

REQUEST FOR PROPOSALS

FEASIBILITY STUDY FOR THE

**JORDAN: SMART GRID UPGRADES TO THE JORDANIAN ELECTRIC POWER
COMPANY (JEPCO) NETWORK**

Submission Deadline: **2:00 PM**
LOCAL TIME
JULY 15, 2012

Submission Place: **Jordanian Electric Power Company Ltd.**
P.O. BOX 618
Amman 11118
Hashemite Kingdom of Jordan

Phone: +962 79 5999 526
Fax: +962 06 5503 619

SEALED PROPOSALS SHALL BE CLEARLY MARKED AND RECEIVED PRIOR TO THE TIME AND DATE SPECIFIED ABOVE. PROPOSALS RECEIVED AFTER SAID TIME AND DATE WILL NOT BE ACCEPTED OR CONSIDERED.

N.B.: Any and all questions pertaining to the RFP should be sent to Anthony O'Tapi, USTDA, 1000 Wilson Blvd, Suite 1600, Arlington, VA 22209-3901, Tel: (703) 875-4357, Fax: (703) 875-4009, aotapi@ustda.gov

REQUEST FOR PROPOSALS

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Section 1: INTRODUCTION

The U.S. Trade and Development Agency (USTDA) has provided a grant in the amount of US\$383,400 to the Jordanian Electric Power Company, Ltd. (JEPCO) (the “Grantee”) in accordance with a grant agreement dated April 26, 2012 (the “Grant Agreement”). USTDA has provided a grant to the Grantee to perform the Smart Grid Upgrades to JEPCO Network Feasibility Study (the “Study”). The Grant Agreement is attached at Annex 4 for reference. The Grantee is soliciting technical proposals from qualified U.S. firms to provide expert consulting services to perform the Feasibility Study.

1.1 BACKGROUND SUMMARY

This Study is intended to enable JEPCO to improve operating efficiency, reduce losses, and cut costs through the use of smart grid technology. The Study is also designed to help JEPCO modernize its electrical grid and incorporate advanced technology in order to deliver a more efficient and reliable electrical supply to its customers.

JEPCO is the largest of three electricity distribution companies in Jordan. The other two distribution companies are also pursuing smart grid upgrades with support from USTDA under separate grant agreements. JEPCO is a publically listed company established in 1938, serving approximately 970,000 customers over 23,800 kilometers of distribution lines. JEPCO operates in the greater Amman area. Historically, residential and commercial customers represented over 95% of JEPCO’s clients but consumed only 55% of the electricity. Recently, JEPCO has experienced extraordinary growth in residential electricity consumption due to increased use of home appliances and a nation-wide electrification effort.

The proposed project would improve JEPCO’s electricity distribution network by installing a smart meter system, aiming at 5% smart meter penetration within the first three years of implementation. The Study will assess the most appropriate technologies and design a smart metering implementation plan for the proposed project. Areas to be directly assessed would include identifying the resources necessary for the system-wide smart metering implementation, including cost implications, availability of funding, and direct and indirect benefits of smart meter installations. As part of the Study, a new tariff structure will be developed that would allow energy savings for consumers and yield benefits for JEPCO in the areas of: billing, metering and collection efficiency gains, improved customer service, and reduced energy theft. The Study will evaluate appropriate technologies in the context of JEPCO’s coverage area within Jordan.

Portions of a background Desk Study are provided for reference in Annex 2.

1.2 OBJECTIVE

The objective of the Study is to assess appropriate technologies and develop an implementation plan for a smart metering system to improve JEPCO’s electricity distribution network. The major tasks of the Study include: review of smart meter experience and progress outside of Jordan; project implementation program development; smart meter integration into existing

systems; cost estimating; detailed economic and financial analyses; and legal, regulatory, environmental, and institutional reviews.

The Terms of Reference (TOR) for this Feasibility Study are attached as Annex 5.

1.3 PROPOSALS TO BE SUBMITTED

Technical proposals are solicited from interested and qualified U.S. firms. The administrative and technical requirements as detailed throughout the Request for Proposals (RFP) will apply. Please note that there is no restriction in place prohibiting such firms from submitting separate proposals in response to solicitations from the other Jordanian distribution companies receiving USTDA grant funds. Specific proposal format and content requirements are detailed in Section 3.

The amount for the contract has been established by a USTDA grant of US\$383,400 and a Grantee cost share of US\$42,600. **The USTDA grant of US\$383,400 and the Grantee cost share of \$42,600 are fixed amounts. Accordingly, COST will not be a factor in the evaluation and therefore, cost proposals should not be submitted.** Upon detailed evaluation of technical proposals, the Grantee shall select one firm for contract negotiations.

1.4 CONTRACT FUNDED BY USTDA

In accordance with the terms and conditions of the Grant Agreement, USTDA has provided a grant in the amount of US\$383,400 to the Grantee. The funding provided under the Grant Agreement shall be used to fund the costs of the contract between the Grantee and the U.S. firm selected by the Grantee to perform the TOR. The contract must include certain USTDA Mandatory Contract Clauses relating to nationality, taxes, payment, reporting, and other matters. The USTDA nationality requirements and the USTDA Mandatory Contract Clauses are attached at Annexes 3 and 4, respectively, for reference. The Grantee's cash contributions are not subject to USTDA's nationality provisions.

The Study will be funded under a grant from USTDA and a Grantee cost share. The total amount of the USTDA grant is not to exceed US\$383,400. The total budget for the Project is US\$426,000, of which the Grantee shall provide a cash cost share of US\$42,600, or 10% of the total project cost. In addition, the Grantee shall undertake its best efforts to provide reasonable support for the Contractor, such as local transportation, office space, and secretarial support.

Section 2: INSTRUCTIONS TO OFFERORS

2.1 PROJECT TITLE

The project is called the Smart Grid Upgrades to JEPSCO Network Feasibility Study.

2.2 DEFINITIONS

Please note the following definitions of terms as used in this RFP.

The term "Request for Proposals" means this solicitation of a formal technical proposal, including qualifications statement.

The term "Offeror" means the U.S. firm, including any and all subcontractors, which responds to the RFP and submits a formal proposal and which may or may not be successful in being awarded this procurement.

2.3 DESK STUDY REPORT

USTDA sponsored a Desk Study to address technical, financial, sociopolitical, environmental and other aspects of the proposed project. Portions of the report are attached at Annex 2 for background information only. Please note that the TOR referenced in the report are included in this RFP as Annex 5.

2.4 EXAMINATION OF DOCUMENTS

Offerors should carefully examine this RFP. It will be assumed that Offerors have done such inspection and that through examinations, inquiries and investigation they have become familiarized with local conditions and the nature of problems to be solved during the execution of the Feasibility Study.

Offerors shall address all items as specified in this RFP. Failure to adhere to this format may disqualify an Offeror from further consideration.

Submission of a proposal shall constitute evidence that the Offeror has made all the above mentioned examinations and investigations, and is free of any uncertainty with respect to conditions which would affect the execution and completion of the Feasibility Study.

2.5 PROJECT FUNDING SOURCE

The Feasibility Study will be funded under a grant from USTDA. The total amount of the grant is not to exceed US\$383,400. The Grantee has agreed to a cash cost share of \$42,600, resulting in a total project cost of US\$426,000.

2.6 RESPONSIBILITY FOR COSTS

Offeror shall be fully responsible for all costs incurred in the development and submission of the proposal. Neither USTDA nor the Grantee assumes any obligation as a result of the issuance of this RFP, the preparation or submission of a proposal by an Offeror, the evaluation of proposals, final selection or negotiation of a contract.

2.7 TAXES

Offerors should submit proposals that note that in accordance with the USTDA Mandatory Contract Clauses, USTDA grant funds shall not be used to pay any taxes, tariffs, duties, fees or other levies imposed under laws in effect in the Host Country.

2.8 CONFIDENTIALITY

The Grantee will preserve the confidentiality of any business proprietary or confidential information submitted by the Offeror, which is clearly designated as such by the Offeror, to the extent permitted by the laws of the Host Country.

2.9 ECONOMY OF PROPOSALS

Proposal documents should be prepared simply and economically, providing a comprehensive yet concise description of the Offeror's capabilities to satisfy the requirements of the RFP. Emphasis should be placed on completeness and clarity of content.

2.10 OFFEROR CERTIFICATIONS

The Offeror shall certify (a) that its proposal is genuine and is not made in the interest of, or on behalf of, any undisclosed person, firm, or corporation, and is not submitted in conformity with, and agreement of, any undisclosed group, association, organization, or corporation; (b) that it has not directly or indirectly induced or solicited any other Offeror to put in a false proposal; (c) that it has not solicited or induced any other person, firm, or corporation to refrain from submitting a proposal; and (d) that it has not sought by collusion to obtain for itself any advantage over any other Offeror or over the Grantee or USTDA or any employee thereof.

2.11 CONDITIONS REQUIRED FOR PARTICIPATION

Only U.S. firms are eligible to participate in this tender. However, U.S. firms may utilize subcontractors from the Host Country for up to 20 percent of the amount of the USTDA grant for specific services from the TOR identified in the subcontract. USTDA's nationality requirements, including definitions, are detailed in Annex 3. The Grantee's cash contributions are not subject to USTDA's nationality provisions. Refer to Section 1.4 of this RFP for additional information on the applicability of USTDA's Nationality Requirements.

2.12 LANGUAGE OF PROPOSAL

All proposal documents shall be prepared and submitted in English, and only English.

2.13 PROPOSAL SUBMISSION REQUIREMENTS

The **Cover Letter** in the proposal must be addressed to:

Eng. Hassan M. Abdullah
Strategic Asset Manager
Jordanian Electric Power Company Ltd.
P.O. BOX 618
Amman 11118
Hashemite Kingdom of Jordan

Telephone: +962 6 550 3600 ext. 250 or 511
Mobile: +962 79 5999 526
Fax: +962 06 5503 619
E-Mail: hassan.abdullah@jepco.com.jo

An Original and eight (8) copies of your proposal must be received at the above address no later than 2:00 PM, LOCAL TIME, on JULY 15, 2012. In addition, an electronic copy of the proposal must be emailed to Eng. Hassan Abdullah, at hassan.abdullah@jepco.com.jo.

Proposals may be either sent by mail, overnight courier, or hand-delivered. Whether the proposal is sent by mail, courier or hand-delivered, the Offeror shall be responsible for actual delivery of the proposal to the above address before the deadline. Any proposal received after the deadline will be returned unopened. The Grantee will promptly notify any Offeror if its proposal was received late.

Upon timely receipt, all proposals become the property of the Grantee.

2.14 PACKAGING

The original and each copy of the proposal must be sealed to ensure confidentiality of the information. The proposals should be individually wrapped and sealed, and labeled for content including the name of the project and designation of "original" or "copy number x." The original and eight (8) copies should be collectively wrapped and sealed, and clearly labeled, including the contact name and the name of the project.

Neither USTDA nor the Grantee will be responsible for premature opening of proposals not properly wrapped, sealed and labeled.

2.15 OFFEROR'S AUTHORIZED NEGOTIATOR

The Offeror must provide the name, title, address, telephone number, e-mail address and fax number of the Offeror's authorized negotiator. The person cited shall be empowered to make binding commitments for the Offeror and its subcontractors, if any.

2.16 AUTHORIZED SIGNATURE

The proposal must contain the signature of a duly authorized officer or agent of the Offeror empowered with the right to bind the Offeror.

2.17 EFFECTIVE PERIOD OF PROPOSAL

The proposal shall be binding upon the Offeror for NINETY (90) days after the proposal due date, and Offeror may withdraw or modify this proposal at any time prior to the due date upon written request, signed in the same manner and by the same person who signed the original proposal.

2.18 EXCEPTIONS

All Offerors agree by their response to this RFP announcement to abide by the procedures set forth herein. No exceptions shall be permitted.

2.19 OFFEROR QUALIFICATIONS

As provided in Section 3, Offerors shall submit evidence that they have relevant past experience and have previously delivered advisory, feasibility study and/or other services similar to those required in the TOR, as applicable.

2.20 RIGHT TO REJECT PROPOSALS

The Grantee reserves the right to reject any and all proposals.

2.21 PRIME CONTRACTOR RESPONSIBILITY

Offerors have the option of subcontracting parts of the services they propose. The Offeror's proposal must include a description of any anticipated subcontracting arrangements, including the name, address, and qualifications of any subcontractors. USTDA nationality provisions apply to the use of subcontractors and are set forth in detail in Annex 3. The successful Offeror shall cause appropriate provisions of its contract, including all of the applicable USTDA

Mandatory Contract Clauses, to be inserted in any subcontract funded or partially funded by USTDA grant funds.

2.22 AWARD

The Grantee shall make an award resulting from this RFP to the best qualified Offeror, on the basis of the evaluation factors set forth herein. The Grantee reserves the right to reject any and all proposals received.

2.23 COMPLETE SERVICES

The successful Offeror shall be required to (a) provide local transportation, office space and secretarial support required to perform the TOR if such support is not provided by the Grantee; (b) provide and perform all necessary labor, supervision and services; and (c) in accordance with best technical and business practice, and in accordance with the requirements, stipulations, provisions and conditions of this RFP and the resultant contract, execute and complete the TOR to the satisfaction of the Grantee and USTDA.

2.24 INVOICING AND PAYMENT

Deliverables under the contract shall be delivered on a schedule to be agreed upon in a contract with the Grantee. The Contractor may submit invoices to the designated Grantee Project Director in accordance with a schedule to be negotiated and included in the contract. After the Grantee's approval of each invoice, the Grantee will forward the invoice to USTDA. If all of the requirements of USTDA's Mandatory Contract Clauses are met, USTDA shall make its respective disbursement of the grant funds directly to the U.S. firm in the United States. All payments by USTDA under the Grant Agreement will be made in U.S. currency. Detailed provisions with respect to invoicing and disbursement of grant funds are set forth in the USTDA Mandatory Contract Clauses attached in Annex 4.

Section 3: PROPOSAL FORMAT AND CONTENT

To expedite proposal review and evaluation, and to assure that each proposal receives the same orderly review, all proposals must follow the format described in this section.

Proposal sections and pages shall be appropriately numbered and the proposal shall include a Table of Contents. Offerors are encouraged to submit concise and clear responses to the RFP. Proposals shall contain all elements of information requested without exception. Instructions regarding the required scope and content are given in this section. The Grantee reserves the right to include any part of the selected proposal in the final contract.

The proposal shall consist of a technical proposal only. A cost proposal is NOT required because the amount for the contract has been established by a USTDA grant of US\$383,400 and a Grantee cost share of \$42,600, which are fixed amounts.

Offerors shall submit one (1) original and eight (8) copies of the proposal. Proposals received by fax cannot be accepted.

Each proposal must include the following:

- Transmittal Letter,
- Cover/Title Page,
- Table of Contents,
- Executive Summary,
- Firm Background Information,
- Completed U.S. Firm Information Form,
- Organizational Structure, Management Plan, and Key Personnel,
- Technical Approach and Work Plan, and
- Experience and Qualifications.

Detailed requirements and directions for the preparation of the proposal are presented below.

3.1 EXECUTIVE SUMMARY

An Executive Summary should be prepared describing the major elements of the proposal, including any conclusions, assumptions, and general recommendations the Offeror desires to make. Offerors are requested to make every effort to limit the length of the Executive Summary to no more than five (5) pages.

3.2 U.S. FIRM INFORMATION

A U.S. Firm Information Form in .pdf fillable format is attached at the end of this RFP in Annex 6. The Offeror must complete the U.S. Firm Information Form and include the completed U.S. Firm Information Form with its proposal.

3.3 ORGANIZATIONAL STRUCTURE, MANAGEMENT, AND KEY PERSONNEL

Describe the Offeror's proposed project organizational structure. Discuss how the project will be managed including the principal and key staff assignments for this Feasibility Study. Identify the Project Manager who will be the individual responsible for this project. The Project Manager shall have the responsibility and authority to act on behalf of the Offeror in all matters related to the Feasibility Study.

Provide a listing of personnel (including subcontractors) to be engaged in the project, including both U.S. and local subcontractors, with the following information for key staff: position in the project; pertinent experience, curriculum vitae; other relevant information. If subcontractors are to be used, the Offeror shall describe the organizational relationship, if any, between the Offeror and the subcontractor.

A manpower schedule and the level of effort for the project period, by activities and tasks, as detailed under the Technical Approach and Work Plan shall be submitted. A statement confirming the availability of the proposed project manager and key staff over the duration of the project must be included in the proposal.

3.4 TECHNICAL APPROACH AND WORK PLAN

Describe in detail the proposed Technical Approach and Work Plan (the "Work Plan"). Discuss the Offeror's methodology for completing the project requirements. Include a brief narrative of the Offeror's methodology for completing the tasks within each activity series. Begin with the information gathering phase and continue through delivery and approval of all required reports.

Prepare a detailed schedule of performance that describes all activities and tasks within the Work Plan, including periodic reporting or review points, incremental delivery dates, and other project milestones.

Based on the Work Plan, and previous project experience, describe any support that the Offeror will require from the Grantee. Detail the amount of staff time required by the Grantee or other participating agencies and any work space or facilities needed to complete the Feasibility Study.

3.5 EXPERIENCE AND QUALIFICATIONS

Provide a discussion of the Offeror's experience and qualifications that are relevant to the objectives and TOR for the Feasibility Study. If a subcontractor(s) is being used, similar information must be provided for the prime and each subcontractor firm proposed for the project. The Offeror shall provide information with respect to relevant experience and qualifications of key staff proposed. The Offeror shall include letters of commitment from the individuals proposed confirming their availability for contract performance.

As many as possible but not more than six (6) relevant and verifiable project references must be provided for each of the Offeror and any subcontractor, including the following information:

Project name,
Name and address of client (indicate if joint venture),
Client contact person (name/ position/ current phone and fax numbers),
Period of Contract,
Description of services provided,
Dollar amount of Contract, and
Status and comments.

Offerors are strongly encouraged to include in their experience summary primarily those projects that are similar to the Feasibility Study as described in this RFP.

Section 4: AWARD CRITERIA

Individual proposals will be initially evaluated by a Procurement Selection Committee of representatives from the Grantee. The Committee will then conduct a final evaluation and completion of ranking of qualified Offerors. The Grantee will notify USTDA of the best qualified Offeror, and upon receipt of USTDA's no-objection letter, the Grantee shall promptly notify all Offerors of the award and negotiate a contract with the best qualified Offeror. If a satisfactory contract cannot be negotiated with the best qualified Offeror, negotiations will be formally terminated. Negotiations may then be undertaken with the second most qualified Offeror and so forth.

The selection of the Contractor will be based on the following criteria:

1. Professional Experience (30%) – Each bidder shall propose a project team that will be fully qualified to execute the entire scope of work of the study. The proposed staff should have qualifications and experience in engineering, design, technical analysis, operations planning and modeling, environmental assessments, as well as in-depth technical knowledge of smart metering infrastructure, including software and hardware for integration into existing systems. The project manager and his/her team must have demonstrated experience working with electrical utilities, and preferably have relevant professional experience in the design and effective implementation of smart grid projects. Qualified bidders will be expected to provide evidence of satisfactorily executing at least three (3) similar projects, with one project currently on-going or completed in the last 3 years. The reference projects (except for current or recently completed) should exhibit similar or larger size and complexity as the proposed project.
2. International Experience (30%) – Each bidder shall exhibit international experience and the capability to perform similar international feasibility studies in smart metering field or other related technical fields. Qualified bidders will be expected to provide evidence of satisfactorily executing at least two (2) international projects in the last 5 years. Reference international projects should exhibit similar or larger size and complexity as the proposed one.

3. Proposed Work Plan (40%) – Each bidder shall demonstrate an understanding of all the project tasks. Proposal efforts should be responsive to the requirements outlined in the Terms of Reference. The proposed Work Plan should be detailed, realistic, and manageable, and should reflect clear objectives to be achieved at the end of each and all tasks. The proposed Work Plan should also indicate the bidder’s anticipated approach to communicating with the Grantee throughout the project.

Proposals that do not include all requested information may be considered non-responsive.

Price will not be a factor in contractor selection.

ANNEX 1

ENG. HASSAN M. ABDULLAH, STRATEGIC ASSET MANAGER, JORDANIAN ELECTRIC POWER COMPANY LTD., P.O. BOX 618, AMMAN 11118, HASHEMITE KINGDOM OF JORDAN, PHONE: +962 550 3600 EXT 250 OR 511 MOBILE: +962 79 5999 526, FAX: +962 06 5503 619

JORDAN: SMART GRID UPGRADES TO THE JORDANIAN ELECTRIC POWER COMPANY (JEPCO) NETWORK FEASIBILITY STUDY

POC: Anthony O'Tapi, USTDA, 1000 Wilson Boulevard, Suite 1600, Arlington, VA 22209-3901, Tel: (703) 875-4357, Fax: (703) 875-4009. Jordan Smart Grid Upgrades to JEPCO Network Feasibility Study. The Grantee invites submission of qualifications and proposal data (collectively referred to as the "Proposal") from interested U.S. firms that are qualified on the basis of experience and capability to develop a feasibility study for a smart grid system for the Jordanian Electric Power Company Ltd. (JEPCO) distribution network in Jordan.

This Study is intended to enable JEPCO to improve operating efficiency, reduce losses, and cut costs through the use of smart grid technology. The Study is also designed to help JEPCO modernize its electrical grid and incorporate advanced technology in order to deliver a more efficient and reliable electrical supply to its customers.

JEPCO is the largest of three electricity networks in Jordan. The other two electricity distribution companies are also pursuing smart grid upgrades with support from USTDA. JEPCO is a publically listed company established in 1938, serving approximately 970,000 customers over 23,800 kilometers of distribution lines. JEPCO operates in the greater Amman area. Historically, residential and commercial customers represented over 95% of JEPCO's clients but consumed only 55% of the electricity. Recently, JEPCO has experienced extraordinary growth in residential electricity consumption due to increased use of home appliances and a nation-wide electrification effort.

The proposed project would improve JEPCO's electricity distribution network by installing a smart meter system, aiming at 5% smart meter penetration within the first three years of implementation. The Study will assess the most appropriate technologies and design a smart metering implementation plan for the proposed project. Areas to be directly assessed would include identifying the resources necessary for the system-wide smart metering implementation, including cost implications, availability of funding, and direct and indirect benefits of smart meter installations. As part of the Study, a new tariff structure will be developed that would allow energy savings for consumers and yield benefits for JEPCO in the areas of: billing, metering and collection efficiency gains, improved customer service, and reduced energy theft. The Study will evaluate appropriate technologies in the context of JEPCO's coverage area within Jordan.

The U.S. firm selected will be paid in U.S. dollars from a \$383,400 grant to the Grantee from the U.S. Trade and Development Agency (USTDA). The Grantee has agreed to a cash cost share of \$42,600, resulting in a total project cost of \$426,000.

A detailed Request for Proposals (RFP), which includes requirements for the Proposal, the Terms of Reference, and portions of a background desk study report are available from USTDA, at 1000 Wilson Boulevard, Suite 1600, Arlington, VA 22209-3901. To request the RFP in PDF format, please go to:

<https://www.ustda.gov/businessopps/rfpform.asp>. Requests for a mailed hardcopy version of the RFP may also be faxed to the IRC, USTDA at 703-875-4009. In the fax, please include your firm's name, contact person, address, and telephone number. Some firms have found that RFP materials sent by U.S. mail do not reach them in time for preparation of an adequate response. Firms that want USTDA to use an overnight delivery service should include the name of the delivery service and your firm's account number in the request for the RFP. Firms that want to send a courier to USTDA to retrieve the RFP should allow one hour after faxing the request to USTDA before scheduling a pick-up. Please note that no telephone requests for the RFP will be honored. Please check your internal fax verification receipt. Because of the large number of RFP requests, USTDA cannot respond to requests for fax verification. Requests for RFPs received before 4:00 PM will be mailed the same day. Requests received after 4:00 PM will be mailed the following day. Please check with your courier and/or mail room before calling USTDA.

Only U.S. firms and individuals may bid on this USTDA financed activity. Interested firms, their subcontractors and employees of all participants must qualify under USTDA's nationality requirements as of the due date for submission of qualifications and proposals and, if selected to carry out the USTDA-financed activity, must continue to meet such requirements throughout the duration of the USTDA-financed activity. All goods and services to be provided by the selected firm shall have their nationality, source and origin in the U.S. or host country. The U.S. firm may use subcontractors from the host country for up to 20 percent of the USTDA grant amount. Details of USTDA's nationality requirements and mandatory contract clauses are also included in the RFP. The Grantee's cash contributions are not subject to USTDA's nationality provisions.

Interested U.S. firms should submit their Proposal in English directly to the Grantee by 2:00 PM, LOCAL TIME, on JULY 15, 2012, at the above address. Evaluation criteria for the Proposal are included in the RFP. Price will not be a factor in contractor selection, and therefore, cost proposals should NOT be submitted. The Grantee reserves the right to reject any and/or all Proposals. The Grantee also reserves the right to contract with the selected firm for subsequent work related to the project. The Grantee is not bound to pay for any costs associated with the preparation and submission of Proposals.

ANNEX 2



CONSTANT GROUP LLC
130 West Pleasant Avenue, Suite 165
Maywood, NJ 07607
Phone: (201) 982-0940
www.constgr.com

Desk Study
Jordan - Power Sector Projects
(2011-21031A)

Final Report

March 2012



This report was funded by the U.S. Trade and Development Agency (USTDA), a foreign assistance agency of the U.S. Government. The opinions, findings, conclusions, or recommendations expressed in this document are those of the author(s) and do not necessarily represent the official position or policies of USTDA.

Mailing and Delivery Address: 1000 Wilson Boulevard, Suite 1600, Arlington, VA 22209-3901
Phone: 703-875-4357 **Fax:** 703-875-4009 **Web site:** www.ustda.gov



The U.S. Trade and Development Agency

The U.S. Trade and Development Agency helps American companies create U.S. jobs through the export of U.S. goods and services for priority development projects in emerging economies.

USTDA links U.S. businesses to export opportunities by funding project planning activities, pilot projects, and reverse trade missions while simultaneously creating sustainable infrastructure and economic growth in partner countries.

Mailing and Delivery Address: 1000 Wilson Boulevard, Suite 1600, Arlington, VA 22209-3901
Phone: 703-875-4357 **Fax:** 703-875-4009 **Web site:** www.ustda.gov

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List of Acronyms

AMI	Advanced Metering Infrastructure
AMS	Asset management systems
BOO	Build-Own-Operate
CEGCO	Central Electricity Generation Company
CG	Constant Group LLC
CIS	Customer information/complaints system
EDCO	Electricity Distribution Company
EPC	Engineer, Procure, Construct
EU	European Union
FACTS	Flexible alternating current transmission systems
GIS	Geographic Information System
HV	High voltage
IDECO	Irbid District Electricity Company
IFC	International Finance Corporation
IPP	Independent Power Production
IRR	Internal rate of return
JD	Jordanian Dinar (~ \$US 1.4)
JEPCO	Jordan Electric Power Company
KEC	Kingdome Electricity Company
km	Kilometers
kV	Kilo-volt
kVA	Kilo-volt-ampere
MW	Mega-watt
MWh	Mega-watt hour
NEPCO	National Electric Power Company
NERC	North American Electric Reliability Corporation
NPV	Net present value
O&M	Operations and Maintenance
OHL	Overhead lines
OHTL	Over Head Transmission Line
OMS	Outage Management System
PLC	Power line communication
PMU	Phasor measurement units
PPA	Power Purchase Agreement
RF	Radio frequency
RTO	Regional transmission organizations
SS or S/S	Substation
SVC	Static VAR compensators
T&D	Transmission and Distribution
TOR	Terms of Reference
TOU	Time-of-use (tariff)
USTDA	U.S. Trade and Development Agency

1. Desk Study Summary

The U.S. Trade and Development Agency (USTDA) awarded Constant Group LLC (“CG” or “Consultant”) a contract for a Jordan Power Desk Study (DS) to evaluate opportunities for USTDA grants for distribution-related power projects. The Consultant was provided with the scope document for two distribution projects and the original Definitional Mission report.

According to the Desk Study Terms of Reference, the Consultant was required to prepare the review of projects that are in initial development stages and could benefit from the USTDA involvement. The Consultant selected three (3) projects for detailed overview primarily based on the following specific project considerations:

- (1) The proposed project will likely receive implementation financing and will have a procurement process that provides “equal access” to U.S. firms;
- (2) The project represents an opportunity for sales of U.S. goods and services that is substantially greater than the initial investment of USTDA assistance; and
- (3) The project is a development priority of the project sponsor and country in which the project is located.

No.	Name	Grantee	Scope	Proposed Study Cost, \$	Cost-share
4	JEPCO Smart Grid Project Feasibility Study	JEPCO	Limited scale smart grid for 50,000 (5%) of 970,000 total customers.	Recommended FS	TBD

The proposed smart grid projects will have numerous benefits, including but not limited to: (a) implementing improvements in metering and billing, (b) reducing non-payments while maintaining a basic level of social assistance, (c) reducing distribution losses, and (d) assisting in electricity generation optimization. The following sections describe these proposed projects in more detail.

4. JEPSCO SMART GRID PROJECT

4.1 Executive Summary

This proposed project was identified by the Jordanian Electric Power Company (JEPSCO). JEPSCO has about 970,000 distribution customers.

The proposed project is designed to provide improvements to the distribution of electric networks by installing a smart meter system. The major tasks of the proposed study include:

- Review of smart meter experience and progress outside of Jordan;
- Identification & Specification of optimal Smart Metering technology.
- Project implementation program development;
- Smart meter integration into existing systems;
- Cost estimating;
- Detailed economic and financial analyses; and
- Legal, regulatory, environmental and institutional reviews.

While JEPSCO has over 970,000 customers, the CG believes that current financial status of the company may accommodate the phased-in approach to smart metering. The proposed project assumes that about 5% of customers will participate in smart meter implementation in the first three years.

4.2 Project Background and Description

Project Background

The Jordanian Electric Power Company (JEPSCO) is the largest electricity distributor in Jordan. The company operates 76 high voltage transformation substations. These substations transform the voltage from 33kV to 11kV. At the distribution substations, voltage is converted to low voltage. This extensive network operates at 415V. A total of 5,800 distribution transformers are used in the network to convert distribution voltage levels to low voltage (230V single phase or 415 V three-phase). Total transformer installed capacity is 4,798 MVA. Of these transformers 1,672 are of the 33kV to 415V type, and 4,128 are of the 11kV to 415V type.

It should be noted that the residential and commercial customers constitute over 95% of total JEPSCO customers, but consume about 55% of the electricity. Water pumping facilities consume over 5% of electricity and industrial facilities close to 20%. The breakdown by class and consumption is provided in Exhibits 4-1 and 4-2.

Based in the JEPSCO latest data, as of the end of 2010, JEPSCO had over 973,000 total customers.

Exhibit 4-1 - Customers and Consumption

Description	kWh	No. of consumer
Residential	2,870,324,814	806,900
Commercial	1,489,913,805	131,867
Small industry	488,462,573	10,376
Large industry	1,245,632,879	523
Water pumps	327,266,639	310
Agriculture pumps	117,547,547	1,205
Water pumps commercial	9,975,341	21
Street lighting free	155,504,401	4,870
Radio & TV	7,716,281	40
Hotels	142,978,050	275
Residential discount75%	32,583,075	4,251
Charities	252,127,498	5,043
Armed forces	191,049,086	580
Government	176,877,176	7,539
Other adjustments	37,343,656	
	7,545,302,821	973,800

Source: JEPSCO, 2011

Exhibit 4-2 - Customers Consumption (MW) by Class

Consumption is equal or above (Kwh / Month)	Percentage
10000	0.46%
5000	0.90%
3000	1.57%
2000	2.51%
1000	7.07%
500	25.96%
200	71.36%
100	88.78%
0	100.00%

Source: JEPSCO, 2011

JEPSCO has over 23,800 km of distribution lines as shown in Exhibit 4-3 and very high distribution losses of 14%.

Exhibit 4-3 - Distribution Utility Technical Data

	JEPSCO
Length of Medium Voltage Underground cable in Km	4,244
Length of Medium Voltage OHL in Km	3,629

Length of Low Voltage Underground cable in Km	3,035
Length of Low Voltage OHL in Km	13,171
Capacity of Transformers in MVA	7,064
Total Purchased Energy (MWh)	8,183,106
Total Sold Energy (MWh)	7,015,185
Total Losses %	14.27%

Source: ERC, 2009

One of the major reasons this project is requested by JEPSCO is the extraordinary growth of electricity sales in the residential sector. This growth is primarily due to increased use of home appliances (air conditioners, electric stoves, electric water heaters, and television sets) and a current rural electrification. The proposed smart meter project is viewed as a tool for JEPSCO to be more flexible in setting various types of tariffs for various consumption levels. This task is not achievable or enforceable without detailed customer information that can be collected with the proposed smart meter system.

The current JEPSCO tariff structure is fairly straightforward. Exhibit 4-4 below provides descriptions of current tariffs.

Exhibit 4-4 - JEPSCO Basic Tariffs

a- The Maximum Load Tariff	2.98 JD/kW/month for maximum monthly load .
b- The Day Energy Tariff	55.19 Fils for each kWh sold during the day period.
c- The Night Energy Tariff	45.14 Fils for each kWh sold during the night period.

Source: JEPSCO, 2011

JEPSCO is making efforts to improve its operational efficiencies by implementing new technologies, tools and equipment. The Company has requested USDA's technical assistance for conducting feasibility studies for the implementation of Smart Metering technologies.

At present in Jordan, the Distribution Companies' metering, billing and collection practices are susceptible to the following short-comings:

- Inaccurate Meter Reading Used for Billing - misreading, erroneous estimated readings, falsified readings
- Delays in Billing - billing calculations, bill printing, delivery of bills to customers
- Delay in Collection and Revenue Realization - convenient payment time and location, disputed bills, prompt payment incentives, processing of payments and deposits by Distribution Utilities and Banks

- Unbilled Electricity – un-metered with no charge, un-metered with fixed charge, illegal connections, tampered meters.

As the Distribution Utilities take a new look at developing solutions to their metering, billing and collection problems, consideration must be given to opportunities and challenges in each of the following areas:

- Updating metering practices and other technologies for application in the field
- Reducing un-metered electricity or electricity theft to improve billing practices
- Revising legal, regulatory and tariff structure policies and practices

Distribution Utilities are exploring the introduction of Advanced Metering Infrastructure (AMI, also known as Smart Metering or Smart Grid). AMI involves two-way communications with “smart” meters and other energy management devices. The Distribution Utilities expect that this new technology will:

- (i) include new communication networks and database systems;
- (ii) modernize the electric grid; and
- (iii) provide other important benefits to Distribution Utilities and their customers.

These systems will allow Distribution Utilities to respond more quickly to potential problems and to communicate real-time electricity prices. These price signals provide consumers with financial incentives to reduce their electricity usage at high-cost times of the day, week, or month. In addition, Distribution Utilities can send price signals to “smart” thermostats and “smart” appliances to alert them about an upcoming high-cost period. Based on consumer-determined responses, these smart devices can reduce consumer usage until the high-cost period has ended or shift that usage to lower-cost periods.

AMI, along with new rate designs, will provide consumers the ability to use electricity more efficiently and in turn increase consumer savings while providing JEPSCO the ability to detect problems in their system, operate more efficiently and, ultimately, improve reliability.

For Smart Metering, the main objective of this assignment is to investigate the feasibility of the introduction of “smart” meters in JEPSCO system and to develop an implementation plan. A feasibility study will be conducted of a new tariff structure which will allow energy savings for consumers while simultaneously benefiting JEPSCO regarding billing, metering and collection efficiency gains, improved customer service, and reduced energy theft. All available technologies will be reviewed in the context of Jordan and the resources necessary for the system-wide

implementation of smart meters, including cost implications, availability of funding and direct and indirect benefits of smart meter installations.

4.3 Project Sponsor’s Capabilities and Commitment

Over the past few years JEPSCO has experienced exceptional growth in demand. In 2001 peak demand was 639.1 MW and sold energy was 3506 GWh. From 2002 to 2009, sold electricity grew at an annual average rate of about 9%, and new customers were connected at about 40,000 per annum. By 2009, peak demand grew to 1393 MW, sold energy was about 7,040 GWh, and the customer base grew to 910,000. The high growth in demand rapidly placed distribution networks under pressure which caused total energy losses to increase to around 15% at end-2007. Most technical losses can be attributed to overloaded long 33 kV distribution lines which deliver power to load centers from NEPCO delivery sub-stations (total of 13 SS outside of Amman City).

Distribution losses reached 1662 GWh, constituting 13.3% of total electricity supplied by Distribution Companies in 2009, around the same as distribution loss in 2008. On the other hand, aggregate electrical losses in both Transmission and Distribution reached 17.0% of total energy supplied in 2009, compared to 17.8% in 2008.

The company has been adding distribution lines to replace outdated and to connect new customers as described in the Exhibit 4-5.

Exhibit 4-5 - Existing and New Distribution Lines Addition

Medium Voltage	2008	2009	2010
O H L 33 kV	2504	2608	2650
O H L 11/6.6 kV	991	1021	1035
Underground Cables 33 kV	1345	1523	1670
Underground Cables 11/6.6 kV	2527	2721	2864
Total	7367	7873	8219
Low Voltage	2008	2009	2010
O H L 0.4 kV	12749	13171	13557
Underground Cables 0.4 kV	2983	3035	3070
Total	15732	16206	16627
TOTAL MEDIUM+LOW	23099	24079	24846

Source: JEPSCO 2011

Exhibit 4-6 provides details of number of various voltage substations for 2008-2010. Total number of substations increased by 12% from 2008 to 2010.

Exhibit 4-6 – Existing and New Substations Addition

As at the end of the year Voltage Level	2008		2009		2010	
	Number	Capacity Installed in KVA	Number	Capacity Installed in KVA	Number	Capacity Installed in KVA
33/11 KV	76	1,877,500	79	2,052,500	84	2,152,500
33/0.4 KV	1,986	692,165	2,102	755,995	2,204	809,130
11/0.4 KV	5,141	3,920,902	5,483	4,255,482	5,760	4,551,342
Total	7,203	6,490,567	7,664	7,063,977	8,048	7,512,972

Source: JEPSCO 2011

Projects above were either implemented by JEPSCO staff or JEPSCO staff managed the project and provided EPC supervision of contractors. JEPSCO has significant experience in distribution electric projects, including engineering and design, implementation, technical support, and EPC supervision.

JEPSCO is an experienced Grantee that is capable of handling the management and supervision of the proposed scope of work.

The proposed smart meter project targets the installation of advanced metering equipment for as many of the Company's 970,000 existing customers as possible and practical. Assuming that the 2010 financial situation of the company continues, CG estimates that over next 3 years about 5% of customers can be included in the project (about 50,000 customers).

4.7 Developmental Impact

This project is supportive of national government objectives to improve grid stability and reliability and minimize electricity costs. According to USTDA criteria, the project's potential development impacts include the following:

Infrastructure -- The Project will develop a plan for the implementation of an advanced metering system in Jordan. Among potential infrastructure improvements are meter replacements, reinforcement of the existing communication infrastructure, construction of new data terminals for storage and processing of load data, and implementation of advanced software systems.

Human Capacity Building -- The proposed metering improvements will create new jobs in installation, maintenance, data collection and integration, analysis, billing, and other areas. At the same time, the project will optimize the meter reading process and may lead to a reduction in the number of manual meter readers. The proposed project will emphasize the re-training of meter readers currently serving older meters. Employment opportunities will be available for technical, analytical, construction, and administrative people during the installation and commercial operation phases of the project.

Other - The new meters and metering infrastructure should have some positive environmental benefits including recycling of older meters and reduction of emissions from meter reading operations.

4.8 Environmental Impact

The project is expected to have a positive effect on the environment. Currently, metering infrastructure is only used for billing.

Among the anticipated positive impacts are the following:

- Air emission reductions due to less meter reading;
- Ability to implement time-of-use tariffs leads to more efficient power generation;
- Ability to implement time-of-use tariffs leads to more efficient water consumption;
- Training on environmental issues will be provided to locals;
- Life quality improvement for local communities due to new income; and
- Social commitment regarding education, health and production of goods.

Potential negative impacts include the following:

- Potential environmental issues with old meter removal;
- Old meter disposal;
- Sound pollution during construction; and
- Equipment transit during construction.

4.9 Impact on U.S. Labor

CG anticipates no negative impacts on U.S. employment due to this project. The project would provide planning guidance for the electric smart metering system and

not products that could be imported into the U.S. On the other hand, positive impacts will result in the event U.S. exporters succeed in obtaining contracts to provide equipment and services when the project goes forward, and this could conceivably serve as a catalyst for further projects in the region.

No adverse impact is expected from the execution of the proposed project. Its significant export potential would assure the bulk of the production of major goods in the U.S. and their export to the host country. No significant permanent new job creation impacting U.S. jobs is expected outside the U.S.

4.11 Justification

The proposed advanced metering system project will have the following major benefits:

- Implement a large scale advanced metering system;
- Reduce non-payments while maintaining a basic level of social assistance;
- Reduce distribution losses; and
- Assist in electricity generation optimization.

The proposed project clearly satisfies USTDA funding criteria:

- The Project Sponsor is willing to provide “equal access” to U.S. firms in procurement resulting from this project;
- The amount of post-project procurement should be significantly higher than study funding. The estimate for U.S. exports is about \$5.5 million;
- The project is clearly a priority for the country and will be viewed favorably by the U.S. Embassy; and
- The proposed project shall assist U.S. companies facing significant competition from the EU and other regional competitors.

4.13 Schedule

The proposed project implementation schedule is presented in Exhibit 4-14 below. The duration of the total effort is estimated at 7 months with most of the tasks being accomplished sequentially. The Final Report issuance is expected in 7 months since notice to proceed.

Exhibit 4-14 - Project Schedule

No.	Task Name	Duration (days)	Months						
			1	2	3	4	5	6	7
1	Data and Configuration Review	25	■						
2	Review the Tariff Structure and Regulatory Environment	25		■					
3	Smart Meter Technologies Review	25			■				
4	Analyze the Economic and Technical Implications of Technology Choice	15				■			
5	Implementation and Program Preparation	10					■		
6	Integration Program Preparation	15						■	
7	Economic Analysis	30			■	■	■	■	
8	Financing Mechanism Analysis	10							■
9	Preliminary Environmental Impact Assessment	15							■
10	Development Impact Analysis	10							■
11	Legal, Regulatory, and Institutional Review	10							■
12	Draft Final and Final Report Preparation and Presentation	15							■

ANNEX 3



**U.S. TRADE AND DEVELOPMENT AGENCY
Arlington, VA 22209-2131**

NATIONALITY, SOURCE, AND ORIGIN REQUIREMENTS

The purpose of USTDA's nationality, source, and origin requirements is to assure the maximum practicable participation of American contractors, technology, equipment and materials in the prefeasibility, feasibility, and implementation stages of a project.

USTDA STANDARD RULE (GRANT AGREEMENT STANDARD LANGUAGE):

Except as USTDA may otherwise agree, each of the following provisions shall apply to the delivery of goods and services funded by USTDA under this Grant Agreement: (a) for professional services, the Contractor must be either a U.S. firm or U.S. individual; (b) the Contractor may use U.S. subcontractors without limitation, but the use of subcontractors from host country may not exceed twenty percent (20%) of the USTDA Grant amount and may only be used for specific services from the Terms of Reference identified in the subcontract; (c) employees of U.S. Contractor or U.S. subcontractor firms responsible for professional services shall be U.S. citizens or non-U.S. citizens lawfully admitted for permanent residence in the U.S.; (d) goods purchased for implementation of the Study and associated delivery services (e.g., international transportation and insurance) must have their nationality, source and origin in the United States; and (e) goods and services incidental to Study support (e.g., local lodging, food, and transportation) in host country are not subject to the above restrictions. USTDA will make available further details concerning these standards of eligibility upon request.

NATIONALITY:

1) Rule

Except as USTDA may otherwise agree, the Contractor for USTDA funded activities must be either a U.S. firm or a U.S. individual. Prime contractors may utilize U.S.

subcontractors without limitation, but the use of host country subcontractors is limited to 20% of the USTDA grant amount.

2) Application

Accordingly, only a U.S. firm or U.S. individual may submit proposals on USTDA funded activities. Although those proposals may include subcontracting arrangements with host country firms or individuals for up to 20% of the USTDA grant amount, they may not include subcontracts with third country entities. U.S. firms submitting proposals must ensure that the professional services funded by the USTDA grant, to the extent not subcontracted to host country entities, are supplied by employees of the firm or employees of U.S. subcontractor firms who are U.S. individuals.

Interested U.S. firms and consultants who submit proposals must meet USTDA nationality requirements as of the due date for the submission of proposals and, if selected, must continue to meet such requirements throughout the duration of the USTDA-financed activity. These nationality provisions apply to whatever portion of the Terms of Reference is funded with the USTDA grant.

3) Definitions

A "U.S. individual" is (a) a U.S. citizen, or (b) a non-U.S. citizen lawfully admitted for permanent residence in the U.S. (a green card holder).

A "U.S. firm" is a privately owned firm which is incorporated in the U.S., with its principal place of business in the U.S., and which is either (a) more than 50% owned by U.S. individuals, or (b) has been incorporated in the U.S. for more than three (3) years prior to the issuance date of the request for proposals; has performed similar services in the U.S. for that three (3) year period; employs U.S. citizens in more than half of its permanent full-time positions in the U.S.; and has the existing capability in the U.S. to perform the work in question.

A partnership, organized in the U.S. with its principal place of business in the U.S., may also qualify as a "U.S. firm" as would a joint venture organized or incorporated in the United States consisting entirely of U.S. firms and/or U.S. individuals.

A nonprofit organization, such as an educational institution, foundation, or association may also qualify as a "U.S. firm" if it is incorporated in the United States and managed by a governing body, a majority of whose members are U.S. individuals.

SOURCE AND ORIGIN:

1) Rule

In addition to the nationality requirement stated above, any goods (e.g., equipment and materials) and services related to their shipment (e.g., international transportation and insurance) funded under the USTDA Grant Agreement must have their source and origin in the United States, unless USTDA otherwise agrees. However, necessary purchases of goods and project support services which are unavailable from a U.S. source (e.g., local food, housing and transportation) are eligible without specific USTDA approval.

2) Application

Accordingly, the prime contractor must be able to demonstrate that all goods and services purchased in the host country to carry out the Terms of Reference for a USTDA Grant Agreement that were not of U.S. source and origin were unavailable in the United States.

3) Definitions

“Source” means the country from which shipment is made.

"Origin" means the place of production, through manufacturing, assembly or otherwise.

Questions regarding these nationality, source and origin requirements may be addressed to the USTDA Office of General Counsel.

ANNEX 4



GRANT AGREEMENT

This Grant Agreement is entered into between the Government of the United States of America, acting through the U.S. Trade and Development Agency ("USTDA") and the Jordanian Electric Power Company Ltd. ("Grantee"). USTDA agrees to provide the Grantee under the terms of this Grant Agreement US\$383,400 ("USTDA Grant") to fund the cost of goods and services required for a feasibility study ("Study") on the proposed Smart Grid Upgrades to JEPCO Network ("Project") in Jordan ("Host Country").

1. USTDA Funding

The funding to be provided under this Grant Agreement shall be used to fund the costs of a contract between the Grantee and the U.S. firm selected by the Grantee ("Contractor") under which the Contractor will perform the Study ("Contract"). Payment to the Contractor will be made directly by USTDA on behalf of the Grantee with the USTDA Grant funds provided under this Grant Agreement.

2. Terms of Reference

The Terms of Reference for the Study ("Terms of Reference") are attached as Annex I and are hereby made a part of this Grant Agreement. The Study will examine the technical, financial, environmental, and other critical aspects of the proposed Project. The Terms of Reference for the Study shall also be included in the Contract.

3. Standards of Conduct

USTDA and the Grantee recognize the existence of standards of conduct for public officials and commercial entities in their respective countries. Therefore, USTDA, the Grantee, and the Contractor shall not directly or indirectly provide, offer or promise to provide money or anything of value to any public official in violation of any United States or Host Country laws relating to corruption or bribery.

4. Grantee Responsibilities

The Grantee shall undertake its best efforts to provide reasonable support for the Contractor, such as local transportation, office space, and secretarial support. In addition to the USTDA funding provided under this Grant Agreement, the Grantee shall provide US\$42,600 in cash contributions to partially fund the costs of goods and services required for the completion of the Terms of Reference (the "Grantee Cost Share"). The Grantee shall pay the Grantee Cost Share directly to the Contractor in accordance with the procedures set forth in the Payment Schedule Requirements in Clause H(2) of the USTDA Mandatory Clauses in Annex II.

5. Contract Matters and USTDA's Rights as Financier

(A) Grantee Competitive Selection Procedures

Selection of the U.S. Contractor shall be carried out by the Grantee according to its established procedures for the competitive selection of contractors with advance notice of the procurement published online through *Federal Business Opportunities* (www.fedbizopps.gov). Upon request, the Grantee will submit these contracting procedures and related documents to USTDA for information and/or approval.

(B) USTDA's Right to Approve Contractor Selection

The Grantee shall notify USTDA at the address of record set forth in Article 16 below upon selection of the Contractor to perform the Study. USTDA then shall notify the Grantee whether or not USTDA approves the Grantee's Contractor selection. Upon USTDA approval of the Grantee's Contractor selection, the Grantee shall notify in writing the U.S. firms that submitted unsuccessful proposals to perform the Study that they were not selected. The Grantee and the Contractor then shall enter into a contract for performance of the Study.

(C) USTDA's Right to Approve Contract Between Grantee and Contractor

(1) Contract

The Grantee and the Contractor shall enter into a contract for performance of the Study. The Grantee (or the Contractor on the Grantee's behalf) shall transmit to USTDA, at the address set forth in Article 16 below, a photocopy of an English language version of the signed contract or a final negotiated draft version of the contract. USTDA then shall notify the Grantee and the Contractor whether or not USTDA approves the contract.

(2) Amendments and Assignments

The Grantee or the Contractor may submit any proposed amendment to the contract, including any proposed amendment to any annex thereto, or any proposed assignment of the contract, to USTDA at the address set forth in Article 16 below. USTDA then shall notify the Grantee and the Contractor whether or not USTDA approves the proposed amendment or assignment.

(D) USTDA Not a Party to the Contract

It is understood by the parties that USTDA has reserved certain rights such as, but not limited to, the right to approve the terms of the contract and any amendments thereto, including assignments, the selection of all contractors, the Terms of Reference, the Final Report, and any and all documents related to any contract funded under the

Grant Agreement. The parties hereto further understand and agree that USTDA, in reserving any or all of the foregoing approval rights, has acted solely as a financing entity to assure the proper use of United States Government funds, and that any decision by USTDA to exercise or refrain from exercising these approval rights shall be made as a financier in the course of funding the Study and shall not be construed as making USTDA a party to the contract. The parties hereto understand and agree that USTDA may, from time to time, exercise the foregoing approval rights, or discuss matters related to these rights and the Project with the parties to the contract or any subcontract, jointly or separately, without thereby incurring any responsibility or liability to such parties. Any approval or failure to approve by USTDA shall not bar the Grantee or USTDA from asserting any right they might have against the Contractor, or relieve the Contractor of any liability which the Contractor might otherwise have to the Grantee or USTDA.

(E) Grant Agreement Controlling

Regardless of USTDA approval, the rights and obligations of any party to the contract or any subcontract thereunder must be consistent with this Grant Agreement. In the event of any inconsistency between the Grant Agreement and the contract or any subcontract funded by the Grant Agreement, the Grant Agreement shall control.

6. Disbursement Procedures

(A) USTDA Approval of Contract Required

USTDA will make disbursements of Grant funds directly to the Contractor only after USTDA approves the Grantee's contract with the Contractor.

(B) Contractor Invoice Requirements

The Grantee should request disbursement of funds by USTDA to the Contractor for performance of the Study by submitting invoices in accordance with the procedures set forth in the USTDA Mandatory Clauses in Annex II.

7. Effective Date

The effective date of this Grant Agreement ("Effective Date") shall be the date of signature by both parties or, if the parties sign on different dates, the date of the last signature.

8. Study Schedule

(A) Study Completion Date

The completion date for the Study, which is July 1, 2013, is the date by which the parties estimate that the Study will have been completed.

(B) Time Limitation on Disbursement of USTDA Grant Funds

Except as USTDA may otherwise agree, (i) no USTDA funds may be disbursed under this Grant Agreement for goods and services which are provided prior to the Effective Date of the Grant Agreement; and (ii) no USTDA funds may be disbursed more than four (4) years after the Effective Date of the Grant Agreement.

9. USTDA Mandatory Contract Clauses

All contracts funded under this Grant Agreement shall include the USTDA Mandatory Contract Clauses set forth in Annex II to this Grant Agreement. All subcontracts funded or partially funded with USTDA Grant funds shall include the USTDA Mandatory Contract Clauses, except for clauses B(1), G, H, I, and J.

10. Use of U.S. Carriers

(A) Air

Transportation by air of persons or property funded under this Grant Agreement shall be on U.S. flag carriers in accordance with the Fly America Act, 49 U.S.C. 40118, to the extent service by such carriers is available, as provided under applicable U.S. Government regulations.

(B) Marine

Transportation by sea of property funded under this Grant Agreement shall be on U.S. carriers in accordance with U.S. cargo preference law.

11. Nationality, Source and Origin

Except as USTDA may otherwise agree, the following provisions shall govern the delivery of goods and professional services funded by USTDA under this Grant Agreement:

- (a) the Contractor must be a U.S. firm;
- (b) the Contractor may use U.S. subcontractors without limitation;
- (c) employees of U.S. Contractor or U.S. subcontractor firms shall be U.S. citizens or non-U.S. citizens lawfully admitted for permanent residence in the United States, except as provided pursuant to subpart (d) below;
- (d) up to twenty percent (20%) of the USTDA Grant amount may be used to pay for services performed by (i) Host Country subcontractors, and/or (ii) Host Country nationals who are employees of the Contractor;

(e) a Host Country subcontractor may only be used for specific services from the Terms of Reference identified in the subcontract;

(f) subcontractors from countries other than the United States or Host Country may not be used;

(g) goods purchased for performance of the Study and associated delivery services (e.g., international transportation and insurance) must have their nationality, source and origin in the United States; and

(h) goods and services incidental to Study support (e.g., local lodging, food, and transportation) in Host Country are not subject to the above restrictions.

USTDA will make available further details concerning these provisions upon request.

12. Taxes

USTDA funds provided under this Grant Agreement shall not be used to pay any taxes, tariffs, duties, fees or other levies imposed under laws in effect in Host Country, except for taxes of a de minimis nature imposed on local lodging, food, transportation, or airport arrivals or departures. Neither the Grantee nor the Contractor will seek reimbursement from USTDA for taxes, tariffs, duties, fees or other levies, except for taxes of a de minimis nature referenced above.

13. USTDA Project Evaluation

The parties will cooperate to assure that the purposes of the Grant Agreement are accomplished. For five (5) years following receipt by USTDA of the Final Report, the Grantee agrees to respond to any reasonable inquiries from USTDA about the status of the Project. Inquiries will include, but not be limited to, whether the Final Report recommendations have been or will be used to implement the Project, anticipated Project implementation timeline, and likely source of financing. In addition, the Grantee agrees to notify USTDA any time the Grantee selects a new primary contact person for this Project during the five-year period referenced above.

14. Recordkeeping and Audit

The Grantee agrees to maintain books, records, and other documents relating to the Study and this Grant Agreement adequate to demonstrate implementation of its responsibilities under this Grant Agreement, including the selection of contractors, receipt and approval of contract deliverables, and approval or disapproval of contractor invoices for payment by USTDA. Such books, records, and other documents shall be separately maintained for three (3) years after the date of the final disbursement by USTDA. The Grantee shall afford USTDA or its authorized representatives the opportunity at reasonable times to

review books, records, and other documents relating to the Study and the Grant Agreement.

15. Representation of Parties

For all purposes relevant to this Grant Agreement, the Government of the United States of America will be represented by the U. S. Ambassador to Host Country or USTDA and Grantee will be represented by its General Manager. The parties hereto may, by written notice, designate additional representatives for all purposes under this Grant Agreement.

16. Addresses of Record for Parties

Any notice, request, document, or other communication submitted by either party to the other under the Grant Agreement shall be in writing or through an electronic medium that produces a tangible record of the transmission, such as a facsimile or e-mail message, and will be deemed duly given or sent when delivered to such party at the following:

To: Eng. Hassan M. Abdullah
Head of Technical Application Division
Jordanian Electric Power Company Ltd.P.O. BOX 618
Amman 11118
Hashemite Kingdom of Jordan

Phone: +962 79 5999 526
Fax: +962 06 5503 619
E-Mail: hassan.abdullah@jepco.com.jo

To: U.S. Trade and Development Agency
1000 Wilson Boulevard, Suite 1600
Arlington, Virginia 22209-3901
USA

Phone: (703) 875-4357
Fax: (703) 875-4009
E-Mail: grantnotices@ustda.gov and
MENA_Europe@ustda.gov

All such communications shall be in English, unless the parties otherwise agree in writing. In addition, the Grantee shall provide the Commercial or Economic Section of the U.S. Embassy in Host Country with a copy of each communication sent to USTDA.

Any communication relating to this Grant Agreement shall include the following fiscal data:

Appropriation No.: 11 12/13 1001
Activity No.: 2012-21018A
Reservation No.: 2012145
Grant No.: GH201221145

17. Implementation Letters

To assist the Grantee in the implementation of the Study, USTDA may, from time to time, issue implementation letters that will provide additional information about matters covered by this Grant Agreement. USTDA may also issue implementation letters to (i) extend the estimated completion date set forth in Article 8(A) above, or (ii) change the fiscal data set forth in Article 16 above. The parties may also use jointly agreed upon implementation letters to confirm and record their mutual understanding of matters covered by this Grant Agreement.

18. Grant Agreement Amendments

Either party may submit to the other party at any time a proposed amendment to the Grant Agreement. A Grant Agreement amendment shall be effective only if it has been signed by both parties.

19. Termination Clause

Either party may terminate this Grant Agreement by giving the other party written notice thereof. The termination of the Grant Agreement will end any obligations of the parties to provide financial or other resources for the Study, except for payments that may be made pursuant to Clause I of the USTDA Mandatory Contract Clauses set forth in Annex II to this Grant Agreement. This article and Articles 5, 12, 13, 14, and 21 of the Grant Agreement shall survive termination of the Grant Agreement.

20. Non-waiver of Rights and Remedies

No delay in exercising any right or remedy accruing to either party in connection with the Grant Agreement shall be construed as a waiver of such right or remedy.

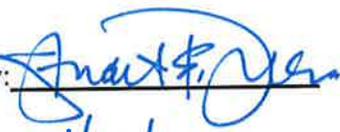
21. U.S. Technology and Equipment

By funding this Study, USTDA seeks to promote the project objectives of the Host Country through the use of U.S. technology, goods, and services. In recognition of this purpose, the Grantee agrees that it will allow U.S. suppliers to compete in the procurement of technology, goods and services needed for Project implementation.

[THE REMAINDER OF THIS PAGE IS INTENTIONALLY LEFT BLANK]

IN WITNESS WHEREOF, the Government of the United States of America and the Jordanian Electric Power Company Ltd., each acting through its duly authorized representative, have caused this Grant Agreement to be signed in the English language in their names and delivered as of the day and year written below. In the event that this Grant Agreement is signed in more than one language, the English language version shall govern.

**For the Government of the
United States of America**

By: 
Date: 4/26/12

**For the Jordanian Electric Power
Company Ltd.**

By: 
Date: 26/4/2012

Annex I -- Terms of Reference

Annex II -- USTDA Mandatory Clauses

Annex II

USTDA Mandatory Contract Clauses

A. USTDA Mandatory Clauses Controlling

The parties to this Contract acknowledge that this Contract is funded in whole or in part by the U.S. Trade and Development Agency ("USTDA") under the Grant Agreement between the Government of the United States of America acting through USTDA and the Jordanian Electric Power Company Ltd. ("Client"), dated _____ ("Grant Agreement"). The Client has selected _____ ("Contractor") to perform the feasibility study ("Study") for the Smart Grid Upgrades to JEPSCO Network project ("Project") in Jordan ("Host Country"). The Client and the Contractor are the parties to this Contract, and they hereinafter are referred to collectively as the "Contract Parties." Notwithstanding any other provisions of this Contract, the following USTDA Mandatory Contract Clauses shall govern. All subcontracts entered into by Contractor funded or partially funded with USTDA Grant funds shall include these USTDA Mandatory Contract Clauses, except for clauses B(1), G, H, I, and J. In addition, in the event of any inconsistency between the Grant Agreement and the Contract or any subcontract thereunder, the Grant Agreement shall be controlling.

B. USTDA as Financier

(1) USTDA Approval of Contract

This Contract, and any amendment thereto, including any amendment to any annex thereto, and any proposed assignment of this Contract, must be approved by USTDA in writing in order to be effective with respect to the expenditure of USTDA Grant funds. USTDA will not authorize the disbursement of USTDA Grant funds until the Contract conforms to modifications required by USTDA during the Contract review process and the Contract has been formally approved by USTDA. To make this review in a timely fashion, USTDA must receive from either the Client or the Contractor an English language version of a final negotiated draft Contract or a signed Contract to the attention of the General Counsel's office at USTDA's address listed in Clause N below.

(2) USTDA Not a Party to the Contract

It is understood by the Contract Parties that USTDA has reserved certain rights such as, but not limited to, the right to approve the terms of this Contract and amendments thereto, including assignments, the selection of all contractors, the Terms of Reference, the Final Report, and any and all documents related to any contract funded under the Grant Agreement. The Contract Parties hereto further understand and agree that USTDA, in reserving any or all of the foregoing approval rights, has acted solely as a financing entity to assure the proper use of United States Government funds, and that any decision by USTDA to exercise or refrain from exercising these approval

rights shall be made as a financier in the course of financing the Study and shall not be construed as making USTDA a party to the Contract. The Contract Parties hereto understand and agree that USTDA may, from time to time, exercise the foregoing approval rights, or discuss matters related to these rights and the Project with the Contract Parties or the parties to any subcontract, jointly or separately; and in consideration of USTDA's role as financier, the Contract Parties further agree that USTDA's rights may be exercised without thereby incurring any responsibility or liability, in contract, tort, or otherwise, to the Contract Parties or the parties to any subcontract. Any approval or failure to approve by USTDA shall not bar the Client or USTDA from asserting any right they might have against the Contractor, or relieve the Contractor of any liability which the Contractor might otherwise have to the Client or USTDA.

C. Nationality, Source and Origin

Except as USTDA may otherwise agree, the following provisions shall govern the delivery of goods and professional services funded by USTDA under the Grant Agreement:

- (a) the Contractor must be a U.S. firm;
- (b) the Contractor may use U.S. subcontractors without limitation;
- (c) employees of U.S. Contractor or U.S. subcontractor firms shall be U.S. citizens or non-U.S. citizens lawfully admitted for permanent residence in the United States, except as provided pursuant to subpart (d) below;
- (d) up to twenty percent (20%) of the USTDA Grant amount may be used to pay for services performed by (i) Host Country subcontractors, and/or (ii) Host Country nationals who are employees of the Contractor;
- (e) a Host Country subcontractor may only be used for specific services from the Terms of Reference identified in the subcontract;
- (f) subcontractors from countries other than the United States or Host Country may not be used;
- (g) goods purchased for performance of the Study and associated delivery services (e.g., international transportation and insurance) must have their nationality, source and origin in the United States; and
- (h) goods and services incidental to Study support (e.g., local lodging, food, and transportation) in Host Country are not subject to the above restrictions.

USTDA will make available further details concerning these provisions upon request.

D. Recordkeeping and Audit

The Contractor and subcontractors funded under the Grant Agreement shall maintain, in accordance with generally accepted accounting procedures, books, records, and other documents, sufficient to reflect properly all transactions under or in connection with the Contract. These books, records, and other documents shall clearly identify and track the use and expenditure of USTDA funds, separately from other funding sources. Such books, records, and documents shall be maintained during the period of performance of work provided for by this Contract, and for a period of three (3) years after final disbursement by USTDA. The Contractor and subcontractors shall afford USTDA, or its authorized representatives, the opportunity at reasonable times for inspection and audit of such books, records, and other documentation.

E. U.S. Carriers

(1) Air

Transportation by air of persons or property funded under the Grant Agreement shall be on U.S. flag carriers in accordance with the Fly America Act, 49 U.S.C. 40118, to the extent service by such carriers is available, as provided under applicable U.S. Government regulations.

(2) Marine

Transportation by sea of property funded under the Grant Agreement shall be on U.S. carriers in accordance with U.S. cargo preference law.

F. Workman's Compensation Insurance

The Contractor shall provide adequate Workman's Compensation Insurance coverage for work performed under this Contract.

G. Reporting Requirements

The Contractor shall advise USTDA by letter as to the status of the Project on March 1st annually for a period of two (2) years after completion of the Study. In addition, if at any time the Contractor receives follow-on work from the Client, the Contractor shall so notify USTDA and designate the Contractor's contact point including name, telephone, fax number, and e-mail address. Since this information may be made publicly available by USTDA, any information which is confidential shall be designated as such by the Contractor and provided separately to USTDA. USTDA will maintain the confidentiality of such information in accordance with applicable law.

H. Disbursement Procedures

(1) USTDA Approval of Contract

Disbursement of Grant funds will be made only after USTDA approval of this Contract.

(2) Payment Schedule Requirements

A payment schedule for disbursement of Grant funds to the Contractor shall be included in this Contract. The Grantee shall pay the Grantee Cost Share directly to the Contractor in accordance with this payment schedule. Such payment schedule must conform to the following USTDA requirements: (1) up to twenty percent (20%) of the total USTDA Grant amount may be used as a mobilization payment; (2) all other payments, with the exception of the final payment, shall be based upon Contract performance milestones; and (3) the final payment may be no less than fifteen percent (15%) of the total USTDA Grant amount, payable upon approval by USTDA of a Final Report that has been (i) prepared and submitted in accordance with the requirements set forth in Clause I below, and (ii) approved in writing by the Client in the manner provided for by Clause H(3)(b)(iii) below. Invoicing procedures for all payments are described below.

(3) Contractor Invoice Requirements

USTDA will make all disbursements of USTDA Grant funds directly to the Contractor. The Contractor must provide USTDA with an ACH Vendor Enrollment Form (available from USTDA) with the first invoice. The Client shall request disbursement of funds by USTDA to the Contractor for performance of the Contract by submitting the following to USTDA:

(a) Contractor's Invoice

The Contractor's invoice shall include reference to an item listed in the Contract payment schedule, the requested payment amount, and an appropriate certification by the Contractor, as follows:

(i) For a mobilization payment (if any):

"As a condition for this mobilization payment, the Contractor certifies that it will perform all work in accordance with the terms of its Contract with the Client. The Contractor has received the *pro rata* payment due to the Contractor from the Client under this invoice, in accordance with the applicable Contract provisions and the terms and conditions of the USTDA Grant Agreement. To the extent that the Contractor does not comply with the terms and conditions of the Contract, including the USTDA Mandatory Contract Clauses contained therein, it will, upon USTDA's request, make an appropriate refund to USTDA. "

(ii) For Contract performance milestone payments:

"The Contractor has performed the work described in this invoice in accordance with the terms of its Contract with the Client and is entitled to payment thereunder. The Contractor has received the *pro rata* payment due to the Contractor from the Client under this invoice, in accordance with the applicable Contract provisions and the terms and conditions of the USTDA Grant Agreement. To the extent the Contractor has not complied with the terms and conditions of the Contract, including the USTDA Mandatory Contract Clauses contained therein, it will, upon USTDA's request, make an appropriate refund to USTDA."

(iii) For final payment:

"The Contractor has performed the work described in this invoice in accordance with the terms of its Contract with the Client and is entitled to payment thereunder. Specifically, the Contractor has submitted the Final Report to the Client, as required by the Contract, and received the Client's approval of the Final Report. The Contractor has received the *pro rata* payment due to the Contractor from the Client under this invoice, in accordance with the applicable Contract provisions and the terms and conditions of the USTDA Grant Agreement. To the extent the Contractor has not complied with the terms and conditions of the Contract, including the USTDA Mandatory Contract Clauses contained therein, it will, upon USTDA's request, make an appropriate refund to USTDA."

(b) Client's Approval of the Contractor's Invoice

(i) The invoice for a mobilization payment must be approved in writing by the Client.

(ii) For Contract performance milestone payments, the following certification by the Client must be provided on the invoice or separately:

"The services for which disbursement is requested by the Contractor have been performed satisfactorily, in accordance with applicable Contract provisions and the terms and conditions of the USTDA Grant Agreement. The Client has disbursed its *pro rata* payment due to the Contractor under this invoice in accordance with the applicable Contract provisions and the terms and conditions of the USTDA Grant Agreement."

(iii) For final payment, the following certification by the Client must be provided on the invoice or separately:

"The services for which disbursement is requested by the Contractor have been performed satisfactorily, in accordance with applicable Contract provisions and

the terms and conditions of the USTDA Grant Agreement. The Final Report submitted by the Contractor has been reviewed and approved by the Client. The Client has disbursed its *pro rata* payment due to the Contractor under this invoice in accordance with the applicable Contract provisions and the terms and conditions of the USTDA Grant Agreement."

(c) USTDA Address for Disbursement Requests

Requests for disbursement shall be submitted to the attention of the Finance Department at USTDA's address listed in Clause N below, or by e-mail to invoices@ustda.gov.

I. Termination

(1) Method of Termination

Either Contract Party may terminate this Contract upon giving written notice to the other party and USTDA. This notice shall be effective after either 30 days, or any other period set forth elsewhere in this Contract. Furthermore, this Contract shall terminate immediately upon notification of USTDA's termination of the Grant Agreement or the term of availability of any funds thereunder.

(2) Ramifications of Termination

In the event that this Contract is terminated prior to completion, the Contractor will be eligible, subject to USTDA approval, for payment for the value of the work performed pursuant to the terms of this Contract. Likewise, in the event of such termination, USTDA is entitled to receive from the Contractor all USTDA Grant funds previously disbursed to the Contractor (including but not limited to mobilization payments) which exceed the value of the work performed pursuant to the terms of this Contract.

(3) Survivability

Clauses B, D, G, H, I, and O of the USTDA Mandatory Contract Clauses shall survive the termination of this Contract.

J. USTDA Final Report

(1) Definition

"Final Report" shall mean the Final Report described in the attached Annex I Terms of Reference or, if no such "Final Report" is described therein, "Final Report" shall mean a substantive and comprehensive report of work performed in accordance with the attached Annex I Terms of Reference, including any documents delivered to the Client.

(2) Final Report Submission Requirements

The Contractor shall provide the following to USTDA:

(a) One (1) complete hard copy of the Final Report for USTDA's records. This version shall have been approved by the Client in writing and must be in the English language. It is the responsibility of the Contractor to ensure that confidential information, if any, contained in this version be clearly marked. USTDA will maintain the confidentiality of such information in accordance with applicable law.

and

(b) One (1) hard copy of the Final Report suitable for public distribution ("Public Version"). The Public Version shall have been approved by the Client in writing and must be in the English language. As this version will be available for public distribution, it must not contain any confidential information. If the report in (a) above contains no confidential information, it may be used as the Public Version. In any event, the Public Version must be informative and contain sufficient Project detail to be useful to prospective equipment and service providers.

and

(c) Two (2) CD-ROMs, each containing a complete copy of the Public Version of the Final Report. The electronic files on the CD-ROMs shall be submitted in a commonly accessible read-only format. As these CD-ROMs will be available for public distribution, they must not contain any confidential information. It is the responsibility of the Contractor to ensure that no confidential information is contained on the CD-ROMs.

The Contractor shall also provide one (1) hard copy of the Public Version of the Final Report to the Commercial or Economic Section of the U.S. Embassy in Host Country for informational purposes.

(3) Final Report Presentation

All Final Reports submitted to USTDA must be paginated and include the following:

(a) The front cover of every Final Report shall contain the name of the Client, the name of the Contractor who prepared the report, a report title, USTDA's logo, and USTDA's address. If the complete version of the Final Report contains confidential information, the Contractor shall be responsible for labeling the front cover of that version of the Final Report with the term "Confidential Version." The Contractor shall be responsible for labeling the front cover of the Public Version of the Final Report with the term "Public Version." The front cover of every Final Report shall also contain the following disclaimer:

"This report was funded by the U.S. Trade and Development Agency (USTDA), an agency of the U.S. Government. The opinions, findings, conclusions or recommendations expressed in this document are those of the author(s) and do not necessarily represent the official position or policies of USTDA. USTDA makes no representation about, nor does it accept responsibility for, the accuracy or completeness of the information contained in this report."

(b) The inside front cover of every Final Report shall contain USTDA's logo, USTDA's address, and USTDA's mission statement. Camera-ready copy of USTDA Final Report specifications will be available from USTDA upon request.

(c) The Contractor shall affix to the front of the CD-ROM a label identifying the Host Country, USTDA Activity Number, the name of the Client, the name of the Contractor who prepared the report, a report title, and the following language:

"The Contractor certifies that this CD-ROM contains the Public Version of the Final Report and that all contents are suitable for public distribution."

(d) The Contractor and any subcontractors that perform work pursuant to the Grant Agreement must be clearly identified in the Final Report. Business name, point of contact, address, telephone and fax numbers, and e-mail address shall be included for Contractor and each subcontractor.

(e) The Final Report, while aiming at optimum specifications and characteristics for the Project, shall identify the availability of prospective U.S. sources of supply. Business name, point of contact, address, telephone and fax numbers, and e-mail address shall be included for each commercial source.

(f) The Final Report shall be accompanied by a letter or other notation by the Client which states that the Client approves the Final Report. A certification by the Client to this effect provided on or with the invoice for final payment will meet this requirement.

(g) The Client, USTDA, and the Commercial and/or Economic Section(s) of the U.S. Embassy in Host Country shall have irrevocable, worldwide, royalty-free, non-exclusive rights to use and distribute the Final Report.

K. Modifications

All changes, modifications, assignments or amendments to this Contract, including the appendices, shall be made only by written agreement by the Contract Parties hereto, subject to written USTDA approval.

L. Study Schedule

(1) Study Completion Date

The completion date for the Study, which is July 1, 2013, is the date by which the Contract Parties estimate that the Study will have been completed.

(2) Time Limitation on Disbursement of USTDA Grant Funds

Except as USTDA may otherwise agree, (a) no USTDA funds may be disbursed under this Contract for goods and services which are provided prior to the Effective Date of the Grant Agreement; and (b) no USTDA funds may be disbursed more than four (4) years after the Effective Date of the Grant Agreement.

M. Business Practices

The Contract Parties recognize the existence of standards of conduct for public officials and commercial entities in their respective countries. Therefore, the Contract Parties shall fully comply with all United States and Host Country laws relating to corruption or bribery. For example, the Contractor and its subcontractors shall fully comply with the requirements of the Foreign Corrupt Practices Act, as amended (15 U.S.C. §§ 78dd-1 et seq.). Each Contract Party agrees that it shall require that any agent or representative hired to represent it in connection with the Study will comply with this paragraph and all laws which apply to activities and obligations of that Contract Party, including, but not limited to, those laws and obligations referenced above.

N. USTDA Address and Fiscal Data

Any communication with USTDA regarding this Contract shall be sent to the following address and include the fiscal data listed below:

U.S. Trade and Development Agency
1000 Wilson Boulevard, Suite 1600
Arlington, Virginia 22209-3901
USA

Phone: (703) 875-4357
Fax: (703) 875-4009

Fiscal Data:

Appropriation No.: 11 12/13 1001
Activity No.: 2012-21018A
Reservation No.: 2012145
Grant No.: GH201221145

O. Taxes

USTDA funds provided under the Grant Agreement shall not be used to pay any taxes, tariffs, duties, fees or other levies imposed under laws in effect in Host Country, except for taxes of a de minimis nature imposed on local lodging, food, transportation, or airport arrivals or departures. Neither the Client nor the Contractor will seek reimbursement from USTDA for taxes, tariffs, duties, fees or other levies, except for taxes of a de minimis nature referenced above.

P. Export Licensing

The Contractor and all subcontractors are responsible for compliance with U.S. export licensing requirements, if applicable, in the performance of the Terms of Reference.

Q. Contact Persons

The Client designates the following person as the contact person for matters concerning this Contract:

Name: Eng. Hassan M. Abdullah
Title: Head of Technical Application Division
Phone: +962 79 5999 526
Fax: +962 06 5503 619
E-Mail: hassan.abdullah@jepco.com.jo

The Contractor designates the following person as the contact person for matters concerning this Contract:

Name:
Title:
Phone:
Fax:
E-Mail:

If anyone designated by a Contract Party as a contact person ceases service as a contact person at any point during the ten-year period following the date of signing of this

Contract, the Contract Party that had designated that contact person shall provide USTDA and the other Contract Party with the name and contact information of a replacement contact person.

R. Liability

This Contract may include a clause that limits the liability of the Contract Parties, provided that such a clause does not (i) disclaim liability for special, incidental, general, or punitive damages, or (ii) limit the total amount of damages recoverable to an amount less than the total amount disbursed to the Contractor pursuant to this Contract.

S. Arbitration

If the Contract Parties submit any dispute arising under this Contract for arbitration, the scope of any such arbitration shall be limited to the Contract Parties' rights and/or obligations under this Contract and may not extend to any right or obligation of USTDA. The arbitrator(s) shall not arbitrate issues directly affecting the rights or obligations of USTDA.

ANNEX 5

Annex I

Terms of Reference

Task 1 – Data and Configuration Review

Task 1.1 – General Data Review

The Contractor shall review the available information provided by the Electricity Regulatory Commission (ERC) and the Jordanian Electric Power Company (JEPCO or Grantee) at the following URLs:

<http://www.erc.gov.jo/English/RegulatoryDocuments/Pages/default.aspx>

www.jepco.com.jo

Ministry of Energy and Mineral Resources information related to the power sector should also be reviewed and incorporated, concentrating specifically on the distribution system and including but not limited to:

- Standard Distribution and Retail Supply License
- Concession Agreement
- Transmission Performance Standards Code
- Electricity law
- Electricity Tariffs
- Grid Code
- Distribution Performance Standard
- Standard Licensing Procedure
- Renewable Energy law
- Transmission system data for distribution company
- Legislature-proposed drafts, including Distribution Code and System Operation Performance Standard
- Past system studies, including pilot transmission and distribution projects (as available)
- Reports on benchmarking and performance evaluation of the distribution companies (as available)
- Any other available studies and information as needed (as available).

Task 1.2 - Review Existing Metering, Billing, and Collection Systems

The Contractor shall review the existing status of metering equipment, billing and collection processes of the utility system, including but not limited to the following items:

Metering Equipment – For the existing metering equipment for residential, commercial and industrial customers, the Contractor shall provide assessment of the present conditions for:

- **Quality** – Based on the data from the meter testing laboratory(ies), identify what percent of new meters are defective upon installation, what percent of meters generally run slow and after how many years in service.
- **Suitability** – Identify whether the metering equipment used is suitable for the purpose, particularly for heavy industries where kVAR metering is often not installed to measure the reactive power of highly inductive loads.
- **Vulnerability to Tampering** – Assess concerns regarding the ease with which consumers can tamper with their meters, including slowing the disc, reversing flow, and complete bypassing.

Billing – The Contractor shall assess the present billing process in the following areas:

- **Meter Reading** – Determine how often meters are read for residential and commercial consumers; how many meters are read by a single meter reader per day; and whether there are consumer complaints about erroneous meter readings and/or collusion between meter readers and consumers in lowering electric bills.
- **Bill Processing Time** – Evaluate the time elapsed between meter reading and billing preparation and whether the bill processing system is sufficiently computerized to maximize efficiency.
- **Alternative Techniques** – Identify any alternative techniques for billing presently used in the utility system such as consumers bringing their meter readings to the utility office for calculation and payment, on-spot billing and collection, and/or pre-paid card operated meters.

Collections – The Contractor shall investigate all major concerns regarding the present collection process, including but not limited to:

- **Cash in Pipeline** – Identify any major concerns regarding the time elapsed from bill delivery to the deposit of payments, understanding that some of this delay may be due to internal procedures or inherent to the banking system.
- **Late Payment** – Identify the percent of consumers that promptly make payments by the due date and any system of late payment penalties or discounts in place to encourage timely payments.
- **Theft** – If the meters are located inside customer premises, thefts can be hard to detect. Identify whether electricity theft or by-passing meters is an issue; whether electricity and criminal laws allow prosecution and recovery by the utility; and whether there is a revenue recovery unit in place for the utility system.

- Unmetered Locations – Identify any unmetered locations for which electricity use has grown somewhat beyond that which was originally planned or allowed for those special customers.

Task 1.3 – Review Existing Asset Management Systems and Application of GIS

The Contractor shall review the present asset management system based on a GIS based information database. The Contractor shall evaluate the existing situation related to the GIS system and asset register and determine the objectives and scope of work needed to complete the asset management or register based on GIS.

Task 1.4 – Stakeholder Interviews

The Contractor would gather various stakeholder opinions related to the smart grid needs and applications. The Contractor shall prepare a survey which will list various benefits and costs for the smart grid. The survey shall be distributed to key stakeholders to understand their priorities in smart grid use. The deliverable will be a summary of interview results. The results shall be used in Tasks 3 and 4.

Task 1.5 – Technical & Non-Technical Losses

The Contractor shall investigate various types of technical and non-technical losses on the Grantee's network, investigate existing related polices, identify operational inefficiencies, and study measures to reduce system losses and improve power supply reliability through introducing smart metering technology.

Deliverable: The Contractor shall prepare the following task reports:

- A report that outlines the present status of asset management or asset register and applicability of GIS. This report shall include the recommended design as well as technical specifications for a GIS based asset register and information database that can be used by the Grantee for the upgrade of existing GIS software and hardware, implementation of asset register and automated facility mapping and integrating the said systems with other utility information systems.
- Metering, Billing, and Collection Report. This report shall describe the issues and options for: upgrading metering, billing, and collection processes by upgrading metering technology, software and hardware, administrative and process related change requirements, and the benefits of introducing smart metering technology. The said status report shall also identify the current weaknesses and challenges in terms of existing metering, billing and collection which may have technological solutions and the details of such solutions.
- Technical and non-technical losses reduction recommendation report. This report shall outline action plans for utilizing smart metering technology in reducing

technical and non-technical losses, detecting and locating consumption anomalies and achieving better control over the distribution network.

Task 2 - Review the Tariff Structure and Regulatory Environment

The objective of this task is to review the present tariff structures for domestic, commercial, and industrial customers and indicate potential tariff-setting benefits from the introduction of smart meters. Additionally, this review shall indicate the potential to provide customers in both wholesale and retail markets with a choice whereby they may respond to dynamic or time-based prices or other types of incentives by reducing and/or shifting usage, particularly during peak periods. These demand modifications shall address issues such as pricing, reliability, emergency response, and infrastructure planning, operations, and construction deferral.

The Contractor shall investigate recent or currently proposed policies in support of demand response, smart metering, and the smart grid. A key aspect of smart meter implementation is identifying technical assistance and resources that already exist as well as gaps that the regulatory agency and/or government should address. The Contractor shall identify these gaps and provide recommendations for mitigation measures. Specifically, the Contractor shall investigate, in the context of Jordan, whether any electric utility offers specific customer classes or provides individual customers, upon their request, a time-based rate schedule. Prices in a time-based rate schedule change to reflect variations in the utility's wholesale costs of generating and purchasing electricity. Smart metering rate schedules enable the electricity consumer to manage energy use and cost through advanced metering and communications technology. Several nonexclusive examples of rate options associated with smart metering are:

- Time-of-use pricing
- Critical peak pricing
- Real-time pricing
- Credits for peak load reduction agreements

The Contractor shall provide recommendations on the appropriate methodology for structuring of tariffs so that smart meters may be deployed in Jordan. Also, the Contractor shall provide comments on the status of unbundled tariffs depicting generation, transmission and distribution tariffs to ensure transparency in the demand responsive programs and smart grid development initiatives.

Deliverable: The Contractor shall prepare a task report outlining the present tariff structures and tariff setting policies, and their suitability for the implementation of smart meters by Grantee. Furthermore, the Contractor shall prepare a set of recommendations on how the tariffs and tariff setting mechanisms can be modified and improved by the regulator to accommodate implementation of smart meter infrastructure.

Task 3 - Smart Meter Technologies Review

The Contractor shall evaluate the progress of smart metering programs in a few key countries that can serve as benchmarks for implementation in Jordan. Possible candidates might include the U.S., Italy, Sweden, Finland and Australia. The Contractor shall also investigate local and regional success stories (if any) and compare these to the ones listed above.

The report shall include:

- An overview of technologies available;
- Technical solutions including communications, meters & software applications employed in smart meter introduction;
- Installation incentives;
- Financing mechanisms available to customers and distribution companies;
- Key benefits qualification and quantification;
- Use of new smart meters for data collection and advanced tariff setting;
- Non-traditional benefits evaluation (cross-sector, environmental, etc.); and
- Implementation timetables.

Rather than concentrating on a specific country, the Contractor shall investigate and report on these topics across multiple projects and countries.

The technology solutions review shall include evaluating the following options as a minimum:

- *Stand-Alone Complex Meter Read Locally:* Meters with internal electronic clocks and ample memory are available and readily capable of accumulating time-tagged data at 60, 30, 15 and 5 minute intervals for 40 days or more.
- *Stand-Alone Meter Read Remotely Over "Public" Infrastructure:* A simple or complex meter may be equipped with an internal communication device, or the meter may be connected to an external communication device, usually mounted in close proximity to the meter. The communications are typically made by telephone line (either a dedicated line or sharing the customer's line on a non-interference basis), a cellular phone, or two-way paging based technology.
- *Meter with Short Distance Communication Upgraded to Fixed Network:* In the last 20 years, many utilities have installed so-called "drive-by" AMR systems. These are, by far, the most popular of the remote meter reading approaches, simply because they are the least costly to purchase. A roving vehicle passes within a few hundred feet of the meter once each month. The meter contains a transmitter that sends the total energy consumption value. This vehicle is typically capable of gathering up to 10,000 meter readings per shift. For comparison, manual meter readers typically collect between 100 and 1,000 readings per shift.

- *Private Fixed Network AMI System:* Utility-owned fixed network meter data acquisition systems that serve all or most utility customers provide a multitude of benefits beyond the mere ability to gather billing data. There are two prominent technology categories: radio frequency (RF) and power line communication (PLC). Within each category at least three well-established suppliers offer fixed network systems. Many more systems are emerging in the RF category, including various topologies, licensed and unlicensed, and high and low powered.
- *Communication Alternatives:* The basic mechanism of demand response is that the utility informs the customers when electric market conditions change, and customers (or their automated loads) respond.

Deliverable: The Contractor shall prepare a Report and a Presentation that shall summarize best practices available for smart meter introduction and sustainability. The Contractor shall conduct a round table seminar on this subject. The seminar shall cover international experience in smart meters, including but not limited to technological solutions, financing mechanisms, and social impact minimization. The seminar is expected to have a duration of one (1) full or two (2) half-days. The seminar shall be attended by members of the Grantee, other distribution companies, the Electricity Regulatory Commission, and the Ministry of Energy and Mineral Resources.

Task 4 - Analyze the Economic and Technical Implications of Technology Choice

The Contractor shall examine the relationship between the level of expected customer participation and the optimal AMI configurations. For example, if only a few customers are expected to participate in time-differentiated rates/demand response programs, then drive-by AMR with “drop-in” technology for TOU reading will likely be most cost-effective. If the majority of customers are expected to participate, saturation deployment of a fixed network AMI would likely be indicated. The versatility of fixed network systems reduces the risk of obsolescence. Other reliability benefits of AMI and demand response are more certain and more practical to estimate. The Contractors shall estimate intangible benefits of:

- Improved efficiency of societal energy use
- Favorable environmental impacts
- Lower user costs, which may produce an overall benefit to consumers and the economy, particularly in a time of rapidly rising energy costs

The Contractor shall quantify the benefits to the Grantee of price and demand reductions during high-demand periods for:

- Reduced peak capacity requirements
- Reduced congestion costs

- Reduced T&D costs
- Reduced generation cost
- Reduced potential for market influence by any one supplier
- Improved electric system efficiency (lower operating costs)
- Improved electric system reliability (lower maintenance costs)
- Greatly facilitated settlement data management

The Contractor shall identify and quantify the benefit to Grantee and associated costs. A screening level cost estimate shall be prepared for all configurations organized. An engineering-level cost estimate shall be prepared for optimal configuration. Any non-recurring labor, capital, and operating/maintenance (O&M) costs of creating and sustaining the benefit must be recognized and cited. In consultation with the Grantee the Contractor shall identify each of these elements as it analyzes the opportunity benefit and develops the estimates.

When developing AMI costs in a business case, it is important to include all costs. The largest and most obvious cost is the amount paid to the AMI system provider(s). However, other costs may affect the business case as well; therefore the following costs should be included:

- AMI system hardware and software
- New meters, and meter-related utility equipment and labor (e.g. calibration) for both new and redeployed meters
- Installation management and labor
- Project management by outside contractor (or allocation of internal funds for project management by utility staff)
- IT integration by outside contractors (or allocation of internal funds for IT integration by utility staff)
- Utility internal costs, such as for facilities, project management, distribution equipment, installation labor, or additional IT support and integration

The Contractor's cost estimate shall be based on budgetary quotations received from contractors and suppliers, prices and costs from comparable projects, and best practices. The Contractor shall seek budget estimates from U.S. suppliers wherever practical. The Contractor's cost estimate shall include the life-cycle costs of the recommended equipment, including anticipated maintenance requirements.

The Contractor shall recommend as part of the implementation plan the scope and details of a smart metering pilot project to be implemented by the Grantee in order to simulate large scale deployment and operating scenarios as well as to provide information regarding the capabilities of the emerging technologies, costs of systems and the potential benefits delivered to network, customers and other stakeholders.

Deliverable: The Contractor shall prepare a report for the cost/benefit analysis of the AMI implementation for the Grantee. The report shall cover all configurations analyzed including the optimal one.

Task 5 - Implementation and Program Preparation

The Contractor shall prepare an implementation program for smart meter installation for the Grantee. The program shall include all stages and priorities of implementation based on the following major factors:

- Technology selected
- Availability of resources for installation, organization, and maintenance
- Cost implications and availability of funding
- Direct and indirect benefits of smart meters installation.

The ultimate targets of the program are to:

1. Cover as many customers as are determined to be economically feasible. The Contractor shall recommend the best implementation options. These may include smart meter introduction geographically, by customer class, customer size, or by income level.
2. Reduce technical and non-technical energy losses. The contractor shall recommend the best implementation options for introducing smart metering on the substation and feeder levels for energy management as well as electricity theft detection purposes.

The primary specifications of the system designed by the Contractor shall include:

- Automated meter reading;
- Automatic payment of bills (either through a prepayment facility in the meter or online payment arrangement) to accelerate cash flow within the power sector;
- Accuracy and timeliness of data collection;
- Shorter customer payment cycles and reduction of the gap-bridging subsidy;
- Integration of smart meters into other management and informational systems;
- Active and reactive energy control and distribution loss reduction;
- Combating electricity theft;
- Customer demand control;
- Improving customer-side electrical safety such as providing protection against overload, overheating, and electricity shocks;
- Customer options including electricity budgeting; and
- Energy efficiency measures introduction.
- Register energy returned to the distribution system (Net Metering).

Secondary benefits of the system designed by the Contractor shall include the ability to store accurate consumption patterns and collect data for the introduction of various

advanced tariffs, such as interruptible tariff, advanced time-of-use tariff, and others. Evaluation of this benefit and a proposal for implementation is a key part of this task.

The plan shall propose a feasible financing mechanism that will support the implementation of the program. Additionally, physical local installation capabilities to match the implementation requirements should be addressed. This may include a proposal for engaging third party metering service providers to provide both third party financing and installation services.

The plan shall also identify the efficiencies gained due to the utilization of the new smart meters. These efficiencies may include productivity gains and job alternatives for job classes that may be reduced or reshuffled, as well as needs to retrain specific traditional labor categories (such as meter readers) due to the smart meter implementation program itself.

The implementation program shall include detailed tasks and timelines. A series of Gantt charts shall be prepared for the timelines and major milestones.

Certain planning assumptions and forecasts will have to be developed for the implementation program, which will presumably cover several years. These assumptions need to be discussed and agreed to with the Grantee. Such assumptions or forecasts include penetration rates based on income, the applicability of technology to local conditions, the various standard building configurations in Jordan, and program funding considerations.

The Contractor shall provide the Grantee the strategy outline for customer outreach. This strategy shall be utilized by the Grantee to make sure the customers are aware of how the proposed smart grid programs are utilized.

The Contractor shall prepare the technical and functional specification of the optimal Smart Metering configuration covering the following three main system components:

- Communications with the smart meter
- Functionality and intelligence at the electricity meter.
- Meter Data Collection System (MDCS) for the management of both the smart meters and the communications, including reporting, data collection, command management, load control and troubleshooting.

Deliverable: The Contractor shall provide in consultation with the Grantee a detailed project implementation plan including the schedule and details of the pilot project. The implementation plan shall clearly outline the proposed program to introduce and expand smart meters applications within the Grantee's service territory. The Contractor shall conduct a coordination meeting with the Grantee to present the plan and receive feedback and comments that shall be subsequently incorporated in the revision.

Task 6 - Integration Program Preparation

The Contractor shall evaluate the steps necessary to integrate the proposed smart meter system into the existing customer information/complaints system (CIS), Geographic Information System (GIS), Supervisory, Control and Data Acquisition System (SCADA), Real Time Data Management System, Outage Management System (OMS), and Billing System.

Additionally, the Contractor shall address the issues and challenges of integrating smart meters provided by multiple suppliers to ensure that no state of supplier monopoly will be created and that parallel implementations can be achieved. The economic implications of this assessment shall be identified as well.

The Contractor shall evaluate potential benefits and costs associated with integration as well as any physical limitations. The Contractor shall identify step-by-step actions needed to integrate these systems. The Contractor shall identify costs associated with upgrades (if any) required to integrate the systems.

Deliverable: The Contractor shall provide a detailed analysis for the proposed integration effort, including specific action items necessary for the proper application of the integration as well as the desired specifications for the smart metering system components that shall permit such integration.

Task 7 - Economic Analysis

The Contractor shall conduct an economic analysis for the implementation plan developed in Tasks 5 and 6 and the capital estimate developed in Task 4. Both the cost estimate and the implementation plan may need to be revised based on the conclusions of the economic analysis conducted under this current Task.

The Contractor shall prepare an analysis that will result in a set of profitability indicators such as the Net Present Value (NPV), Internal Rate of Return (IRR), payback period, and others as applicable. The Contractor shall conduct an economic sensitivity analysis of each implementation plan component, reflecting variations in interest rates, electricity tariffs, volumes, and equipment costs. This will conform to the cost benefit analysis done in Task 4.

The Contractor shall conduct and provide a pro-forma assessment of tariff increases required (if any) for the sustainability of the AMI deployment project.

Deliverable: The Contractor shall provide an economic analysis with sensitivities for all major elements of the implementation plan.

Task 8 - Financing Mechanism Analysis

The Contractor shall provide a detailed analysis of various financing mechanisms that can be applied to the smart meter installation program. These mechanisms may include full customer expense, partially subsidized installation, special purpose funds designed to ease the burden of this expenditure, and others.

Although the program shall be designed considering full economical viability and the capacity of the local market to provide the necessary funding for the program, the Contractor shall discuss this project with a number of regional and multilateral funding organizations (e.g., the International Finance Corporation, EBRD, local domestic and international banks, and the U.S. Export-Import Bank) to understand their interest in funding some or all of the implementation program.

Deliverable: The Contractor shall prepare a report documenting the financing mechanism analysis and resulting recommendations.

Task 9 - Preliminary Environmental Impact Assessment

The Contractor shall conduct a preliminary environmental impact assessment. The Contractor shall include in its review, but not be limited to, the following:

- Existing meters' disposition and recycling
- Air quality and noise
- Socio-economic/human resources
- Environmental risk assessment
- Occupational health and safety

The Contractor shall review the major lending agencies' (EBRD, World Bank, ADB, EIB and others) environmental requirements. Depending on relevance and applicability, the Contractor shall identify specific measures both protective and mitigating that are needed, estimate the related costs of these measures, and include them in the cost estimate of the Project.

Deliverable: The Contractor shall provide a preliminary environmental impact assessment report, including discussions of appropriate preventative, protective and remedial measures.

Task 10 - Development Impact Analysis

The Contractor shall also provide a report on the potential social development impacts of the project in the Host Country. The Contractor shall focus on potential economic development outcomes associated with the project designed according to the Study recommendations. While specific attention should be paid to the immediate impact of the

project, the Contractor shall include, where appropriate, any additional developmental benefits of the project, including spin-off and demonstration effects. The analysis of potential benefits of the study should be as concrete and detailed as possible. The Contractor shall provide estimates of the Project's potential benefits in the following areas:

- Infrastructure: a statement on the infrastructure impacts.
- Market-Oriented Reform: a description of any regulations, laws, or institutional changes that are recommended and the effect they would have if implemented.
- Human Capacity Building: a description of the number and type of positions that would be needed to construct and operate the Project, the number of people that will be needed to process construction materials, as well as the number of people who will receive training and a brief description of the training program(s).
- Technology Transfer and Productivity Enhancement: a description of any advanced technologies that will be implemented as a result of the project, and a description of any efficiency that will be gained.
- Other: any other developmental benefits associated with the project, including spin-off or demonstration effects.

Deliverable: The Contractor shall provide a preliminary developmental impact assessment.

Task 11 - Legal, Regulatory, and Institutional Review

The Contractor shall review the host country laws, permitting requirements, local building requirements and ordinance constraints that must be taken into account before the smart meter project can be implemented. Provisions that could limit the ability of U.S. companies to participate in project implementation shall be clearly identified.

Deliverable: The Contractor shall provide a legal and regulatory analysis.

Task 12 - Draft Final and Final Report Preparation and Presentation

The Contractor shall prepare and deliver to the Grantee a substantive and comprehensive Draft Final Report and presentation of all work performed under these Terms of Reference. The Report shall be organized according to the above tasks, and shall include all deliverables and documents that have been provided to the Grantee. The Grantee is expected to provide comments on the Report within a four week period.

Once the Grantee has provided comments and revisions to the Draft Final Report, the Contractor shall prepare and deliver to the Grantee and USTDA a substantive and comprehensive Final Report of all work performed under these Terms of Reference

("Final Report"). Each of the above tasks in this Terms of Reference must be distinctly set forth in the Final Report, and it shall include all corresponding deliverables and documents that have been provided to the Grantee. The Final Report shall incorporate all of the findings, recommendations, and conclusions of the feasibility study and shall incorporate all other documents and/or reports provided pursuant to Tasks 1 through 11 above, as well as an executive summary. The Contractor shall prepare and submit the Final Report to the USTDA in accordance with the requirements of Clause J of Annex II of the Grant Agreement (USTDA's Mandatory Contract Clauses). It is the Contractor's responsibility to identify prospective U.S. Sources of Supply in the Final Report to be submitted to USTDA and the Grantee in accordance with Clause J of Annex II of the Grant Agreement. The U.S. Suppliers list shall identify the capabilities, addresses, and principal points of contact for each of the suppliers. The Final Report shall be provided no later than two weeks after the receipt of Grantee comments and should incorporate changes based on those comments, where appropriate.

ANNEX 6



USTDA-Funded Feasibility Study, Technical Assistance, or Training Grant

U.S. Firm Information Form

This form is designed to enable the U.S. Trade and Development Agency ("USTDA") to obtain information about entities and individuals proposed for participation in USTDA-funded activities. Information in this form is used to conduct screening of entities and individuals to ensure compliance with legislative and executive branch prohibitions on providing support or resources to, or engaging in transactions with, certain individuals or entities with which USTDA must comply.

USTDA Activity Number *[To be completed by USTDA]*

Activity Type <i>[To be completed by USTDA]</i>	Feasibility Study	Technical Assistance	Other (specify)

Activity Title *[To be completed by USTDA]*

Full Legal Name of U.S. Firm

Business Address (street address only)

Telephone	Fax	Website

Year Established (include any predecessor company(s) and year(s) established, if appropriate).
Please attach additional pages as necessary.

Please provide a list of directors and principal officers as detailed in Attachment A. Attached? Yes No

Type of Ownership	Publicly Traded Company
	Private Company
	Other (please specify)

If Private Company or Other (if applicable), provide a list of shareholders and the percentage of their ownership. In addition, for each shareholder that owns 15% or more shares in U.S. Firm, please complete Attachment B.

Is the U.S. Firm a wholly-owned or partially owned subsidiary?	Yes <input type="checkbox"/> No <input type="checkbox"/>
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If so, please provide the name of the U.S. Firm's parent company(s). In addition, for any parent identified, please complete Attachment B.

Is the U.S. Firm proposing to subcontract some of the proposed work to another firm?	Yes <input type="checkbox"/> No <input type="checkbox"/>
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If yes, U.S. Firm shall complete Attachment C for each subcontractor. Attached?	Yes <input type="checkbox"/> Not applicable <input type="checkbox"/>
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Project Manager

Name	Surname	
	Given Name	
Address		
Telephone		
Fax		
Email		

Negotiation Prerequisites

Discuss any current or anticipated commitments which may impact the ability of the U.S. Firm or its subcontractors to complete the Activity as proposed and reflect such impact within the project schedule.	
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Identify any specific information which is needed from the Grantee before commencing negotiations.	
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U.S. Firm may attach additional sheets, as necessary.

U.S. Firm's Representations

U.S. Firm shall certify to the following (or provide any explanation as to why any representation cannot be made):

1. U.S. Firm is a [check one] Corporation LLC Partnership Sole Proprietor Other:
 duly organized, validly existing and in good standing under the laws of the State of:
 The U.S. Firm has all the requisite corporate power and authority to conduct its business as presently conducted, to submit this proposal, and if selected, to execute and deliver a contract to the Grantee for the performance of the USTDA Activity. The U.S. Firm is not debarred, suspended, or to the best of its knowledge or belief, proposed for debarment or ineligible for the award of contracts by any federal or state governmental agency or authority.
2. The U.S. Firm has included herewith, a copy of its Articles of Incorporation (or equivalent charter or document issued by a designated authority in accordance with applicable laws that provides information and authentication regarding the legal status of an entity) and a Certificate of Good Standing (or equivalent document) issued within 1 month of the date of signature below by the State of:
 The U.S. Firm commits to notify USTDA and the Grantee if it becomes aware of any change in its status in the state in which it is incorporated. USTDA retains the right to request an updated certificate of good standing.
3. Neither the U.S. Firm nor any of its principal officers have, within the ten-year period preceding the submission of this proposal, been convicted of or had a civil judgment rendered against them for: commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a federal, state or local government contract or subcontract; violation of federal or state antitrust statutes relating to the submission of offers; or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, tax evasion, violating federal or state criminal tax laws, or receiving stolen property.
4. Neither the U.S. Firm, nor any of its principal officers, is presently indicted for, or otherwise criminally or civilly charged with, commission of any of the offenses enumerated in paragraph 3 above.
5. There are no federal or state tax liens pending against the assets, property or business of the U.S. Firm. The U.S. Firm, has not, within the three-year period preceding the submission of this proposal, been notified of any delinquent federal or state taxes in an amount that exceeds US\$3,000 for which the liability remains unsatisfied. Taxes are considered delinquent if (a) the tax liability has been fully determined, with no pending administrative or judicial appeals; and (b) a taxpayer has failed to pay the tax liability when full payment is due and required.
6. The U.S. Firm has not commenced a voluntary case or other proceeding seeking liquidation, reorganization or other relief with respect to itself of its debts under any bankruptcy, insolvency or other similar law. The U.S. Firm has not had filed against it an involuntary petition under any bankruptcy, insolvency or similar law.
7. The U.S. Firm certifies that it complies with USTDA Nationality, Source, and Origin Requirements and shall continue to comply with such requirements throughout the duration of the USTDA-funded activity. The U.S. Firm commits to notify USTDA and the Grantee if it becomes aware of any change which might affect U.S. Firm's ability to meet the USTDA Nationality, Source, and Origin Requirements.

The U.S. Firm shall notify USTDA if any of the representations are no longer true and correct.

U.S. Firm certifies that the information provided in this form is true and correct. U.S. Firm understands and agrees that the U.S. Government may rely on the accuracy of this information in processing a request to participate in a USTDA-funded activity. If at any time USTDA has reason to believe that any person or entity has willfully and knowingly provided incorrect information or made false statements, USTDA may take action under applicable law. The undersigned represents and warrants that he/she has the requisite power and authority to sign on behalf of the U.S. Firm.

Name	<input type="text"/>	Signature	<input type="text"/>
Title	<input type="text"/>		
Organization	<input type="text"/>	Date	<input type="text"/>



ATTACHMENT B

USTDA-Funded Feasibility Study, Technical Assistance, or Training Grant

U.S. Firm Information Form – Shareholder(s) and Parent Company(s)

If applicable, U.S. Firm provided a list of shareholders and the percentage of their ownership. This form shall be completed for each shareholder that owns 15% or more shares in U.S. Firm, as well as any parent corporation of the U.S. Firm ("Shareholder"). In addition, this form shall be completed for each shareholder identified in Attachment B that owns 15% or more shares in any Shareholder, as well as any parent identified in Attachment B.

USTDA Activity Number [To be completed by USTDA]	
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Activity Title [To be completed by USTDA]	
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Full Legal Name of U.S. Firm	
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Full Legal Name of Shareholder	
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Business Address of Shareholder (street address only)	
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Telephone number		Fax Number	
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Year Established (include any predecessor company(s) and year(s) established, if appropriate). Please attach additional pages as necessary.	
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Country of Shareholder's Principal Place of Business	
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Please provide a list of directors and principal officers as detailed in Attachment A. Attached?	Yes
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Type of Ownership	Publicly Traded Company
	Private Company
	Other

If applicable, provide a list of shareholders and the percentage of their ownership. In addition, for each shareholder that owns 15% or more shares in Shareholder, please complete Attachment B.	
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Is the Shareholder a wholly-owned or partially owned subsidiary?	Yes
	No

If so, please provide the name of the Shareholder's parent(s). In addition, for any parent identified, please complete Attachment B.	
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Shareholder may attach additional sheets, as necessary.



ATTACHMENT C

USTDA-Funded Feasibility Study, Technical Assistance, or Training Grant

Subcontractor Information Form

This form is designed to enable the U.S. Trade and Development Agency ("USTDA") to obtain information about entities and individuals proposed for participation in USTDA-funded activities. Information in this form is used to conduct screening of entities and individuals to ensure compliance with legislative and executive branch prohibitions on providing support or resources to, or engaging in transactions with, certain individuals or entities with which USTDA must comply.

USTDA Activity Number [To be completed by USTDA]	
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Activity Title [To be completed by USTDA]	
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Full Legal Name of Prime Contractor U.S. Firm ("U.S. Firm")	
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Full Legal Name of Subcontractor	
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Business Address of Subcontractor (street address only)	
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Telephone Number	
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Fax Number	
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Year Established (include any predecessor company(s) and year(s) established, if appropriate). Please attach additional pages as necessary.	
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Subcontractor Point of Contact

Name	Surname	
	Given Name	

Address	
---------	--

Telephone	
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Fax	
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Email	
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Subcontractor's Representations

Subcontractor shall provide the following (or any explanation as to why any representation cannot be made), made as of the date of the proposal:

1. Subcontractor is a <i>[check one]</i>	<input type="checkbox"/> Corporation	<input type="checkbox"/> LLC	<input type="checkbox"/> Partnership	<input type="checkbox"/> Sole Proprietor	<input type="checkbox"/> Other
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duly organized, validly existing and in good standing under the laws of: _____ .

The subcontractor has all the requisite corporate power and authority to conduct its business as presently conducted, to participate in this proposal, and if the U.S. Firm is selected, to execute and deliver a subcontract to the U.S. Firm for the performance of the USTDA Activity and to perform the USTDA Activity. The subcontractor is not debarred, suspended, or to the best of its knowledge or belief, proposed for debarment or ineligible for the award of contracts by any federal or state governmental agency or authority.

2. Neither the subcontractor nor any of its principal officers have, within the ten-year period preceding the submission of the Offeror's proposal, been convicted of or had a civil judgment rendered against them for: commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a federal, state or local government contract or subcontract; violation of federal or state antitrust statutes relating to the submission of offers; or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, tax evasion, violating federal or state criminal tax laws, or receiving stolen property.

3. Neither the subcontractor, nor any of its principal officers, is presently indicted for, or otherwise criminally or civilly charged with, commission of any of the offenses enumerated in paragraph 2 above.

4. There are no federal or state tax liens pending against the assets, property or business of the subcontractor. The subcontractor, has not, within the three-year period preceding this RFP, been notified of any delinquent federal or state taxes in an amount that exceeds \$3,000 for which the liability remains unsatisfied. Taxes are considered delinquent if (a) the tax liability has been fully determined, with no pending administrative or judicial appeals; and (b) a taxpayer has failed to pay the tax liability when full payment is due and required.

5. The subcontractor has not commenced a voluntary case or other proceeding seeking liquidation, reorganization or other relief with respect to itself or its debts under any bankruptcy, insolvency or other similar law. The subcontractor has not had filed against it an involuntary petition under any bankruptcy, insolvency or similar law.

6. The Subcontractor certifies that it complies with the USTDA Nationality, Source, and Origin Requirements and shall continue to comply with such requirements throughout the duration of the USTDA-funded activity. The Subcontractor commits to notify USTDA, the Contractor, and the Grantee if it becomes aware of any change which might affect U.S. Firm's ability to meet the USTDA Nationality, Source, and Origin Requirements.

The selected Subcontractor shall notify the U.S. Firm, Grantee and USTDA if any of the representations included in its proposal are no longer true and correct.

Subcontractor certifies that the information provided in this form is true and correct. Subcontractor understands and agrees that the U.S. Government may rely on the accuracy of this information in processing a request to participate in a USTDA-funded activity. If at any time USTDA has reason to believe that any person or entity has willfully and knowingly provided incorrect information or made false statements, USTDA may take action under applicable law. The undersigned represents and warrants that he/she has the requisite power and authority to sign on behalf of the Subcontractor.

Name		Signature	
Title			
Organization		Date	