT\ Capacitors} + GWh_{HT\ Capacitors} + GWh_{Pumps} + GWh_{Motors} + GWh_{Metering} + GWh_{Improved\ Meter\ Reading}$

Unit of Measure:	Type of Indicator:	Category:		Desired Direction:
Enter unit of measure (e.g. "number of___", "percent of ___" etc.)	*Enter "output", "outcome" or "impact".*	*Enter "Standard F" or "Custom"*	*If "Standard F indicator", enter the number*	*Enter "increasing", "decreasing" or 'static" to indicate the direction of success result.*
Number of Gigawatt-hours	Outcome	Custom	N/A	Increasing

Aggregation Process: *If indicator will be collected by more than one source, explain how the data will aggregate across*

these multiple sources (e.g. in the case of # of jobs, demonstrate how data definitions for what is counted as a "job" is consistently interpreted across sources and specify that he data reported by each partner will be added together for a combined total; or in the case of a stage of phase indicator, state how data from different partners will combine into one final data). Also specify the timeline for aggregation (e.g. all sources will be added together each quarter).

Data for this indicator is collected by two different sources; PDP and EPP. Total number of gigawatt hours made available will aggregate across both the programs and the total figure will be counted under this indicator. Common collection instruments will be established across all data collection/reporting entities.

Disaggregates: *Enter all disaggregation titles/ categories and values (e.g. title: Household Head Type; values: Female no Male Adult households, Male no Female Adults households, Male and Female Adult households, Child no Adult households.)*

Distribution Companies	Types of Interventions
• Faisalabad Electric Supply Company • Gujranwala Electric Power Company • Hyderabad Electric Supply Company • Islamabad Electric Supply Company • Lahore Electric Supply Company • Multan Electric Power Company • Peshawar Electric Supply Company • Quetta Electric Supply Company • Sukkur Electric Power Company	• LT Capacitor • HT Capacitor • Municipal Pumps • Industrial Motors • Metering • Improved Meter Reading

DATA COLLECTION, STORAGE, and ANALYSIS

Name of IP/ Responsible Party for Data Collection:	**Frequency of data collection:** *Enter how often the data will be collected (Weekly, Monthly, etc.)*
IRG/PDP	Monthly

Data Source: *Enter where IP obtains data (e.g. self-collected, GOP records or private sector).*	**Data Entry Frequency into PakInfo:** *Enter the anticipated frequency of regular data entry into PakInfo (e.g. Quarterly, Annually, etc)*	**Responsible Party for Data Entry into PakInfo:** *Enter who will be responsible for inputting and submitting data via PakInfo.*
PDP's project teams / subcontractors / DISCOs	Quarterly	PDP's M&E team

Data collection method: *Enter the tools and methods to be used for data collection and indicate for each method who (IP, USAID or third party) will collect the data. (e.g. telephone survey of household sample, reading assessment administered by third-party, sign-in sheets of training participants by IP)*

The PDP interventions contributing to this indicator include the following:

Technical: Installation of high tension (HT) and low tension (LT) capacitors, efficient pumps and motors, and feeder optimization through modern electronic meter replacements.

Commercial: Improved Meter Reading (IMR) through improved commercial procedures specially the meter reading process.

Gigawatt hours of energy availability resulting from USG supported interventions is calculated by multiplying the value for megawatts saved calculated for the megawatts indicator IR 1.1.3 by the number of hours of operation reflecting the impact created by these interventions. The Technical team makes assumptions based on previous due diligence research and/or field experience about the hours of operation (or load factor) and down times (maintenance) for various types of equipment (e.g., LT

capacitor, municipal pump) and about the frequency and duration of load shedding (load availability) and then applies these assumption to all equipment installed or repaired as a result of project interventions. For the Commercial team, the data is received directly from the DISCO's MIS reports in terms of kilowatt hours of energy and then converted into GWh. The total GWh is calculated by summing up the GWh from the individual interventions using following formula:

$GWh = GWh_{LT\ Capacitors} + GWh_{HT\ Capacitors} + GWh_{Pumps} + GWh_{Motors} + GWh\ M_{etering} + GWh_{Improved\ Meter\ Reading}$

Data Analysis Plan: *Enter how the data will be analyzed, including description of methodology (e.g. descriptive, comparative, qualitative or quantitative) as well as who will participate in the data analysis process (e.g. activity manager, chief of party, other stakeholders, GOP representatives, etc.)*

The data is analyzed using the quantitative and comparative analysis methods. Relevant team leads do monthly analysis of data by measuring progress against the target and take corrective measure where required.

DATA QUALITY

Data Quality Assessment (DQA): *Enter the date the DQA was conducted and the person who conducted the DQA*

DQA has not been conducted for this indicator.

Date: *(MM/YY)*	**DQA completed by:**
N/A	N/A

Key Data Quality Limitations (if any) and Actions Planned to Address Those Limitations: *Enter data limitations identified in the data quality assessment process related to the five quality standards, namely validity, integrity, precision, reliability and timeliness; discuss the significance of data weakness that may affect the conclusions about the extent to which performance goals have achieved; describe corrective actions planned or taken for addressing data weakness.*

Limitations could be measurement error (human error), a reliance on statistics provided in DISCO publications, and on the validity of assumptions used to convert megawatts into Gigawatt hours. These can be overcome by field verification of data by the M&E team.

BASELINE

Baseline Year: *(YYYY)*	**Baseline Data:**	**Reason for Postponement/Other Comments:** *If no baseline was established, enter the explanation and rationale for not establishing a baseline. Also indicate any other issues related to the baseline collection or data (such as rolling baselines or baselines from different sources rolling into one.*
2010	0 (For the purpose of reporting improvements, a baseline of "zero" is considered. Also the support of USAID to the Distribution Companies started in 2010.)	N/A

TARGET

Initial Target:	**Date for Achievement of Initial Target:**	**Date Initial Target was Set:**

544 GWh	LOP	9/2011
Revised Target:	**Date for Achievement of Revised Target:** *(MM/YY)*	**Date Revised Target was Set:** *(MM/YY)*
838 GWh	LOP	4/2014
2nd Revision to Target:	**Date for Achievement of Revised Target:** *(MM/YY)*	**Date Revised Target was Set:** *(MM/YY)*

OTHER NOTES / NEXT STEPS

If the indicator is pending, explain why and expected date when collection will begin. As appropriate, indicate any other important information about the indicator and/or its data collection as well as actions needing to be taken.

The initial target was revised to include Component-3; the work plan of which was approved in April 2014.

CHANGES & UPDATES

Date *(MM/YY)*	**Name** *Enter who made updates*	**Change or Update Made:**	**Reason for Change or Update:**
04/2014	Maryia Naseem Khan	Revised target	Work plan update

PERFORMANCE INDICATOR REFERENCE SHEET (PIRS)

Indicator- *# and Title*: **IR 1.1.2(a):** Megawatts (MW) of electrical power saved as a result of United States Government support to distribution companies

Development Objective - *# and Title*: **(DO1):** Increased Sustainable Energy Supplied to the Economy

Intermediate Result - *# and Title*: **(IR 1.1):** Increased Energy Supply

Sub-Intermediate Result - *# and Title*: **(Sub-IR 1.1.2):** Improved Efficiency of Consumption and the Distribution Systems

Relationship between the Sub-IR and IR or IR and DO: *Enter the explanation of the linkage between the lowest level of result represented by the indicator, and the next level of result up; address the "so what?" question to move from outputs to outcomes, or outcomes to impact; explain in terms of the development hypotheses, do not simply restate the structure of the Results Framework.*

Increased power (megawatts) made available through PDP interventions, will improve the efficiency of distribution systems by enabling distribution companies to meet power demands on timely basis. MW saved through PDP interventions and the resulting reduction in energy loss will also improve the efficiency of consumption. This in turn will result in increased energy supplied to economy.

INDICATOR DESCRIPTION

Precise Definition(s): *Enter the precise definition of the indicator so it can be operationalized; define all terms, elements, implied actions and calculations; [for example, "farmers using better production techniques" – define "better production" and "techniques". Describe how this will be determined – e.g. Index, scale, standards]. For indicators that are percent or proportions explain how it will be calculated and what will serve as the numerator and denominator. If the indicator is cumulative, made up of stages or phases, or is a yes-no, please specify this and explain the stages/phases or how it is cumulative. If it is a Standard Program Structure ("F") Indicator, use and if necessary, refine the standard definition.*

A megawatt (MW) is a unit for measuring power that is equivalent to one million watts. MWs saved refer to power saved in the existing system that would have been lost otherwise and is determined through USG interventions to distribution facilities.

Total MW saved is calculated by summing up the MW saving from the individual interventions as described in data collection method using following formula:

$MW = MW_{\text{LT Capacitors}} + MW_{\text{HT Capacitors}} + MW_{\text{Pumps}} + MW_{\text{Motors}} + MW_{\text{Metering}} + MW_{\text{Advanced Meter Reading}}$

Unit of Measure:	Type of Indicator:	Category:		Desired Direction:
Enter unit of measure (e.g. "number of____", "percent of ____" etc.)	*Enter "output", "outcome" or "impact*	*Enter "Standard F" or "Custom"*	*If "Standard F indicator", enter the number*	*Enter "increasing", "decreasing" or 'static" to indicate the direction of success result.*
Number of megawatts(MW)	Output	Custom	Standard F	Increasing

			indicator: N/A	

Aggregation Process: *If indicator will be collected by more than one source, explain how the data will aggregate across these multiple sources (e.g. in the case of # of jobs, demonstrate how data definitions for what is counted as a "job" is consistently interpreted across sources and specify that he data reported by each partner will be added together for a combined total; or in the case of a stage of phase indicator, state how data from different partners will combine into one final data). Also specify the timeline for aggregation (e.g. all sources will be added together each quarter).*

Data for this indicator will be collected by two different sources; PDP and EPP. PDP interventions will result in MWs saved, whereas EPP interventions will result in MWs added. MWs saved and added through all the relevant interventions will aggregate across both the programs and the total figure will be counted under this indicator. Common collection instruments will be established across all data collection/reporting entities.

Disaggregates: *Enter all disaggregation titles/ categories and values (e.g. title: Household Head Type; values: Female no Male Adult households, Male no Female Adults households, Male and Female Adult households, Child no Adult households.)*

Distribution Companies

- Faisalabad Electric Supply Company
- Gujranwala Electric Power Company
- Hyderabad Electric Supply Company
- Islamabad Electric Supply Company
- Lahore Electric Supply Company
- Multan Electric Power Company
- Peshawar Electric Supply Company
- Quetta Electric Supply Company
- Sukkur Electric Power Company
- Karachi Electric Supply Company

Types of Interventions

- LT Capacitor
- HT Capacitor
- Municipal Pumps
- Industrial Motors
- Metering
- Advanced Meter Reading

DATA COLLECTION, STORAGE, and ANALYSIS

Name of IP/ Responsible Party for Data Collection:	**Frequency of data collection:** *Enter how often the data will be collected (Weekly, Monthly, etc.)*
IRG/PDP	Monthly

Data Source: *Enter where IP obtains data (e.g. self-collected, GOP records or private sector).*	**Data Entry Frequency into PakInfo:** *Enter the anticipated frequency of regular data entry into PakInfo (e.g. Quarterly, Annually, etc)*	**Responsible Party for Data Entry into PakInfo:** *Enter who will be responsible for inputting and submitting data via PakInfo.*
PDP's project teams / subcontractors / DISCOs	Quarterly	PDP's M&E Team

Data collection method: *Enter the tools and methods to be used for data collection and indicate for each method who (IP, USAID or third party) will collect the data. (e.g. telephone survey of household sample, reading assessment administered by third-party, sign-in sheets of training participants by IP)*

To estimate the impact in terms of MWs generated/saved, following data collection methods are being used for each relevant PDP intervention:

High tension capacitors: The data on high tension capacitors before the USG assistance is collected from DISCOs which is then compared with data collected after the USG assistance and the resulting impact of additional capacitors installed is measured in megawatts.

Low tension capacitors: The pre and post installation data is collected by physical measurement of each low tension capacitor installed and the resulting impact of the capacitors is calculated in megawatts.

Advanced metering systems and electronic metering: The baseline data was collected at the start of the project and then on a monthly basis data is obtained from DISCOs indicating units received, units billed and revenue. Billing system reports generated for the concerned feeders and subdivision regarding line losses by the existing billing computer facility of DISCOs, is consulted.

Pumps and motors: The relevant head, flow and input power data measured during the pre and post-replacement audits are used to calculate the efficiencies of existing and new pump set respectively, which are then used to determine power savings in megawatts.

Data Analysis Plan: *Enter how the data will be analyzed, including description of methodology (e.g. descriptive, comparative, qualitative or quantitative) as well as who will participate in the data analysis process (e.g. activity manager, chief of party, other stakeholders, GOP representatives, etc.)*

The data is analyzed using the quantitative and comparative analysis methods. Relevant team leads do quarterly analysis of data by measuring progress against the target and take corrective measure where required. The data analysis is shared with management on monthly basis and any issues or deviations are discussed for further action.

DATA QUALITY

Data Quality Assessment (DQA): *Enter the date the DQA was conducted and the person who conducted the DQA*

The DQA was conducted by MSI in December 2012.

Date:	**DQA completed by:**
12/2012	MSI

Key Data Quality Limitations (if any) and Actions Planned to Address Those Limitations: *Enter data limitations identified in the data quality assessment process related to the five quality standards, namely validity, integrity, precision, reliability and timeliness; discuss the significance of data weakness that may affect the conclusions about the extent to which performance goals have achieved; describe corrective actions planned or taken for addressing data weakness.*

Limitations could be measurements of error (human error) and a reliance on statistics provided in DISCO/PEPCO publications. This is being overcome by robust data management system / audits utilized by PDP.

BASELINE

Baseline Year: *(YYYY)*	**Baseline Data:**	**Reason for Postponement/Other Comments:** *If no baseline was established, enter the explanation and rationale for not establishing a baseline. Also indicate any other issues related to the baseline collection or data (such as rolling baselines or baselines from different sources rolling into one.*
2010	0 (Although the dependable capacity at the time of FARA signing in 2010) was 2125 Megawatts, but for the purposes of reporting improvements we are considering a baseline of "zero". Also the support of	N/A

	USAID on rehab/construction of power plants started in 2010.	

TARGET		
Initial Target:	**Date for Achievement of Initial Target:**	**Date Initial Target was Set:**
126.9 MW for Component 2	LOP	9/2011
Revised Target:	**Date for Achievement of Revised Target:**	**Date Revised Target was Set:**
252 MW	LOP	4/2014
2nd Revision to Target:	**Date for Achievement of Revised Target:**	**Date Revised Target was Set:**

OTHER NOTES / NEXT STEPS

If the indicator is pending, explain why and expected date when collection will begin. As appropriate, indicate any other important information about the indicator and/or its data collection as well as actions needing to be taken.

The initial target was revised to include Component-3; the work plan of which was approved in April 2014.

CHANGES & UPDATES

Date *(MM/YY)*	**Name** *Enter who made updates*	**Change or Update Made:**	**Reason for Change or Update:**
12/13	Harritt/Bukhari	Incomplete PIRS	Finalize PIRS
01/2014	Maryia Naseem Khan	Finalized PIRS	Based on Margaret's comments
04/2014	Maryia Naseem Khan	Revised target	Work plan update

PERFORMANCE INDICATOR REFERENCE SHEET (PIRS)

Indicator- # *and Title* **1.1.2(b):** Number of installations and operations and maintenance improvements

Development Objective - # *and Title* **(DO 1):** Increased Sustainable Energy Supplied to the Economy

Intermediate Result - # *and Title* **(IR 1.1):** Increased Energy Supply

Sub-Intermediate Result - # *and Title* **(Sub-IR 1.1.2):** Improved Efficiency of Consumption and the Distribution Systems

Relationship between the Sub-IR and IR or IR and DO: *Enter the explanation of the linkage between the lowest level of result represented by the indicator, and the next level of result up; address the "so what?" question to move from outputs to outcomes, or outcomes to impact; explain in terms of the development hypotheses, do not simply restate the structure of the Results Framework.*

Increased number of material and equipment installed by United States Government (USG) assisted interventions will result in improved efficiency of distribution systems leading to increased energy supplied to the economy.

INDICATOR DESCRIPTION

Precise Definition(s): *Enter the precise definition of the indicator so it can be operationalized; define all terms, elements, implied actions and calculations; [for example, "farmers using better production techniques" – define "better production" and "techniques". Describe how this will be determined – e.g. Index, scale, standards]. For indicators that are percent or proportions explain how it will be calculated and what will serve as the numerator and denominator. If the indicator is cumulative, made up of stages or phases, or is a yes-no, please specify this and explain the stages/phases or how it is cumulative. If it is a Standard Program Structure ("F") Indicator, use and if necessary, refine the standard definition.*

This indicator measures the number of line materials and equipment that is newly installed or replaced at distribution companies (DISCOs) through project assistance.
The total number of installations is calculated by summing up the number of installations from the each team and intervention as described in data collection method using following formula:
Number of Installations = Number of Installation by Technical Team + Number of Installation by Field Operations Team + Number of Installation by Commercial Team

Unit of Measure:	Type of Indicator:	Category:		Desired Direction:
Enter unit of measure (e.g. "number of___", "percent of ___" etc.)	*Enter "output", "outcome" or "impact".*	*Enter "Standard F" or "Custom"*	*If "Standard F indicator", enter the number*	*Enter "increasing", "decreasing" or 'static" to indicate the direction of success result.*
Number of Installations	Output	Custom	N/A	Increasing

Aggregation Process: *If indicator will be collected by more than one source, explain how the data will aggregate across these multiple sources (e.g. in the case of # of jobs, demonstrate how data definitions for what is counted as a "job" is consistently interpreted across sources and specify that he data reported by each partner will be added together for a combined total; or in the case of a stage of phase indicator, state how data from different partners will combine into one final data). Also specify the timeline for aggregation (e.g. all sources will be added together each quarter).*

Not applicable for this indicator.

Disaggregates: *Enter all disaggregation titles/ categories and values (e.g. title: Household Head Type; values: Female no Male Adult households, Male no Female Adults households, Male and Female Adult households, Child no Adult households.)*

Types of Installation

- LT Capacitors
- HT Capacitors
- Electronic Meters
- AMR Meters
- RF Enables Meters
- Pumps
- Motors
- Outage Reduction Devices (ORDs)
- ABC Cables
- Other Equipment

DATA COLLECTION, STORAGE, and ANALYSIS

Name of IP/ Responsible Party for Data Collection:	**Frequency of data collection:** *Enter how often the data will be collected (Weekly, Monthly, etc.)*
IRG/PDP	Monthly

Data Source: *Enter where IP obtains data (e.g. self-collected, GOP records or private sector).*	**Data Entry Frequency into PakInfo:** *Enter the anticipated frequency of regular data entry into PakInfo (e.g. Quarterly, Annually, etc)*	**Responsible Party for Data Entry into PakInfo:** *Enter who will be responsible for inputting and submitting data via PakInfo.*
(PDP's project teams / subcontractors / DISCOs)	Quarterly	PDP's M&E team

Data collection method: *Enter the tools and methods to be used for data collection and indicate for each method who (IP, USAID or third party) will collect the data. (e.g. telephone survey of household sample, reading assessment administered by third-party, sign-in sheets of training participants by IP)*

This data is collected from the monthly progress reports submitted by PDP and subcontractor installation teams. PDP teams collecting this indicator include Technical, Field Operations and Commercial. The number of Installations by different teams will be summed up to calculate the total number of installations by PDP. The installation s carried out in the field are verified by following internal established processes.

Data Analysis Plan: *Enter how the data will be analyzed, including description of methodology (e.g. descriptive, comparative, qualitative or quantitative) as well as who will participate in the data analysis process (e.g. activity manager, chief of party, other stakeholders, GOP representatives, etc.)*

The data is analyzed using the quantitative analysis methods. Relevant team leads do monthly analysis of data by measuring progress against the target and take corrective measure where required.

DATA QUALITY

Data Quality Assessment (DQA): *Enter the date the DQA was conducted and the person who conducted the DQA*

DQA has not been conducted for this indicator. However PDP teams make random visits to the target areas to ensure and verify the quantity and quality of the material installed at the site.

Date:	**DQA completed by:**
N/A	N/A

Key Data Quality Limitations (if any) and Actions Planned to Address Those Limitations: *Enter data limitations identified in the data quality assessment process related to the five quality standards, namely validity,*

integrity, precision, reliability and timeliness; discuss the significance of data weakness that may affect the conclusions about the extent to which performance goals have achieved; describe corrective actions planned or taken for addressing data weakness.

N/A

BASELINE

Baseline Year: *(YYYY)*	**Baseline Data:**	**Reason for Postponement/Other Comments:** *If no baseline was established, enter the explanation and rationale for not establishing a baseline. Also indicate any other issues related to the baseline collection or data (such as rolling baselines or baselines from different sources rolling into one.*
2010	0 (For the purpose of reporting improvements, a baseline of "zero" is considered. Also the support of USAID to the Distribution Companies started in 2010.)	N/A

TARGET

Initial Target:	**Date for Achievement of Initial Target:**	**Date Initial Target was Set:**
81,734	LOP	9/2011
Revised Target:	**Date for Achievement of Revised Target:**	**Date Revised Target was Set:**
368,885	LOP	4/2014
2nd Revision to Target:	**Date for Achievement of Revised Target:**	**Date Revised Target was Set:**

OTHER NOTES / NEXT STEPS

If the indicator is pending, explain why and expected date when collection will begin. As appropriate, indicate any other important information about the indicator and/or its data collection as well as actions needing to be taken.

The initial target was revised to include Component-3; the work plan of which was approved in April 2014.

CHANGES & UPDATES

Date *(MM/YY)*	**Name** *Enter who made updates*	**Change or Update Made:**	**Reason for Change or Update:**
4/2014	Maryia Naseem Khan	Target revised	Work plan update

PERFORMANCE INDICATOR REFERENCE SHEET (PIRS)
Indicator - # *and Title* **1.1.3(a):** Financial performance of distribution companies
Development Objective - # *and Title* **(DO 1):** Increased Sustainable Energy Supplied to the Economy
Intermediate Result- # *and Title***(IR):** Increased Energy Supply
Sub-Intermediate Result- # *and Title* **(Sub-IR 1.1.3):** Increased Financial Sustainability of Power Supply
Relationship between the Sub-IR and IR or IR and DO: *Enter the explanation of the linkage between the lowest level of result represented by the indicator, and the next level of result up; address the "so what?" question to move from outputs to outcomes, or outcomes to impact; explain in terms of the development hypotheses, do not simply restate the structure of the Results Framework.* United States Government (USG) assisted interventions are designed to improve financial efficiency of distribution companies (DISCOs), which enables them save more revenue through power/energy savings. Increased energy savings will result in increased revenue leading to more energy supplied to economy.
INDICATOR DESCRIPTION
Precise Definition(s):):*Enter the precise definition of the indicator so it can be operationalized; define all terms, elements, implied actions and calculations; [for example, "farmers using better production techniques" – define "better production" and "techniques". Describe how this will be determined – e.g. Index, scale, standards]. For indicators that are percent or proportions explain how it will be calculated and what will serve as the numerator and denominator. If the indicator is cumulative, made up of stages or phases, or is a yes-no, please specify this and explain the stages/phases or how it is cumulative. If it is a Standard Program Structure ("F") Indicator, use and if necessary, refine the standard definition* This indicator measures the increased revenue in million US dollars saved at DISCOs as a result of USG supported interventions. The revenue savings as reported by individual teams is summed up to calculate the total revenue saving using the following formula: Revenue Saved = Revenue Saved (through Technical Interventions) + Revenue Saved (through Commercial Interventions) + Revenue Saved (through Financial Interventions)

Unit of Measure:	Type of Indicator:	Category:		Desired Direction:
Enter unit of measure (e.g. "number of____", "percent of ____" etc.)	*Enter "output", "outcome" or "impact".*	*Enter "Standard F" or "Custom"*	*If "Standard F indicator", enter the number*	*Enter "increasing", "decreasing" or 'static" to indicate the direction of success result.*
Million US dollar	Outcome	Custom	N/A	Increasing

Aggregation Process: : *If indicator will be collected by more than one source, explain how the data will aggregate across these multiple sources (e.g. in the case of # of jobs, demonstrate how data definitions for what is counted as a "job" is consistently interpreted across sources and specify that he data reported by each partner will be added together for a combined total; or in the case of a stage of phase indicator, state how data from different partners will combine into one final data). Also specify the timeline for aggregation (e.g. all sources will be added together each quarter).* N/A
Disaggregates: *Enter all disaggregation titles/ categories and values (e.g. title: Household Head Type; values: Female no Male Adult households, Male no Female Adults households, Male and Female Adult households, Child no Adult*

households.)

PDP Teams/Interventions

DATA COLLECTION, STORAGE, and ANALYSIS

Name of IP/ Responsible Party for Data Collection:	**Frequency of data collection:** *Enter how often the data will be collected (Weekly, Monthly, etc.)*
IRG/PDP	Monthly

Data Source: *Enter where IP obtains data (e.g. self-collected, GOP records or private sector).*	**Data Entry Frequency into PakInfo:** *Enter the anticipated frequency of regular data entry into PakInfo (e.g. Quarterly, Annually, etc)*	**Responsible Party for Data Entry into PakInfo:** *Enter who will be responsible for inputting and submitting data via PakInfo.*
(PDP's project teams / subcontractors / DISCOs)	Quarterly	PDP M&E team

Data collection method: *Enter the tools and methods to be used for data collection and indicate for each method who (IP, USAID or third party) will collect the data. (e.g. telephone survey of household sample, reading assessment administered by third-party, sign-in sheets of training participants by IP)*

The additional revenue generated through technical and commercial interventions is calculated based on the million kilowatt hour (MKWh) savings from relevant interventions. The million kilowatt hours saved from each intervention is converted into revenue by using the following formula: [million kilowatt hour x unit cost ($) per kilowatt hour]. For some other interventions like Internal Audit Co-sourcing work under Finance Team, the revenue improvements are reported directly from the findings of the internal audit co-sourcing work (reduction in financial leakages due to enhanced compliance).

Data Analysis Plan: *Enter how the data will be analyzed, including description of methodology (e.g. descriptive, comparative, qualitative or quantitative) as well as who will participate in the data analysis process (e.g. activity manager, chief of party, other stakeholders, GOP representatives, etc.)*

The data is analyzed using the quantitative and comparative analysis methods. Relevant team leads do quarterly analysis of data by measuring progress against the target and take corrective measures where required. The data analysis is shared with management on monthly basis and any issues or deviations are discussed for further action.

DATA QUALITY

Data Quality Assessment (DQA): *Enter the date the DQA was conducted and the person who conducted the DQA*

DQA is not conducted for this indicator

Date: N/A	**DQA completed by:** N/A

Key Data Quality Limitations (if any) and Actions Planned to Address Those Limitations: *Enter data limitations identified in the data quality assessment process related to the five quality standards, namely validity, integrity, precision, reliability and timeliness; discuss the significance of data weakness that may affect the conclusions about the extent to which performance goals have achieved; describe corrective actions planned or taken for addressing data weakness.*

N/A

BASELINE

Baseline Year: *(YYYY)*	**Baseline Data:**	**Reason for Postponement/Other Comments:** *If no baseline was established, enter the explanation and rationale for not establishing a baseline. Also indicate any other issues related to the baseline collection or data (such as rolling baselines or baselines from different sources rolling into one.*
2010	0 (For the purpose of reporting improvements, a baseline of "zero" is considered. Also the support of USAID to the Distribution Companies started in 2010.)	N/A

TARGET		
Initial Target:	**Date for Achievement of Initial Target:**	**Date Initial Target was Set:**
$49.7 million	LOP	9/2011
Revised Target:	**Date for Achievement of Revised Target:** *(MM/YY)*	**Date Revised Target was Set:** *(MM/YY)*
$277 million	LOP	4/2014
2nd Revision to Target:	**Date for Achievement of Revised Target:** *(MM/YY)*	**Date Revised Target was Set:** *(MM/YY)*

OTHER NOTES / NEXT STEPS

If the indicator is pending, explain why and expected date when collection will begin. As appropriate, indicate any other important information about the indicator and/or its data collection as well as actions needing to be taken.

The initial target was revised to include Component-3; the work plan of which was approved in April 2014.

CHANGES & UPDATES

Date *(MM/YY)*	**Name** *Enter who made updates*	**Change or Update Made:**	**Reason for Change or Update:**
04/2014	Maryia Naseem Khan	Target revised	Workplan update

PERFORMANCE INDICATOR REFERENCE SHEET (PIRS)
Indicator - # *and Title* **1.1.3(b):** Number of days in meter reading cycle of selected areas
Development Objective - # *and Title* **(DO 1):** Increased Sustainable Energy Supplied to the Economy
Intermediate Result- # *and Title* **(IR 1.1):** Increased Energy Supply
Sub-Intermediate Result - # *and Title* **(Sub-IR 1.1.3):** Increased Financial Sustainability of Power Supply
Relationship between the Sub-IR and IR or IR and DO: *Enter the explanation of the linkage between the lowest level of result represented by the indicator, and the next level of result up; address the "so what?" question to move from outputs to outcomes, or outcomes to impact; explain in terms of the development hypotheses, do not simply restate the structure of the Results Framework.* Reduction in number of days in the distribution billing cycle will result in increased revenue for distribution companies (DISCOs), which in turn will lead to increased energy supply.
INDICATOR DESCRIPTION
Precise Definition(s): *Enter the precise definition of the indicator so it can be operationalized; define all terms, elements, implied actions and calculations; [for example, "farmers using better production techniques" – define "better production" and "techniques". Describe how this will be determined – e.g. Index, scale, standards]. For indicators that are percent or proportions explain how it will be calculated and what will serve as the numerator and denominator. If the indicator is cumulative, made up of stages or phases, or is a yes-no, please specify this and explain the stages/phases or how it is cumulative. If it is a Standard Program Structure ("F") Indicator, use and if necessary, refine the standard definition* This indicator refers to improvement in meter reading cycle by introduction of automation and IT. Traditionally meter reading was handled manually through paper based system; where meter readers would take "Kalamzu" (meter reading book) in the field and note down the meter dial value on the paper. Meter reading was carried out in batches (group of consumers that can be read within a day). Once the batch was complete, meter readers were responsible to fill in two copies of Commercial Procedure-21 (Form CP21). One of the copies of CP21 was sent to Revenue Office for further processing. Once the batches of all the subdivisions within a division were received and processed, Revenue Officer would forward the batch to Computer Center for Punching in Billing system. However with the introduction of Hand Held Units (HHUs), the meter reading process has changed completely; where the cumbersome steps of manual entry in "Kalamzu" in the field and manual entry from CP21 to the billing system have got rid of completely. Now the data entry is carried out only once in the field and the electronic files are then forwarded to Revenue Officer and Computer Center for billing. In short introduction of handheld units for meter reading has helped to eliminate the clerical work and redundant data entry steps that was one of the main reasons of errors in the meter reading process and ultimately resulted in the wrong billing to consumers. The reduction in clerical work can be quantified by measuring the reduction of number of days for a subdivision to complete the batch.

Unit of Measure:	Type of Indicator:	Category:	Desired Direction:

Enter unit of measure (e.g. "number of___", "percent of ___" etc.)	*Enter "output", "outcome" or "impact".*	*Enter "Standard F" or "Custom"*	*If "Standard F indicator", enter the number*	*Enter "increasing", "decreasing" or 'static" to indicate the direction of success result.*
Number of days	Outcome	Custom	N/A	Decreasing

Aggregation Process: *If indicator will be collected by more than one source, explain how the data will aggregate across these multiple sources (e.g. in the case of # of jobs, demonstrate how data definitions for what is counted as a "job" is consistently interpreted across sources and specify that he data reported by each partner will be added together for a combined total; or in the case of a stage of phase indicator, state how data from different partners will combine into one final data). Also specify the timeline for aggregation (e.g. all sources will be added together each quarter).*

N/A

Disaggregates: *Enter all disaggregation titles/ categories and values (e.g. title: Household Head Type; values: Female no Male Adult households, Male no Female Adults households, Male and Female Adult households, Child no Adult households.)*

DISCO

DATA COLLECTION, STORAGE, and ANALYSIS

Name of IP/ Responsible Party for Data Collection:	**Frequency of data collection:** *Enter how often the data will be collected (Weekly, Monthly, etc.)*
IRG/PDP	Monthly

Data Source: *Enter where IP obtains data (e.g. self-collected, GOP records or private sector).*	**Data Entry Frequency into PakInfo:** *Enter the anticipated frequency of regular data entry into PakInfo (e.g. Quarterly, Annually, etc)*	**Responsible Party for Data Entry into PakInfo:** *Enter who will be responsible for inputting and submitting data via PakInfo.*
DISCOs	Quarterly	PDP's M&E team

Data collection method: *Enter the tools and methods to be used for data collection and indicate for each method who (IP, USAID or third party) will collect the data. (e.g. telephone survey of household sample, reading assessment administered by third-party, sign-in sheets of training participants by IP)*

To measure the improvement in meter reading cycle data will be collected from the subdivisions on quarterly basis and reported to PDP M&E team accordingly. The date when the first batch is read using HHU and the date when the filled-out CP21 form is forwarded to the Revenue Office will be retrieved from each relevant sub-division for reporting purposes.

Baseline data is already available in-terms of days it takes to manually read the meters and complete the meter reading cycle will also be collected from the concerned sub-divisions.

Data Analysis Plan: *Enter how the data will be analyzed, including description of methodology (e.g. descriptive, comparative, qualitative or quantitative) as well as who will participate in the data analysis process (e.g. activity manager, chief of party, other stakeholders, GOP representatives, etc.)*

The data will be available from subdivisions; the Meter Reader Supervisor or Subdivision Officer (SDO) will provide the data for setting up of baseline and collection of data on quarterly basis.

Baseline data for Pre- HHU Implementation:

In order to define the baseline with regards to number of days for the completion of meter reading cycle of the old "meter reading practice", following will be considered:

a) The meter reading dates for batch 1, for the subsequent months before the implementation of handheld units in a sub-division can be collected from the old records of "Kalamzu cards".

b) The date when the CP21 forms were filled-out for the same batch 1, by the meter readers and then sent to RO for billing.

Actual data for Post- HHU Implementation:

The data for post implementation can be easily collected from the computer database available at subdivision.

The reduction in number of days of meter reading cycle after introduction of HHU is defined as:

$$R = A - D$$

Where:

A = Number of days to complete meter reading of Batch 1 for month X before HHU

$$A = B - C$$

B = Date the CP21 form for the Batch 1 is filled and forwarded to the Revenue Office for month X

C = Date the Batch 1 is read in the field for month X

and D = Number of days to complete meter reading of Batch 1 for month X after HHU

$$D = E - F$$

E = Date the Electronic file of CP21 forwarded to Revenue Office for Month X after HHU

F = Date the Batch 1 is read in the field for month X after HHU

DATA QUALITY

Data Quality Assessment (DQA): *Enter the date the DQA was conducted and the person who conducted the DQA*
DQA has not been conducted for this indicator.

Date: *(MM/YY)*	**DQA completed by:**
N/A	N/A

Key Data Quality Limitations (if any) and Actions Planned to Address Those Limitations: *Enter data limitations identified in the data quality assessment process related to the five quality standards, namely validity, integrity, precision, reliability and timeliness; discuss the significance of data weakness that may affect the conclusions about the extent to which performance goals have achieved; describe corrective actions planned or taken for addressing data weakness.*

N/A

BASELINE

Baseline Year: *(YYYY)*	**Baseline Data:**	**Reason for Postponement/Other Comments:** *If no baseline was established, enter the explanation and rationale for not establishing a baseline. Also indicate any other issues related to the baseline collection or data (such as rolling baselines or baselines from different sources rolling into one.*

2013	Days	N/A

TARGET		
Initial Target:	**Date for Achievement of Initial Target:**	**Date Initial Target was Set:**
2 days reduction per batch for each sub-division	Sep 2014	4/2014
Revised Target:	**Date for Achievement of Revised Target:**	**Date Revised Target was Set:**
2nd Revision to Target:	**Date for Achievement of Revised Target:**	**Date Revised Target was Set:**

OTHER NOTES / NEXT STEPS
If the indicator is pending, explain why and expected date when collection will begin. As appropriate, indicate any other important information about the indicator and/or its data collection as well as actions needing to be taken.

CHANGES & UPDATES			
Date *(MM/YY)*	**Name** *Enter who made updates*	**Change or Update Made:**	**Reason for Change or Update:**

PERFORMANCE INDICATOR REFERENCE SHEET (PIRS)
Indicator - # *and Title* **IR 1.1.2(c):** Number of days for fuel adjustment process
Development Objective - # *and Title* **(DO 1):** Increased Sustainable Energy Supplied to the Economy
Intermediate Result- # *and Title* **(IR 1.1):** Increased Energy Supply
Sub-Intermediate Result- # *and Title* **(Sub-IR 1.1.2):** Improved Efficiency of Consumption and the Distribution Systems
Relationship between the Sub-IR and IR or IR and DO: *Enter the explanation of the linkage between the lowest level of result represented by the indicator, and the next level of result up; address the "so what?" question to move from outputs to outcomes, or outcomes to impact; explain in terms of the development hypotheses, do not simply restate the structure of the Results Framework.* Reduction in number of days for fuel price adjustment process will result in timely recovery of cash from consumers enabling distribution companies (DISCOs) to purchase more electricity and avoid financial penalties on non-timely payments, leading to increased energy supply.
INDICATOR DESCRIPTION
Precise Definition(s): *Enter the precise definition of the indicator so it can be operationalized; define all terms, elements, implied actions and calculations; [for example, "farmers using better production techniques" – define "better production" and "techniques". Describe how this will be determined – e.g. Index, scale, standards]. For indicators that are percent or proportions explain how it will be calculated and what will serve as the numerator and denominator. If the indicator is cumulative, made up of stages or phases, or is a yes-no, please specify this and explain the stages/phases or how it is cumulative. If it is a Standard Program Structure ("F") Indicator, use and if necessary, refine the standard definition* This indicator measures the reduction in the number of days for fuel price adjustment process resulting from United States Government (USG) supported interventions. PDP team has provided support and recommendation to MWP to reduce the number of days in fuel price adjustment process – from date of determination to date of charging. PDP has provided a leadership role in analyzing the fuel price mechanism currently in place. In March 2011, Peshawar high court issued a stay order on charging of fuel price adjustment to consumers- which resulted due to consistent resistance from consumers. Consumers attributed FPA as a surcharge price enforced on them by GOP on top of the cost of Power Purchase. Later on in other round of litigations FPA was stayed by Islamabad and Lahore high court as well- for the reason. As a result of the litigations, FPA charging and recovery from consumers was stopped creating an additional financial burden on the same power sector. In mid-2011, PDP started working on behalf of MWP with the relevant DISCOs and their lawyer team, and explained the whole mechanism pertaining to the determination of FPA and its charging to the consumers. PDP team also assisted the DISCOs in reviewing the courts submission and helped in responding to day to day questions to the court and to get this issue resolved- mainly at Islamabad and Lahore court. PDP was involved in providing assistance on technical/financial/regulatory aspects of tariff, preparing replies for filing to petitions, and on a wider scale, getting the court cases resolved. As a result, the issue was

resolved and the Islamabad high court took its decision back in June 2013 and Lahore high court suspended its stay order in Jan 2013.

Unit of Measure:	**Type of Indicator:**	**Category:**		**Desired Direction:**
Enter unit of measure (e.g. "number of____", "percent of ____" etc.)	*Enter "output", "outcome" or "impact".*	*Enter "Standard F" or "Custom"*	*If "Standard F indicator", enter the number*	*Enter "increasing", "decreasing" or 'static" to indicate the direction of success result.*
Number of days	Outcome	Custom	N/A	Decreasing

Aggregation Process: *If indicator will be collected by more than one source, explain how the data will aggregate across these multiple sources (e.g. in the case of # of jobs, demonstrate how data definitions for what is counted as a "job" is consistently interpreted across sources and specify that he data reported by each partner will be added together for a combined total; or in the case of a stage of phase indicator, state how data from different partners will combine into one final data). Also specify the timeline for aggregation (e.g. all sources will be added together each quarter).*

N/A

Disaggregates: *Enter all disaggregation titles/ categories and values (e.g. title: Household Head Type; values: Female no Male Adult households, Male no Female Adults households, Male and Female Adult households, Child no Adult households.)*

N/A

DATA COLLECTION, STORAGE, and ANALYSIS

Name of IP/ Responsible Party for Data Collection:	**Frequency of data collection:** *Enter how often the data will be collected (Weekly, Monthly, etc.)*
IRG/PDP	Monthly

Data Source: *Enter where IP obtains data (e.g. self-collected, GOP records or private sector).*	**Data Entry Frequency into PakInfo:** *Enter the anticipated frequency of regular data entry into PakInfo (e.g. Quarterly, Annually, etc)*	**Responsible Party for Data Entry into PakInfo:** *Enter who will be responsible for inputting and submitting data via PakInfo.*
PDP/DISCO/MWP	Quarterly	PDP M&E team

Data collection method: *Enter the tools and methods to be used for data collection and indicate for each method who (IP, USAID or third party) will collect the data. (e.g. telephone survey of household sample, reading assessment administered by third-party, sign-in sheets of training participants by IP)*

The Fuel Adjustment Price charged to consumers is collected from MWP. The period between, date of determination to date of charging is determined to calculate the number of days delayed in charging of FPA to consumer.

Data Analysis Plan: *Enter how the data will be analyzed, including description of methodology (e.g. descriptive, comparative, qualitative or quantitative) as well as who will participate in the data analysis process (e.g. activity manager, chief of party, other stakeholders, GOP representatives, etc.)*

The data is analyzed using the quantitative and comparative analysis methods. Relevant team leads do monthly analysis of data by measuring progress against the target and take corrective measure where required.

DATA QUALITY

Data Quality Assessment (DQA): *Enter the date the DQA was conducted and the person who conducted the DQA* DQA has not been conducted for this indicator	
Date: N/A	**DQA completed by:** N/A

Key Data Quality Limitations (if any) and Actions Planned to Address Those Limitations: *Enter data limitations identified in the data quality assessment process related to the five quality standards, namely validity, integrity, precision, reliability and timeliness; discuss the significance of data weakness that may affect the conclusions about the extent to which performance goals have achieved; describe corrective actions planned or taken for addressing data weakness.*
N/A

BASELINE		
Baseline Year:	**Baseline Data:**	**Reason for Postponement/Other Comments:**
July 2012	153 days	N/A

TARGET		
Initial Target:	**Date for Achievement of Initial Target:**	**Date Initial Target was Set:**
Less than 60 days	LOP	2012
Revised Target:	**Date for Achievement of Revised Target:**	**Date Revised Target was Set:**
2nd Revision to Target:	**Date for Achievement of Revised Target:**	**Date Revised Target was Set:**

OTHER NOTES / NEXT STEPS
If the indicator is pending, explain why and expected date when collection will begin. As appropriate, indicate any other important information about the indicator and/or its data collection as well as actions needing to be taken.

CHANGES & UPDATES			
Date *(MM/YY)*	**Name** *Enter who made updates*	**Change or Update Made:**	**Reason for Change or Update:**

PERFORMANCE INDICATOR REFERENCE SHEET (PIRS)
Indicator - # *and Title* **: IR1.1.4(a):** Public and private funds leveraged by the United States Government for energy infrastructure projects (alternative F indicator 4.4.1-32)
Development Objective - # *and Title* **: (DO1):** Increased Sustainable Energy Supplied to the Economy
Intermediate Result- # *and Title* **: (IR 1.1):** Increased Energy Supply
Sub-Intermediate Result - # *and Title* **: (Sub-IR 1.1.4):** Increased Non-USG Investment in the Energy Sector
Relationship between the Sub-IR and IR or IR and DO: *Enter the explanation of the linkage between the lowest level of result represented by the indicator, and the next level of result up; address the "so what?" question to move from outputs to outcomes, or outcomes to impact; explain in terms of the development hypotheses, do not simply restate the structure of the Results Framework.*
Given limitations of funding from USG sources, leveraging funds from other sources is critical to efforts to expand access to energy services necessary to increase the supply of energy to the economy.
INDICATOR DESCRIPTION
Precise Definition(s): *Enter the precise definition of the indicator so it can be operationalized; define all terms, elements, implied actions and calculations; [for example, "farmers using better production techniques" – define "better production" and "techniques". Describe how this will be determined – e.g. Index, scale, standards]. For indicators that are percent or proportions explain how it will be calculated and what will serve as the numerator and denominator. If the indicator is cumulative, made up of stages or phases, or is a yes-no, please specify this and explain the stages/phases or how it is cumulative. If it is a Standard Program Structure ("F") Indicator, use and if necessary, refine the standard definition*
This indicator measures the dollar value of financial contributions and in-kind support provided to and by project-supported distribution companies (DISCOs) and other power sector entities like NEPRA. Items counted for this indicator include equipment (e.g., meters, capacitors, transformers, cables, IT equipment etc.) provided and installed by DISCOs and other entities, cash or in-kind donations made by public or private entities, and buildings and office space made available by DISCOs and other entities.

Unit of Measure:	**Type of Indicator:**	**Category:**		**Desired Direction:**
Enter unit of measure (e.g. "number of___", "percent of ___" etc.)	*Enter "output", "outcome" or "impact".*	*Enter "Standard F" or "Custom"*	*If "Standard F indicator", enter the number*	*Enter "increasing", "decreasing" or 'static" to indicate the direction of success result.*
Million US dollar	Outcome	Standard	Indicator No: 4.4.1-32	Increasing

Aggregation Process: *If indicator will be collected by more than one source, explain how the data will aggregate across these multiple sources (e.g. in the case of # of jobs, demonstrate how data definitions for what is counted as a "job" is consistently interpreted across sources and specify that he data reported by each partner will be added together for a combined total; or in the case of a stage of phase indicator, state how data from different partners will combine into one final data). Also specify the timeline for aggregation (e.g. all sources will be added together each quarter).*

N/A

Disaggregates: *Enter all disaggregation titles/ categories and values (e.g. title: Household Head Type; values: Female no Male Adult households, Male no Female Adults households, Male and Female Adult households, Child no Adult households.)*

Public/Private

DATA COLLECTION, STORAGE, and ANALYSIS

Name of IP/ Responsible Party for Data Collection:	**Frequency of data collection:** *Enter how often the data will be collected (Weekly, Monthly, etc.)*
IRG/PDP	Quarterly

Data Source: *Enter where IP obtains data (e.g. self-collected, GOP records or private sector).*	**Data Entry Frequency into PakInfo:** *Enter the anticipated frequency of regular data entry into PakInfo (e.g. Quarterly, Annually, etc)*	**Responsible Party for Data Entry into PakInfo:** *Enter who will be responsible for inputting and submitting data via PakInfo.*
PDP teams/DISCOs	Quarterly	PDP's M&E team

Data collection method: *Enter the tools and methods to be used for data collection and indicate for each method who (IP, USAID or third party) will collect the data. (e.g. telephone survey of household sample, reading assessment administered by third-party, sign-in sheets of training participants by IP)*

Information on funding and in-kind contributions leveraged is provided by DISCOs or collected from other sources by project staff. For all in-kind contributions, PDP will estimate the fair market value for the items and apply this value to the indicator.

Data Analysis Plan: *Enter how the data will be analyzed, including description of methodology (e.g. descriptive, comparative, qualitative or quantitative) as well as who will participate in the data analysis process (e.g. activity manager, chief of party, other stakeholders, GOP representatives, etc.)*

The data is analyzed using the quantitative and comparative analysis methods. Relevant team leads do quarterly analysis of data by measuring progress against the target and take corrective measure where required. The data analysis is shared with management on monthly basis and any issues or deviations are discussed for further action.

DATA QUALITY

Data Quality Assessment (DQA): *Enter the date the DQA was conducted and the person who conducted the DQA*

DQA has not been conducted for this indicator

Date:	**DQA completed by:**
N/A	N/A

Key Data Quality Limitations (if any) and Actions Planned to Address Those Limitations: *Enter data limitations identified in the data quality assessment process related to the five quality standards, namely validity, integrity, precision, reliability and timeliness; discuss the significance of data weakness that may affect the conclusions about the extent to which performance goals have achieved; describe corrective actions planned or taken for addressing data weakness.*

The possibility that DISCOs and other sources of information may not provide accurate information. To mitigate this factor, the relevant teams visit the site, to physically assess the value of contributions provided by the DISCOs themselves or any other donor.

BASELINE

Baseline Year: *(YYYY)*	**Baseline Data:**	**Reason for Postponement/Other Comments:** *If no baseline was established, enter the explanation and rationale for not establishing a baseline. Also indicate any other issues related to the baseline collection or data (such as rolling baselines or baselines from different sources rolling into one.*
2010	0 (For the purpose of reporting improvements, a baseline of "zero" is considered. Also the support of USAID to the Distribution Companies started in 2010.)	N/A

TARGET		
Initial Target: N/A	**Date for Achievement of Initial Target:** N/A	**Date Initial Target was Set:** N/A
Revised Target:	**Date for Achievement of Revised Target:**	**Date Revised Target was Set:**
2nd Revision to Target:	**Date for Achievement of Revised Target:**	**Date Revised Target was Set:**

OTHER NOTES / NEXT STEPS

If the indicator is pending, explain why and expected date when collection will begin. As appropriate, indicate any other important information about the indicator and/or its data collection as well as actions needing to be taken.

As the result of this indicator is beyond the control and scope of PDP therefore the target is not mentioned.

CHANGES & UPDATES

Date *(MM/YY)*	**Name** *Enter who made updates*	**Change or Update Made:**	**Reason for Change or Update:**

PERFORMANCE INDICATOR REFERENCE SHEET (PIRS)

Indicator- # *and Title* **1.2.1(a):** Number of key policies and regulations in development stages of analysis, drafting, stakeholder consultation, legislative review, approval, or implementation as a result of United States Government assistance

Development Objective - # *and Title* **(DO 1):** Increased Sustainable Energy Supplied to the Economy

Intermediate Result- # *and Title* **(IR 1.2):** Improved Energy Sector Governance

Sub-Intermediate Result- # *and Title* **(Sub-IR 1.2.1):** Improved Policy Implementation

Relationship between the Sub-IR and IR or IR and DO: *Enter the explanation of the linkage between the lowest level of result represented by the indicator, and the next level of result up; address the "so what?" question to move from outputs to outcomes, or outcomes to impact; explain in terms of the development hypotheses, do not simply restate the structure of the Results Framework.*

Increased number of policy reforms/ regulations/administrative procedure drafted and presented will ensure improved governance and management of distribution companies (DISCOs) resulting in increased sustainable energy supplied to the economy.

INDICATOR DESCRIPTION

Precise Definition(s): *Enter the precise definition of the indicator so it can be operationalized; define all terms, elements, implied actions and calculations; [for example, "farmers using better production techniques" – define "better production" and "techniques". Describe how this will be determined – e.g. Index, scale, standards]. For indicators that are percent or proportions explain how it will be calculated and what will serve as the numerator and denominator. If the indicator is cumulative, made up of stages or phases, or is a yes-no, please specify this and explain the stages/phases or how it is cumulative. If it is a Standard Program Structure ("F") Indicator, use and if necessary, refine the standard definition*

This indicator refers to the number of policy reforms/regulations/administrative procedures drafted and presented by United States Government (USG) implementers and discussed with local stakeholders in the Ministry of Water and Power (MWP).

Unit of Measure:	Type of Indicator:	Category:		Desired Direction:
Enter unit of measure (e.g. "number of____", "percent of ____" etc.)	*Enter "output", "outcome" or "impact".*	*Enter "Standard F" or "Custom"*	*If "Standard F indicator", enter the number*	*Enter "increasing", "decreasing" or 'static" to indicate the direction of success result.*
Number of policies	Outcome	Custom	N/A	Increasing

Aggregation Process: *If indicator will be collected by more than one source, explain how the data will aggregate across these multiple sources (e.g. in the case of # of jobs, demonstrate how data definitions for what is counted as a "job" is consistently interpreted across sources and specify that he data reported by each partner will be added together for a combined total; or in the case of a stage of phase indicator, state how data from different partners will combine into one final data). Also specify the timeline for aggregation (e.g. all sources will be added together each quarter).*

Data for this indicator will be collected by two different sources; PDP and EPP. Total number of key policies drafted and presented through relevant USG supported interventions will aggregate across both

the programs and the total figure will be counted under this indicator. Common collection instruments will be established across all data collection/reporting entities.

Disaggregates: *Enter all disaggregation titles/ categories and values (e.g. title: Household Head Type; values: Female no Male Adult households, Male no Female Adults households, Male and Female Adult households, Child no Adult households.)*

Types of policies and steps

- Corporate policies
- Key Steps to Create Independent CPPA
- Key Steps towards Dissolution of PEPCO

DATA COLLECTION, STORAGE, and ANALYSIS

Name of IP/ Responsible Party for Data Collection:	**Frequency of data collection:** *Enter how often the data will be collected (Weekly, Monthly, etc.)*
IRG/PDP	Monthly

Data Source: *Enter where IP obtains data (e.g. self-collected, GOP records or private sector).*	**Data Entry Frequency into PakInfo:** *Enter the anticipated frequency of regular data entry into PakInfo (e.g. Quarterly, Annually, etc)*	**Responsible Party for Data Entry into PakInfo:** *Enter who will be responsible for inputting and submitting data via PakInfo.*
PDP team deployed at Ministry, MWP and DISCOs	Quarterly	PDP's M&E team

Data collection method: *Enter the tools and methods to be used for data collection and indicate for each method who (IP, USAID or third party) will collect the data. (e.g. telephone survey of household sample, reading assessment administered by third-party, sign-in sheets of training participants by IP)*

Respective team leads coordinate with DISCO BOD and other staff members to follow up on the implementation of policies. Following documents will be collected as an evidence that the policies have been successfully adopted by DISCOs:
1) signed policies submitted to MWP
2) approved minutes of meeting of Board of Directors submitted to MWP

The policy reforms/regulations/ administrative procedures counted for this indicator include the following:

<u>29 Corporate Policies</u>: 1) Function of the BODs. (2) Orderly Conduct of Meetings of the BODs, (3) Search and selection procedures to fill unexpired terms of BOD vacancies, (4) Statement of qualifications for a director of DISCO NAME, (5) Board Member' Attendance at Monthly and Special Meetings of BODs, (6) Standards of Conduct, (7) Code of Ethics, (8) Relationship between BOD and CEO, (9)Compensation for Directors, (10)Audit Committee, (11)Minutes of Board Meetings sent to Ministry of Water & Power, (12)Company Policies to be sent to the Ministry of Water & Power (13)Search & selection procedure to fill unexpired term of CEOs vacancy, (14)SECP Adoption of "Code of Corporate Governance", (15) MWP Adoption of Governance, (16) MWP Policy on Committees, (17)MWP Policy on Director Selection, (18) MWP Policy on KPI for DISCO, (19) MWP Policy on Load Management, (20)MWP Policy on DISCO Accounting Standards, (21) MWP Policy on

DISCO Distribution Standards, (22) MWP Policy on Monitoring and Coordination Standards 23) Tariff policy and subsidy guide, 24) Tariff methodology and procedure 25) National Safety code, 26) Record keeping policy for NEPRA, 27) Scheduling policy for NEPRA, 28) Administrative Law policy for NEPRA, and 29) Policy with regards to shortening the length of tariff period

11Key Steps to Create Independent CPPA: (1) Articles of Association and Memorandum of Understanding modifications from the file documents of 2008, (2) Appointment of Directors from GOP, (3) Hiring of CEO, (4) Hiring of Company Secretary, (5) Hiring of CFO (6) Transfer the necessary staff to begin operations (7) Implement agency agreement between CPPA limited and distribution companies, IPPs, WAPDA hydel, GENCOs, KESC and others subject to settlement process, in the power sector, (8) Adoption of Governance Policy's by the BOD, (9) The transfer PPAs and other existing commercial agreements to CPPA limited, (10) Facilitate filing of the petition with NEPRA to remove functions from NTDC (11) Facilitate establishment of Escrow Account with distribution companies,

7 Key Steps towards Dissolution of PEPCO: (1) Organizational Assessment of PEPCO functions, (2) MWP begin the transfer of functions to the power sector entities, (3) PEPCO to complete the SECP required steps for winding up, (4) MWP request PEPCO board meeting to pass the "Declaration of Solvency" resolution, (5) PEPCO to hold an Annual General Meeting of Shareholders to pass the "Winding Up" resolution, (6) MWP to appoint a liquidator to complete the steps towards winding up, (7) Prime Minister to sign the closing of PEPCO

Data Analysis Plan: *Enter how the data will be analyzed, including description of methodology (e.g. descriptive, comparative, qualitative or quantitative) as well as who will participate in the data analysis process (e.g. activity manager, chief of party, other stakeholders, GOP representatives, etc.)*

Not applicable to this indicator

DATA QUALITY

Data Quality Assessment (DQA): *Enter the date the DQA was conducted and the person who conducted the DQA*

DQA has not been conducted for this indicator.

Date: *(MM/YY)* N/A	**DQA completed by:** N/A

Key Data Quality Limitations (if any) and Actions Planned to Address Those Limitations: *Enter data limitations identified in the data quality assessment process related to the five quality standards, namely validity, integrity, precision, reliability and timeliness; discuss the significance of data weakness that may affect the conclusions about the extent to which performance goals have achieved; describe corrective actions planned or taken for addressing data weakness.*

The possibility that DISCOs and other sources of information may not provide accurate information.

To overcome these limitation relevant records will be collected from the DISCOs to verify the data.

BASELINE

Baseline Year: *(YYYY)*	**Baseline Data:**	**Reason for Postponement/Other Comments:** *If no baseline was established, enter the explanation and rationale for not*

		establishing a baseline. Also indicate any other issues related to the baseline collection or data (such as rolling baselines or baselines from different sources rolling into one.
2010	0 (For the purpose of reporting improvements, a baseline of "zero" is considered. Also the support of USAID to the Distribution Companies started in 2010.)	N/A

Baseline Year: *(YYYY)*

Initial Target:	**Date for Achievement of Initial Target:**	**Date Initial Target was Set:**
39 policies	LOP	9/2011
Revised Target:	**Date for Achievement of Revised Target:**	**Date Revised Target was Set:**
47	LOP	4/2014
2nd Revision to Target:	**Date for Achievement of Revised Target:**	**Date Revised Target was Set:**

OTHER NOTES / NEXT STEPS

If the indicator is pending, explain why and expected date when collection will begin. As appropriate, indicate any other important information about the indicator and/or its data collection as well as actions needing to be taken.

The initial target was revised to include Component-3; the work plan of which was approved in April 2014.

CHANGES & UPDATES

Date *(MM/YY)*	**Name** *Enter who made updates*	**Change or Update Made:**	**Reason for Change or Update:**
4/2014	Maryia Naseem Khan	Target revised	Work plan update

PERFORMANCE INDICATOR REFERENCE SHEET (PIRS)

Indicator - # *and Title* **IR1.2.2(a):** Number of policies following international best practices developed and implemented

Development Objective- # *and Title* **(DO: 1):** Increased Sustainable Energy Supplied to the Economy

Intermediate Result - # *and Title* **(IR 1.2):** Improved Energy Sector Governance

Sub-Intermediate Result Sub-IR- # *and Title* **1.2.2 (a):** More Autonomous Energy Sector Entities

Relationship between the Sub-IR and IR or IR and DO: *Enter the explanation of the linkage between the lowest level of result represented by the indicator, and the next level of result up; address the "so what?" question to move from outputs to outcomes, or outcomes to impact; explain in terms of the development hypotheses, do not simply restate the structure of the Results Framework.*

This indicator measures the number of policies specific to fuel cost adjustment activities. Increased number of specific solutions related to fuel adjustment when implemented will bring improvements at the DISCOs, which will ultimately improve the governance of the energy sector. Improved governance and management of distribution companies (DISCOs) will in turn lead to increased energy supplied to the economy.

INDICATOR DESCRIPTION

Precise Definition(s): *Enter the precise definition of the indicator so it can be operationalized; define all terms, elements, implied actions and calculations; [for example, "farmers using better production techniques" – define "better production" and "techniques". Describe how this will be determined – e.g. Index, scale, standards]. For indicators that are percent or proportions explain how it will be calculated and what will serve as the numerator and denominator. If the indicator is cumulative, made up of stages or phases, or is a yes-no, please specify this and explain the stages/phases or how it is cumulative. If it is a Standard Program Structure ("F") Indicator, use and if necessary, refine the standard definition*

This indicator refers to number of policies following international best practices developed and implemented through USG assistance. Specific policies/procedures focused on improving the fuel cost adjustment process followed by DISCOs will get approved and implemented through PDP efforts. The number of policies developed and implemented will be counted under this indicator.

Unit of Measure:	Type of Indicator:	Category:		Desired Direction:
Enter unit of measure (e.g. "number of____", "percent of ____" etc.)	*Enter "output", "outcome" or "impact".*	*Enter "Standard F" or "Custom"*	*If "Standard F indicator", enter the number*	*Enter "increasing", "decreasing" or 'static" to indicate the direction of success result.*
Number of policies	Output	Custom	N/A	Increasing

Aggregation Process: *If indicator will be collected by more than one source, explain how the data will aggregate across these multiple sources (e.g. in the case of # of jobs, demonstrate how data definitions for what is counted as a "job" is consistently interpreted across sources and specify that he data reported by each partner will be added together for a combined total; or in the case of a stage of phase indicator, state how data from different partners will combine into one final data). Also specify the timeline for aggregation (e.g. all sources will be added together each quarter).*

Data for this indicator will be collected by two different sources; PDP and EPP. The number of policies following international best practices implemented by public sector entities will aggregate across both the programs and the total number will be counted under this indicator. Common collection instruments will be established across all data collection/reporting entities.

Disaggregates: *Enter all disaggregation titles/ categories and values (e.g. title: Household Head Type; values: Female no Male Adult households, Male no Female Adults households, Male and Female Adult households, Child no Adult*

households.)

N/A

DATA COLLECTION, STORAGE, and ANALYSIS

Name of IP/ Responsible Party for Data Collection:	**Frequency of data collection:** *Enter how often the data will be collected (Weekly, Monthly, etc.)*
IRG/PDP	Monthly

Data Source: *Enter where IP obtains data (e.g. self-collected, GOP records or private sector).*	**Data Entry Frequency into PakInfo:** *Enter the anticipated frequency of regular data entry into PakInfo (e.g. Quarterly, Annually, etc)*	**Responsible Party for Data Entry into PakInfo:** *Enter who will be responsible for inputting and submitting data via PakInfo.*
Ministry of Water & Power(MWP) / National Electric power Regulatory Authority (NEPRA)	Quarterly	PDP's M&E Team

Data collection method: *Enter the tools and methods to be used for data collection and indicate for each method who (IP, USAID or third party) will collect the data. (e.g. telephone survey of household sample, reading assessment administered by third-party, sign-in sheets of training participants by IP)*

This indicator refers to number of policies following international best practices developed and implemented through USG assistance. Specific policies/procedures focused on improving the fuel cost adjustment process followed by DISCOs will get approved and implemented through PDP efforts. The number of policies developed and implemented will be counted under this indicator.

Data Analysis Plan: *Enter how the data will be analyzed, including description of methodology (e.g. descriptive, comparative, qualitative or quantitative) as well as who will participate in the data analysis process (e.g. activity manager, chief of party, other stakeholders, GOP representatives, etc.)*

Not required for this indicator.

DATA QUALITY

Data Quality Assessment (DQA)*: Enter the date the DQA was conducted and the person who conducted the DQA*

DQA has not been conducted for this indicator.

Date: *(MM/YY)* N/A	**DQA completed by:** N/A

Key Data Quality Limitations (if any) and Actions Planned to Address Those Limitations: *Enter data limitations identified in the data quality assessment process related to the five quality standards, namely validity, integrity, precision, reliability and timeliness; discuss the significance of data weakness that may affect the conclusions about the extent to which performance goals have achieved; describe corrective actions planned or taken for addressing data weakness.*

There are certain confidential documents that DISCOs cannot share with external stakeholders such internal meeting minutes. In that case they provide us alternative supporting documents.

BASELINE

Baseline Year: *(YYYY)*	**Baseline Data:**	**Reason for Postponement/Other Comments:** *If no baseline was established, enter the explanation and rationale for not establishing a baseline. Also indicate any other issues related to the baseline collection or data (such as rolling baselines or baselines from different sources rolling into one.*
2010	0 (For the purpose of reporting improvements, a baseline of "zero" is considered. Also the support of USAID to the Distribution Companies started in 2010.)	N/A

TARGET		
Initial Target:	**Date for Achievement of Initial Target:**	**Date Initial Target was Set:**
2	LOP	9/2011
Revised Target:	**Date for Achievement of Revised Target:** *(MM/YY)*	**Date Revised Target was Set:** *(MM/YY)*
12	LOP	4/2014
2nd Revision to Target:	**Date for Achievement of Revised Target:** *(MM/YY)*	**Date Revised Target was Set:** *(MM/YY)*

OTHER NOTES / NEXT STEPS

If the indicator is pending, explain why and expected date when collection will begin. As appropriate, indicate any other important information about the indicator and/or its data collection as well as actions needing to be taken.

The initial target was revised to include Component-3; the work plan of which was approved in April 2014.

CHANGES & UPDATES

Date *(MM/YY)*	**Name** *Enter who made updates*	**Change or Update Made:**	**Reason for Change or Update:**
4/2014	Maryia Naseem Khan	Target revised	Work plan update

PERFORMANCE INDICATOR REFERENCE SHEET (PIRS)
Indicator - *# and Title* **IR 1.2.2(b):** Number of board recommendations following international best practices implemented by public sector entities
Development Objective- *# and Title* **(DO 1):** Increased Sustainable Energy Supplied to the Economy
Intermediate Result- *# and Title* **(IR 1.2):** Improved Energy Sector Governance
Sub-Intermediate Result- *# and Title* **(Sub-IR 1.2.2(b):** More Autonomous Energy Sector Entities
Relationship between the Sub-IR and IR or IR and DO: *Enter the explanation of the linkage between the lowest level of result represented by the indicator, and the next level of result up; address the "so what?" question to move from outputs to outcomes, or outcomes to impact; explain in terms of the development hypotheses, do not simply restate the structure of the Results Framework.* Implementation of board recommendations following international best practices will improve the efficiency of distribution systems and will empower DISCOs with better decision making capabilities through availability of accurate and updated information and improved technology. This in turn will help DISCOs gain autonomy in the power sector and will improve the energy sector governance.
INDICATOR DESCRIPTION
Precise Definition(s): *Enter the precise definition of the indicator so it can be operationalized; define all terms, elements, implied actions and calculations; [for example, "farmers using better production techniques" – define "better production" and "techniques". Describe how this will be determined – e.g. Index, scale, standards]. For indicators that are percent or proportions explain how it will be calculated and what will serve as the numerator and denominator. If the indicator is cumulative, made up of stages or phases, or is a yes-no, please specify this and explain the stages/phases or how it is cumulative. If it is a Standard Program Structure ("F") Indicator, use and if necessary, refine the standard definition* This indicator refers to the number of 'best practice' BOD recommendations adopted by USG-assisted DISCOs. PDP has initiated a number of projects that are aimed at getting the international best practices implemented in DISCOs. These international best practices were recommended to the respective DISCO board members and they acknowledged its effectiveness and subsequently recommend its implementation to the DISCOs. PDP also facilitated the successful implementation of these at the DISCOs. The number of best practices implemented in DISCOs followed by the recommendations by respective BODs will be counted for this indicator.

Unit of Measure:	Type of Indicator:	Category:		Desired Direction:
Enter unit of measure (e.g. "number of___", "percent of ___" etc.)	*Enter "output", "outcome" or "impact".*	*Enter "Standard F" or "Custom"*	*If "Standard F indicator", enter the number*	*Enter "increasing", "decreasing" or 'static" to indicate the direction of success result.*
Number of Board recommendations	Outcome	Custom	N/A	Increasing

Aggregation Process: *If indicator will be collected by more than one source, explain how the data will aggregate across these multiple sources (e.g. in the case of # of jobs, demonstrate how data definitions for what is counted as a "job" is consistently interpreted across sources and specify that he data reported by each partner will be added together for a combined total; or in the case of a stage of phase indicator, state how data from different partners will combine into one final data). Also specify the timeline for aggregation (e.g. all sources will be added together each quarter).*

Data for this indicator will be collected by two different sources; PDP and EPP. The number of board recommendations following international best practices implemented by public sector entities will aggregate across both the programs and the total number will be counted under this indicator. Common collection instruments will be established across all data collection/reporting entities.

Disaggregates: *Enter all disaggregation titles/ categories and values (e.g. title: Household Head Type; values: Female no Male Adult households, Male no Female Adults households, Male and Female Adult households, Child no Adult households.)*

Distribution Companies

- Faisalabad Electric Supply Company
- Gujranwala Electric Power Company
- Hyderabad Electric Supply Company
- Islamabad Electric Supply Company
- Lahore Electric Supply Company
- Multan Electric Power Company
- Peshawar Electric Supply Company
- Quetta Electric Supply Company
- Sukkur Electric Power Company

DATA COLLECTION, STORAGE, and ANALYSIS

Name of IP/ Responsible Party for Data Collection:	**Frequency of data collection:** *Enter how often the data will be collected (Weekly, Monthly, etc.)*
IRG/PDP	Monthly

Data Source: *Enter where IP obtains data (e.g. self-collected, GOP records or private sector).*	**Data Entry Frequency into PakInfo:** *Enter the anticipated frequency of regular data entry into PakInfo (e.g. Quarterly, Annually, etc)*	**Responsible Party for Data Entry into PakInfo:** *Enter who will be responsible for inputting and submitting data via PakInfo.*
PDP's Functional Teams, DISCO records in the form of minutes of BOD meetings	Quarterly	PDP's M&E team

Data collection method*: Enter the tools and methods to be used for data collection and indicate for each method who (IP, USAID or third party) will collect the data. (e.g. telephone survey of household sample, reading assessment administered by third-party, sign-in sheets of training participants by IP)*

Respective team leads will coordinate with DISCO BOD and other staff members to follow up on the implementation of PDP recommended initiatives. Following documents will be collected as an evidence that the recommendations have been successfully adopted by DISCOs:
1) Minutes of BOD meetings
2) Signed letters showing successful implementation of the recommended practice.

Following PDP interventions associated with international board recommendations will be counted under this indicator. The number board recommendations following each intervention is also specified below:

1) Audit Manual (9)
2) Accounting Manual (7)
3) ERP Manual (2)
4) 10 year Financial Forecast Model (9)
5) CIS implementation (2)
6) Hand Held Units (3)
7) Cost of Service Model (9)
8) Revenue Cell (2)
9) Load Data Improvement (9)
10) AMR metering (4)
11) Outage Reduction (7)
12) Lineman Trainings, Tools and equipment (2)
13) Regional Training Center upgrade (9)
14) Strategic Planning (2)
15) Census (2)
16) Planning & Engineering Centers established (9)

Data Analysis Plan: *Enter how the data will be analyzed, including description of methodology (e.g. descriptive, comparative, qualitative or quantitative) as well as who will participate in the data analysis process (e.g. activity manager, chief of party, other stakeholders, GOP representatives, etc.)*

Not required for this indicator.

DATA QUALITY

Data Quality Assessment (DQA): *Enter the date the DQA was conducted and the person who conducted the DQA*
DQA has not been conducted for this indicator.

Date: *(MM/YY)*	**DQA completed by:**
N/A	N/A

Key Data Quality Limitations (if any) and Actions Planned to Address Those Limitations: *Enter data limitations identified in the data quality assessment process related to the five quality standards, namely validity, integrity, precision, reliability and timeliness; discuss the significance of data weakness that may affect the conclusions about the extent to which performance goals have achieved; describe corrective actions planned or taken for addressing data weakness.*

There are certain confidential documents that DISCOs cannot share with external stakeholders such as internal meeting minutes. In that case they are asked to provide us alternative supporting documents.

BASELINE

Baseline Year: *(YYYY)*	**Baseline Data:**	**Reason for Postponement/Other Comments:** *If no baseline was established, enter the explanation and rationale for not establishing a baseline. Also indicate any other issues related to the baseline collection or data (such as rolling baselines or baselines from different sources rolling into one.*

2010	0 (For the purpose of reporting improvements, a baseline of "zero" is considered. Also the support of USAID to the Distribution Companies started in 2010.)	N/A

TARGET		
Initial Target: 87	**Date for Achievement of Initial Target:** LOP	**Date Initial Target was Set:** 9/2011
Revised Target: 111	**Date for Achievement of Revised Target:** LOP	**Date Revised Target was Set:** 4/2014
2nd Revision to Target:	**Date for Achievement of Revised Target:**	**Date Revised Target was Set:**

OTHER NOTES / NEXT STEPS

If the indicator is pending, explain why and expected date when collection will begin. As appropriate, indicate any other important information about the indicator and/or its data collection as well as actions needing to be taken.

The initial target was revised to include Component-3; the work plan of which was approved in April 2014.

CHANGES & UPDATES

Date *(MM/YY)*	**Name** *Enter who made updates*	**Change or Update Made:**	**Reason for Change or Update:**
4/2014	Maryia Naseem Khan	Target revised	Work plan update

PERFORMANCE INDICATOR REFERENCE SHEET (PIRS)
Indicator- *# and Title* **IR1.2.3(a):** Number of best practice-driven systems created, improved, and implemented
Development Objective - *# and Title* **(DO 1):** Increased Sustainable Energy Supplied to the Economy
Intermediate Result- *# and Title* **(IR 1.2.3):** Improved Energy Sector Governance
Sub-Intermediate Result- *# and Title* **(Sub-IR 1.2.3(a):** Improved Capacity of USAID-Supported Energy Public-Sector Entities
Relationship between the Sub-IR and IR or IR and DO: *Enter the explanation of the linkage between the lowest level of result represented by the indicator, and the next level of result up; address the "so what?" question to move from outputs to outcomes, or outcomes to impact; explain in terms of the development hypotheses, do not simply restate the structure of the Results Framework.* The operational capacity and productivity of the distribution companies (DISCOs) will be improved by implementing new or improved best-practice driven internal systems, resulting in increased energy supplied to economy.
INDICATOR DESCRIPTION
Precise Definition(s): *Enter the precise definition of the indicator so it can be operationalized; define all terms, elements, implied actions and calculations; [for example, "farmers using better production techniques" – define "better production" and "techniques". Describe how this will be determined – e.g. Index, scale, standards]. For indicators that are percent or proportions explain how it will be calculated and what will serve as the numerator and denominator. If the indicator is cumulative, made up of stages or phases, or is a yes-no, please specify this and explain the stages/phases or how it is cumulative. If it is a Standard Program Structure ("F") Indicator, use and if necessary, refine the standard definition* This indicator refers to the number of "best practice driven systems" adopted by USG-assisted DISCOs. PDP has initiated a number of projects that are aimed at getting the international best practice driven systems implemented in DISCOs. These international best practice systems were recommended to respective DISCO board members and they acknowledged and approved its implementation. PDP also facilitated the successful implementation of these projects at the DISCOs. The number of best practice driven systems implemented in DISCOs will be counted for this indicator.

Unit of Measure:	Type of Indicator:	Category:		Desired Direction:
Enter unit of measure (e.g. "number of___", "percent of ___" etc.)	*Enter "output", "outcome" or "impact".*	*Enter "Standard F" or "Custom"*	*If "Standard F indicator", enter the number*	*Enter "increasing", "decreasing" or 'static" to indicate the direction of success result.*
Number of systems	Output	Custom	N/A	Increasing

Aggregation Process: *If indicator will be collected by more than one source, explain how the data will aggregate across these multiple sources (e.g. in the case of # of jobs, demonstrate how data definitions for what is counted as a "job" is consistently interpreted across sources and specify that he data reported by each partner will be added together for a combined total; or in the case of a stage of phase indicator, state how data from different partners will combine into one final data). Also specify the timeline for aggregation (e.g. all sources will be added together each quarter).*

Data for this indicator will be collected by two different sources; PDP and EPP. The number of best practice driven systems implemented through various USG supported interventions will aggregate across both the programs and the total number will be counted under this indicator.

Disaggregates: *Enter all disaggregation titles/ categories and values (e.g. title: Household Head Type; values: Female no Male Adult households, Male no Female Adults households, Male and Female Adult households, Child no Adult households.)*

Distribution Companies	Types of Systems
• Faisalabad Electric Supply Company • Gujranwala Electric Power Company • Hyderabad Electric Supply Company • Islamabad Electric Supply Company • Lahore Electric Supply Company • Multan Electric Power Company • Peshawar Electric Supply Company • Quetta Electric Supply Company • Sukkur Electric Power Company	• ERP • CIS • HRIS • COS • Financial Model • AMRs • LDI

DATA COLLECTION, STORAGE, and ANALYSIS

Name of IP/ Responsible Party for Data Collection:	**Frequency of data collection:** *Enter how often the data will be collected (Weekly, Monthly, etc.)*
IRG/PDP	Monthly

Data Source: *Enter where IP obtains data (e.g. self-collected, GOP records or private sector).*	**Data Entry Frequency into PakInfo:** *Enter the anticipated frequency of regular data entry into PakInfo (e.g. Quarterly, Annually, etc)*	**Responsible Party for Data Entry into PakInfo:** *Enter who will be responsible for inputting and submitting data via PakInfo.*
PDP teams/sub-contractors/DISCOs	Quarterly	PDP's M&E team

Data Collection Method: *Enter the tools and methods to be used for data collection and indicate for each method who (IP, USAID or third party) will collect the data. (e.g. telephone survey of household sample, reading assessment administered by third-party, sign-in sheets of training participants by IP)*

The relevant PDP team receives project status report and/or completion reports after each system is created or improved and implemented. The indicator can be further verified by validation reports provided by the sub-contractor and through physical verification of the systems developed.

Data Analysis Plan: *Enter how the data will be analyzed, including description of methodology (e.g. descriptive, comparative, qualitative or quantitative) as well as who will participate in the data analysis process (e.g. activity manager, chief of party, other stakeholders, GOP representatives, etc.)*

The data is analyzed using the quantitative and comparative analysis methods. Relevant team leads do monthly analysis of data by measuring progress against the target and take corrective measures where required.

DATA QUALITY

Data Quality Assessment (DQA): *Enter the date the DQA was conducted and the person who conducted the DQA*

DQA has not been conducted for this indicator.

Date: *(MM/YY)* N/A	**DQA completed by:** N/A

Key Data Quality Limitations (if any) and Actions Planned to Address Those Limitations:
Enter data limitations identified in the data quality assessment process related to the five quality standards, namely validity, integrity, precision, reliability and timeliness; discuss the significance of data weakness that may affect the conclusions about the extent to which performance goals have achieved; describe corrective actions planned or taken for addressing data weakness

N/A.

BASELINE

Baseline Year: *(YYYY)*	**Baseline Data:**	**Reason for Postponement/Other Comments:** *If no baseline was established, enter the explanation and rationale for not establishing a baseline. Also indicate any other issues related to the baseline collection or data (such as rolling baselines or baselines from different sources rolling into one.*
2010	0 (For the purpose of reporting improvements, a baseline of "zero" is considered. Also the support of USAID to the Distribution Companies started in 2010.)	N/A

TARGET

Initial Target:	**Date for Achievement of Initial Target:**	**Date Initial Target was Set:**
46 systems	LOP	9/2011
Revised Target:	**Date for Achievement of Revised Target:**	**Date Revised Target was Set:**
50	LOP	4/2014
2nd Revision to Target:	**Date for Achievement of Revised Target:**	**Date Revised Target was Set:**

OTHER NOTES / NEXT STEPS

If the indicator is pending, explain why and expected date when collection will begin. As appropriate, indicate any other important information about the indicator and/or its data collection as well as actions needing to be taken

The initial target was revised to include Component-3; the work plan of which was approved in April 2014.

CHANGES & UPDATES

Date *(MM/YY)*	**Name** *Enter who made updates*	**Change or Update Made:**	**Reason for Change or Update:**
4/2014	Maryia Naseem Khan	Target revised	Workplan updated

PERFORMANCE INDICATOR REFERENCE SHEET (PIRS)

Indicator - # *and Title* **1.2.3(b):** Percent change in the number of lineman injuries and deaths

Development Objective - # *and Title* **(DO 1):** Increased Sustainable Energy Supplied to the Economy

Intermediate Result- # *and Title* **(IR 1.2):** Improved Energy Sector Governance

Sub-Intermediate Result - # *and Title* **(Sub-IR 1.2.3(b):** Improved Capacity of USAID-Supported Energy Public-Sector Entities

Relationship between the Sub-IR and IR or IR and DO: *Enter the explanation of the linkage between the lowest level of result represented by the indicator, and the next level of result up; address the "so what?" question to move from outputs to outcomes, or outcomes to impact; explain in terms of the development hypotheses, do not simply restate the structure of the Results Framework.*

Reduced number of linemen deaths and injuries would certainly result in increased efficiency of linemen in maintaining the equipment and assets of DISCOs, thus ensuring increased energy supply.

INDICATOR DESCRIPTION

Precise Definition(s):

Enter the precise definition of the indicator so it can be operationalized; define all terms, elements, implied actions and calculations; [for example, "farmers using better production techniques" – define "better production" and "techniques". Describe how this will be determined – e.g. Index, scale, standards]. For indicators that are percent or proportions explain how it will be calculated and what will serve as the numerator and denominator. If the indicator is cumulative, made up of stages or phases, or is a yes-no, please specify this and explain the stages/phases or how it is cumulative. If it is a Standard Program Structure ("F") Indicator, use and if necessary, refine the standard definition

This indicator measures the percentage reduction in the number of lineman deaths and injuries that are caused by lack of protective equipment, proper training and loose safety measures.

Reduction in percentage is calculated by using the following formula:

% reduction in accidents = (no. of accidents in the quarter prior to when trainings were started – no. of accidents in the current quarter) / no. of accidents in the year prior quarter to when trainings were started)

Unit of Measure:	Type of Indicator:	Category:		Desired Direction:
Enter unit of measure (e.g. "number of____", "percent of ____" etc.)	*Enter "output", "outcome" or "impact".*	*Enter "Standard F" or "Custom"*	*If "Standard F indicator", enter the number*	*Enter "increasing", "decreasing" or 'static" to indicate the direction of success result.*
Percent reduction	Outcome	Custom	N/A	Decreasing

Aggregation Process: *If indicator will be collected by more than one source, explain how the data will aggregate across these multiple sources (e.g. in the case of # of jobs, demonstrate how data definitions for what is counted as a "job" is consistently interpreted across sources and specify that he data reported by each partner will be added together for a combined total; or in the case of a stage of phase indicator, state how data from different partners will combine into one final data). Also specify the timeline for aggregation (e.g. all sources will be added together each quarter).*

Data for this indicator will be collected by two different sources; PDP and EPP. Total reduction in lineman injuries and deaths through USG supported interventions will aggregate across both the programs and the total percentage reduction will be counted under this indicator. Common collection instruments will be established across all data collection/reporting entities.

Disaggregates: *Enter all disaggregation titles/ categories and values (e.g. title: Household Head Type; values: Female no Male Adult households, Male no Female Adults households, Male and Female Adult households, Child no Adult households.)*

Fatal/Non-Fatal

DATA COLLECTION, STORAGE, and ANALYSIS

Name of IP/ Responsible Party for Data Collection:	**Frequency of data collection:** *Enter how often the data will be collected (Weekly, Monthly, etc.)*
IRG/PDP	Monthly

Data Source: *Enter where IP obtains data (e.g. self-collected, GOP records or private sector).*	**Data Entry Frequency into PakInfo:** *Enter the anticipated frequency of regular data entry into PakInfo (e.g. Quarterly, Annually, etc)*	**Responsible Party for Data Entry into PakInfo:** *Enter who will be responsible for inputting and submitting data via PakInfo.*
DISCOs monthly reports	Quarterly	PDP's M&E team

Data collection method: *Enter the tools and methods to be used for data collection and indicate for each method who (IP, USAID or third party) will collect the data. (e.g. telephone survey of household sample, reading assessment administered by third-party, sign-in sheets of training participants by IP)*

This data is collected directly from DISCOs as being reported by their concerned department on a monthly basis. Based on the number of accidents occurred in a month, percentage reduction in fatal and non-fatal accidents is measured.

Data Analysis Plan: *Enter how the data will be analyzed, including description of methodology (e.g. descriptive, comparative, qualitative or quantitative) as well as who will participate in the data analysis process (e.g. activity manager, chief of party, other stakeholders, GOP representatives, etc.)*

The data is analyzed using the quantitative and comparative analysis methods. Relevant team leads do monthly analysis of data by measuring progress against the target and take corrective measure where required.

DATA QUALITY

Data Quality Assessment (DQA): *Enter the date the DQA was conducted and the person who conducted the DQA*

DQA has not been conducted for this indicator.

Date: *(MM/YY)* N/A	**DQA completed by:** N/A

Key Data Quality Limitations (if any) and Actions Planned to Address Those Limitations: *Enter data limitations identified in the data quality assessment process related to the five quality standards, namely validity, integrity, precision, reliability and timeliness; discuss the significance of data weakness that may affect the conclusions about the extent to which performance goals have achieved; describe corrective actions planned or taken for addressing data weakness.*

Reliance on the statistics provided in DISCO reports. For verification, the relevant teams frequently visit the sites to evaluate the numbers reported by DISCOs.

BASELINE

Baseline Year: *(YYYY)*	**Baseline Data:**	**Reason for Postponement/Other Comments:** *If no baseline was established, enter the explanation and rationale for not establishing a baseline. Also indicate any other issues related to the baseline collection or data (such as rolling baselines or baselines from different sources rolling into one.*
2010	0% reduction (For the purpose of reporting improvements, a baseline of "zero %" is considered. Also the support of USAID to the Distribution Companies started in 2010.)	N/A

TARGET		
Initial Target:	**Date for Achievement of Initial Target:**	**Date Initial Target was Set:**
50% reduction	LOP	9/2011
Revised Target:	**Date for Achievement of Revised Target:**	**Date Revised Target was Set:**
2nd Revision to Target:	**Date for Achievement of Revised Target:**	**Date Revised Target was Set:**

OTHER NOTES / NEXT STEPS

CHANGES & UPDATES			
Date *(MM/YY)*	**Name** *Enter who made updates*	**Change or Update Made:**	**Reason for Change or Update:**

USAID/PAKISTAN – POWER DISTRIBUTION PROGRAM

LOG FRAMEWORK

PDP Project Results (Mission Strategic Framework Linkages)	**Results Indicator and Data Sources (tag as MSF &/or F Indicator # as appropriate)**	**Assumptions and Risks (factors affecting implementation and achievement of results)**	**Context Indicators (data linked to assumptions)**
Goal : Increased Sustainable Energy Supplied to the Economy)	Goal Indicator c: Percent change in unplanned load-shedding [Target: 75% reduction] Indicator data sources: NPCC and LDI database	• NTDC/NPCC and DISCOs cooperate in providing the required data for this indicator • LDI project produces the desired results • There could be and equipment measurements & accuracy errors • The system might not be used by the stakeholders in its true sense	• Implementation of LDI system in DISCOs • Use of LDI system by other GOP entities such as NPCC, MWP etc. • Sample data checks to assure the accuracy of data
Objective 1.1: Increased Energy Supply	Objective 1.1.a: Number of beneficiaries with improved energy services due to United States Government assistance (4.4.1-31) [Target: 3,774,143] Indicator data sources: PDP's project teams / subcontractors / DISCOs	• Dependence of this indicator on the MW savings interventions • The main limitation of this indicator is the assumption that each megawatt saved contributes to providing electricity to a certain number of people which is difficult to estimate. For this purpose PDP has devised a comprehensive methodology that calculates based on certain facts and figures that around 15,000 persons get benefited from saving one MW of power • MW saving interventions produce the desired results • DISCOs cooperate in providing the required data for this indicator	• Verification of the methodology by third party • Gallop surveys to determine the real number of beneficiaries

	Objective 1.1.b: gigawatt-hours (GW·h) of energy availability [Target: 838 GWh] Indicator data sources: PDP's project teams / subcontractors / DISCOs	• MW saving interventions produce the desired results • DISCOs cooperate in providing the required data for this indicator • There could be a risk in measurement error (human error), a reliance on statistics provided in DISCO publications, and on the validity of assumptions used to convert megawatts into Gigawatt hours.	• Sample data checks in the field to assure the accuracy of data
Sub-Objective 1.1.2: Improved Efficiency of Consumption and the Distribution Systems	Sub-Objective 1.1.2.a: megawatts (MW) of electrical power saved as a result of United States Government support to distribution companies [252 MW] Indicator data sources: PDP's project teams / subcontractors / DISCOs	• DISCOs cooperate in providing the required data for this indicator • There could be a risk in measurements of error (human error) and a reliance on statistics provided in DISCO/PEPCO publications. This is being overcome by robust data management system / audits utilized by PDP.	• Sample data checks in the field to assure the accuracy of data
	Sub-Objective 1.1.2.a: Number of installations and operations and maintenance improvements [Target: 368,885] Indicator data sources: (PDP's project teams / subcontractors / DISCOs)	• DISCOs cooperate in providing the required data for this indicator • Faulty equipment that needs replacement/rework after installation is finished and team is demobilized	• A post survey to be conducted to evaluate if the equipment installed in DISCO are up and operational • Sample data checks in the field to assure the accuracy of data
Sub-Objective 1.1.3: Increased Financial Sustainability of Power Supply	Sub-Objective 1.1.3.a: Financial Performance of Distribution Companies [Target: $277 million] Indicator data sources: (PDP's project teams / subcontractors / DISCOs)	• Reliance on the figures provided by the DISCOs • DISCOs cooperate in providing the required data for this indicator	• Audited financial income statements

	Sub-Objective 1.1.3.b: Percent change in meter reading cycle days of selected areas [Target: 2 days reduction per batch for each sub-division] Indicator data sources: DISCOs	• The metering reading improvement projects produce the desired results • The meter readers truly follows the best practices • DISCOs cooperate in providing the required data for this indicator	• Post follow up surveys to verify if the meter readers are following the practices
	Sub-Objective 1.1.3.c: Number of days for fuel adjustment process [Target: Less than 60 days] Indicator data sources: PDP/DISCO/MWP	• Reliance on MWP figures to calculate the indicator • DISCOs/MWP cooperate in providing the required data for this indicator	
Sub-Objective 1.1.4: Increased Non-USG Investment in the Energy Sector	Sub-Objective 1.1.4: Public and private funds leveraged by the United States Government for energy infrastructure projects (alternative F indicator 4.4.1-32) Indicator data sources: PDP teams/DISCOs	• Dependence on the DISCO provided numbers • DISCOs cooperate in successful implementation of PDP projects • DISCOs cooperate in providing the required data for this indicator	
Objective 2: Improved Energy Sector Governance			
Sub-Objective 1.2.1: Improved Policy Implementation	Sub-Objective 1.2.1.a: Number of key policies and regulations in development stages of analysis, drafting, stakeholder consultation, legislative review, approval, or implementation as a result of United States Government assistance [Target:	• Approvals from the competent authorities • DISCO BODs and Senior Management cooperate with implementation requirement for proposed project activities • DISCOs/MWP cooperate in providing the required data for this indicator	• Approval letters / Board meeting minutes

	47] Indicator data sources: PDP team deployed at Ministry, MWP and DISCOs		
Sub-Objective 1.2.2: More Autonomous Energy Sector Entities	Sub-Objective 1.2.2.a: number of policies following international best practices developed and implemented [Target: 12] Indicator data sources: Ministry of Water & Power(MWP) / National Electric power Regulatory Authority (NEPRA)	• Approvals from the competent authorities • MWP/NEPRA /DISCO BODs and Senior Management cooperate with implementation requirement for proposed project activities • MWP/NEPRA cooperate in providing the required data for this indicator	• Approval letters / Board meeting minutes
	Sub-Objective 1.2.2.b: Number of board recommendations following international best practices implemented by public sector entities [Target: 111] Indicator data sources: PDP's Functional Teams, DISCO records in the form of minutes of BOD meetings	• Approvals from the competent authorities • DISCO BODs and Senior Management cooperate with implementation requirement for proposed project activities • DISCOs cooperate in providing the required data for this indicator	• Approval letters / Board meeting minutes
Sub-Objective 1.2.3: Improved Capacity of USAID-Supported Energy Public-Sector Entities	Sub-Objective 1.2.3.a: Number of best practice-driven systems created, improved, and implemented [Target: 50] Indicator data sources: PDP teams/sub-contractors/DISCOs	• DISCO Senior Management cooperate with implementation requirement for proposed project activities • Approvals from the competent authorities for the implementation • DISCOs cooperate in providing the required data for this indicator	

	Sub-Objective 1.2.3.b: Percent change in the number of lineman injuries and deaths [Target: 50%] Indicator data sources: DISCOs monthly reports	• DISCOs cooperate in providing the required data for this indicator • There is a risk of reliance on the statistics provided in DISCO reports. For verification, the relevant teams frequently visit the sites to evaluate the numbers reported by DISCOs.	• Post training surveys