

REQUEST FOR PROPOSALS

FEASIBILITY STUDY FOR THE TURKISH ELECTRICITY TRANSMISSION CORPORATION (TEİAŞ)

SMART GRID APPLICATIONS IN ELECTRICITY TRANSMISSION SYSTEM

Submission Deadline: **4:00 P.M.**

LOCAL TIME

April 30, 2013

Submission Place: Turkish Electricity Transmission Corporation (TEİAŞ)
Communication and Information Systems Department
Nasuh Akar Mh. Türk Ocağı Cd.
No:2, Kat:17, Oda: 33
06490 Bahçelievler,
Ankara, Turkey

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.

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\$536,520 to the Government of the Republic of Turkey, acting through the Turkish Undersecretariat of the Treasury, acting through the Turkish Electricity Transmission Corporation, (“TEİAŞ” or “Grantee”) in accordance with a Grant Agreement dated February 8, 2013 (“Agreement”). This Grant will fund a feasibility study (“Study”) that will introduce upgraded control systems and smart grid technology in the electricity transmission system to the Grantee. This Study will analyze all factors and issues that stand between the present state of TEİAŞ and a technologically advanced transmission operating company employing state of the art smart grid transmission system solutions. The Study will assist TEİAŞ in effectively incorporating its renewable energy sources into the electricity grid and recommend tools and systems that will facilitate TEİAŞ to manage its electricity transmission system in a more reliable and efficient manner. The 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 Study.

1.1 BACKGROUND SUMMARY

Turkey is facing rapidly rising demand in the midst of its bustling economic growth. The Turkish government is consequently making a concentrated effort to explore alternative sources of energy, such as wind, hydro and geothermal power as a way of meeting this rising demand. In order to function effectively, these new sources of energy require a modernized electric grid system, and the Government of Turkey has placed a high priority on making rapid changes to its transmission and distribution companies to increase its power load and reduce losses. TEİAŞ has recognized this urgent need to integrate large amount of renewable power resources such as wind, hydro and geothermal power plants as well as other new power plants to the electricity transmission network in order to cope with rising demand. In addition to the extension and strengthening of the electricity transmission network in Turkey, Turkish Power System has been connected to the European Network of Transmission System Operators for Electricity (ENTSO-E) Continental European Synchronous Area (CESA) network. TEİAŞ assign highest priority to extension of the SCADA/EMS System throughout its network and implement smart-grid solutions in order to improve operational performance of the electricity transmission network in Turkey and integration to European Electricity Market.

Improved control systems, automation and other smart grid techniques can significantly facilitate integration of large amount of renewable energy resources such as wind, hydro and geothermal power plants as well as other new power plants to the electricity transmission network in order to cope with rapidly rising demand and improve operational performance, reliability and efficiency of Turkish Power System as well as its interconnection with ENTSO-E CESA network. . This Study will assist TEİAŞ in using advanced smart grid applications that are designed to accommodate the plentiful wind, solar and other renewable energy sources increasingly available in Turkey. The Study will allow TEİAŞ to incorporate ICT tools in their control centers, transmission networks, substations and all of the interactions among these parts.

These changes would significantly reduce the risk of power shortages hindering Turkey's economic development.

1.2 OBJECTIVE

This Study will assess the technical, economic and financial feasibility of a plan to fully develop a smart grid system into Turkey's transmission network. The Terms of Reference (TOR) for this 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. 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\$536,520. **The USTDA grant of \$US 536,520 is a fixed amount. 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 Agreement, USTDA has provided a grant in the amount of US\$536,520 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.

Section 2: INSTRUCTIONS TO OFFERORS

2.1 PROJECT TITLE

The project is called the Smart Grid Applications in Electricity Transmission 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 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 Study.

2.5 PROJECT FUNDING SOURCE

The Study will be funded under a grant from USTDA. The total amount of the grant is not to exceed US\$536,520.

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.

Similarly, all business proprietary or confidential information, data and/or documents to be provided by the Grantee to the Offeror shall be preserved as confidential and shall not be disclosed to third parties without first receiving written permission from the Grantee.

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.

2.12 LANGUAGE OF PROPOSAL

All proposal documents shall be prepared and submitted in English.

2.13 PROPOSAL SUBMISSION REQUIREMENTS

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

Mr. Kemal YILDIR
Chairman of the Board and General Manager
Turkish Electricity Transmission Corporation (TEIAS)
Communication and Information Systems Department
Nasuh Akar Mh. Türk Ocağı Cd.
No:2, Kat: 17, ODA: 33
06490 Bahçelievler,
Ankara, Turkey

An Original, eight paper (8) copies and one (1) electronic copy in CD-ROM format of your proposal must be received at the above address no later than 4:00 p.m. (Turkey Local Time (GMT+2)), on April 30, 2013.

Proposals may be either sent by mail, overnight courier, or hand-delivered. Whether the proposal is sent 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) paper copies and one electronic copy in CD-ROM format should be collectively wrapped and sealed, and clearly labeled, including the contact name and the name of the project.

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 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\$536,520, which is a fixed amount.

Offerors shall submit one (1) original and eight (8) paper copies and one (1) electronic copy in CD-ROM format 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 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 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 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 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 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. Firms' specific experience related to the assignment: 15 points maximum
 - Firms' international experience: 10 points
 - Firm's experience in Host Country: 5 points
2. Adequacy of proposed work plan and methodology in response to the TOR: 35 points maximum
 - Knowledge of proposed work and understanding of service to be provided: 15 points
 - Appropriateness of proposed methodology and work plan: 20 points
3. Qualifications and competence of the key staff for the assignment: 35 points maximum

- A project manager with at least 15 years of energy/power engineering, team management and project management experience. (P.E. license is required): 5 points
 - A senior telecommunication (or electronics) engineer with at least 15 years of experience in telecommunication applications for power systems and having knowledge about up-to-date (emerging) telecommunication technologies and system is a definite plus. (Telecommunication or Electronics Engineering license is required): 5 points
 - A senior Electrical-Electronics Engineer or Electrical Engineer with at least 15 years of SCADA Systems design and consulting experience: 5 points
 - A senior Electrical Engineer with at least 15 years of Energy Management Systems (EMS) development and consulting experience: 5 points
 - A senior Electrical-Electronics Engineer or Electrical Engineer with at least 15 years of experience in power system and at least 5 years of experience in Smart Grid Applications in power system, especially in electricity transmission systems: 5 points
 - A senior Electrical-Electronics Engineer or Electrical Engineer with at least 15 years of experience in transmission substation automation and substation automation standard IEC61850: 5 points
 - Specialists to cover Cost Estimating and Scheduling, Economic Analysis and Project Funding: 5 points
4. Past performance: 15 points maximum
- The qualified bidder will be expected to provide evidence of satisfactorily executing at least six (6) similar projects with budgets of at least \$500,000 USD within the past 10 years either as an A/E or as an ESCO: 15 points

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

Price will not be a factor in contractor selection.

ANNEX 1

MR. KEMAL YILDIR, CHAIRMAN OF THE BOARD AND GENERAL MANAGER
TURKISH ELECTRICITY TRANSMISSION CORPORATION (TEIAS)
COMMUNICATION AND INFORMATION SYSTEMS DEPARTMENT
NASUH AKAR MH. TÜRK OCAĞI CD. NO:2, KAT:17, ODA: 33
06490 BAHÇELIEVLER ANKARA, TURKEY

TURKEY: SMART GRID UPGRADES TO THE TEIAS ELECTRICITY
TRANSMISSION 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. Turkey Smart Grid Upgrades to TEIAS Transmission 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 (Study) for smart grid upgrades to the electricity transmission network of Turkey.

Turkey is facing a rapidly rising demand in the midst of its bustling economic growth. The Turkish government is consequently making a concentrated effort to explore alternative sources of energy, such as wind, hydro and geothermal power as a way of meeting this shortfall. In order to function effectively, these new sources of energy require a modernized electric grid system, and the Government of Turkey has placed a high priority on making rapid changes to its transmission and distribution companies to increase its power load and reduce losses.

Improved control systems, automation and other smart grid techniques can significantly facilitate integration of large amount of renewable power resources such as wind, hydro and geothermal power plants as well as other new power plants to the electricity transmission network in order to cope with rapidly rising demand and improve operational performance , reliability and efficiency. This Study will assist TEIAS in using advanced smart grid applications that are designed to increase efficiency and accommodate the plentiful wind, solar and other renewable energy sources increasingly available in Turkey and improve operational performance and reliability of the transmission system in Turkey and interconnections with the other systems such as ENTSO-E Continental Europe Synchronous Area (CESA) network. The Study will allow TEIAS to incorporate ICT tools in their control centers, transmission networks, substations and all of the interactions among these parts. These changes would significantly reduce the risk of power shortages hindering Turkey's economic development. TEIAS also expects that this project shall facilitate transfer of knowledge and experience to TEIAS related staff in the field of smart grid applications in the electric power system.

The U.S. firm selected will be paid in U.S. dollars from a \$536,520 grant to the Grantee from the U.S. Trade and Development Agency (USTDA).

A detailed Request for Proposals (RFP), which includes requirements for the Proposal, the Terms of Reference, and portions of a background definitional mission/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.

Interested U.S. firms should submit their Proposal in English directly to the Grantee by **4:00 PM, LOCAL TIME, on APRIL 30, 2013**, 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

PROJECT PROPOSED FOR THE TURKISH ELECTRICITY TRANSMISSION COMPANY (TEİAŞ)

The Turkish Electricity Transmission Corporation (TEİAŞ) owns and operates Turkey's electric power transmission system. TEİAŞ also operates the country's electricity market. Turkey's power system is one of the largest systems in Europe. At the end of 2011, Turkey's system was characterized by the following:

- Total installed generation capacity: 52,911 MW.
- Maximum system demand: 36,122 MW.
- Annual increase in demand: 9.4 % (the average is 8% in recent years).
- Annual electricity generation: 230.3 TWh.
- Transmission system voltages: 380 kV, 220 kV, 154 kV and 66 kV.
- Total length of the transmission lines: 49,674.4 km.
- Total transmission transformer capacity: 104,658 MVA.
- Number of transmission substations: 617.

TEİAŞ implemented a new Siemens SCADA/EMS system in 2004 and this system has been extended in 2011. As of the end of 2011, the TEİAŞ SCADA/EMS system covered one National Control Center (NCC) and the Emergency National Control Center (ENCC), nine Regional Control Centers (RCCs), and Remote Terminal Units (RTUs) at 325 substations and power plants throughout its network. TEİAŞ is continuing further extension of the SCADA system to the remaining substations connected to 154 kV network.

In addition to the SCADA functions, NCC and ENCC in the TEİAŞ network have the following Energy Management functions:

- State estimator
- Contingency analysis
- Dispatcher load flow
- Load frequency control (LFC/AGC)
- Economic dispatch
- Reserve monitoring
- Interchange transaction scheduler
- Hydro thermal coordination
- Short term load forecast
- Dispatcher training simulator (at NCC only)

TEIAS's SCADA/EMS System and other controls are vitally important to ensure reliable and efficient operation of the Turkish Power System. The system also provides functionalities required for the connection of the Turkish Power System to the European Network of Transmission System Operators for Electricity (ENTSO-E) Continental European Synchronous Area (CESA) network. Therefore, TEİAŞ has assigned the highest priority to extension of the SCADA/EMS System throughout its network. TEİAŞ continues to further extend this system to cover remaining transmission substations and implement smart-grid solutions in order to improve operational performance of the electricity transmission network in Turkey.

In order to address this requirement, TEİAŞ, the proposed "Grantee", is in need of services and hardware/software to identify and plan implementation of transmission grid system solutions involving integration of information system technology, interconnection guidelines, and control systems (so called Smart Grid solutions) into the transmission of electric power in Turkey. TEİAŞ is in need of a feasibility study ("The study") that will identify gaps in the Grantee's use of smart grid systems and assist in preparing Smart Grid implementation guidelines.

Extension and strengthening of SCADA/EMS System, other related IT systems, communication infrastructure, substation automation and smart-grid applications in the TEİAŞ's transmission network shall facilitate capability for more reliable and efficient operation of Turkish power system, more reliable and permanent integration with ENTSO-E Continental European Synchronous Area (CESA) network, integration of a large amount of renewable energy resources, especially wind energy resources, to the transmission system, more stable operation of electricity market and integration of Turkish Electricity Market to the European Electricity Market as well as to the other regional electricity markets.

OBJECTIVES OF THE "STUDY"

The specific objectives of the "Study" are as follows:

- Conduct a review of the existing transmission network and identify gaps
- Develop requirements for hardware, software, implementation steps, and capacity building required to address the gaps
- Develop cost estimates and an investment program for the identified requirements
- Conduct an economic and financial analysis of the investment requirements
- Develop an financing and an implementation roadmap
- Prepare and submit a report to TEİAŞ and USTDA including specific recommendations for the next steps

Exhibit 5: Proposed Schedule for the Feasibility Study of Smart Grid Applications at TEIAS, Turkey

NO	TASKS	MONTHS AFTER CONTRACT AWARD										
		1	2	3	4	5	6	7	8	9	10	
1.	Task 1: Technical Assessment: Conduct a review of the Existing System and Identify Appropriate Smart Grid Systems	█										
2.	Task 2: Technical Assessment: Conduct a Technical Analysis and Identify Gaps and Requirements		█	█	█	█	█					
3.	Task 3: Develop Cost Estimates and Investment Needed for the Identified System Requirements to Meet the Gaps			█	█	█	█	█				
4.	Task 4: Conduct and Economic and Financial Analysis of the Recommended Investments in Smart Grid Applications				█	█	█	█	█			
5.	Task 5: Develop a Blue Print for Financing the Investments Needed in Phase I and Phase II						█	█	█			
6.	Task 6: Conduct a Review of Regulatory Issues Related to the Project				█	█	█	█				
7.	Task 7: Conduct an Appropriate Environmental Analysis of the Project						█	█	█			
8.	Task 8: Conduct an Analysis of Key Host Country Development Impacts							█	█	█		
9.	Task 9: Develop a Five-Year Project Implementation Plan and Budget							█	█	█		
10.	Task 10: Conduct an Assessment of U.S. Sources of Supply								█	█	█	
11.	Task 11: Final Report						█	█	█	█	█	█

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.

A N N E X 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 Government of the Republic of Turkey, acting through the Undersecretariat of Treasury, acting through the Turkish Electricity Transmission Corporation, TEİAŞ ("Grantee"). USTDA agrees to provide the Grantee under the terms of this Grant Agreement US\$536,520 ("USTDA Grant") to fund the cost of goods and services required for a feasibility study ("Study") on the proposed Smart Grid in Electricity Transmission Feasibility Study ("Project") in Turkey ("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 office space, and secretarial support.

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. In the event that only one signature is dated, such date shall constitute the Effective Date.

8. Study Schedule

(A) Study Completion Date

The completion date for the Study, which is December 31 2014, 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.

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 the Turkish Undersecretariat of the Treasury or Turkish Electricity Transmission Corporation. 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: Mr. Kemal YILDIR
Chairman of the Board and
General Manager
Turkish Electricity Transmission
Corporation
Nasuh Akar Mh. Türk Ocağı Cd.
Nu:12 06490 Bahçelievler,
Ankara
Turkey

Phone: +90 312 203 80 63
Fax: + 90 312 222 81 60

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 13/14 1001
Activity No.: 2013-21005A
Reservation No.: 2013076
Grant No.: GH201321076

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 after the 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, in case of the international bidding to be financed by foreign sources and if, funding provision allow, it will allow U.S. suppliers to compete in the procurement of technology, goods and services needed for Project implementation.

22. Counterparts

This Grant Agreement may be executed in counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same agreement. Counterparts may be delivered via electronic mail or other transmission method and any counterpart so delivered shall be deemed to be valid and effective for all purposes.

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IN WITNESS WHEREOF, the Government of the United States of America and the Government of the Republic of Turkey, 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

For the Government of the
Republic of Turkey



By: Jess Baily
Deputy Chief of Mission
U.S. Embassy, Ankara, Turkey



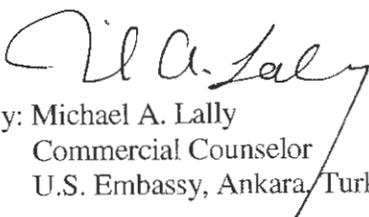
By: Cavit Dağdaş
Deputy Undersecretary
Undersecretariat of Treasury

Date: February 8th, 2013

Date: February 8th, 2013

Witnessed:

Witnessed:



By: Michael A. Lally
Commercial Counselor
U.S. Embassy, Ankara, Turkey

By: Kemal Yıldır
Chairman of the Board and General Manager
TEİAŞ



Annex I -- Terms of Reference

Annex II -- USTDA Mandatory Clauses

Annex I

Terms of Reference

Purpose and Objective of the Feasibility Study (Study)

The specific objectives of the Study are as follows:

- Conduct a review of the existing transmission network and identify gaps
- Develop requirements for hardware, software, implementation steps, and capacity building required to address the gaps
- Develop cost estimates and an investment program for the identified requirements
- Conduct an economic and financial analysis of the investment requirements
- Develop a financing and implementation roadmap
- Prepare and submit a report to the Turkish Electricity Transmission Corporation (TEİAŞ or Grantee) and the U.S. Trade and Development Agency (USTDA) including specific recommendations for the next steps.

Scope of Work and Specific Tasks

The scope of the Study shall include the entire transmission network of TEİAŞ and specifically the portion that has not been connected to the supervisory control and data acquisition (SCADA) system. The Contractor shall conduct the following tasks as part of the Study:

Task 1: Review of the Existing System and Identification of Appropriate Smart Grid Systems

As part of this task, the Contractor shall conduct the following activities:

- Conduct a review of the Grantee's existing systems, including an assessment of the technologies currently in use and their appropriateness to the growing demands in the Turkish transmission network.
- Identify and describe objectives to be served by introducing commercially proven utility operational and analytical solutions in the Turkish transmission system. Specific technologies and systems to be analyzed shall include Supervisory Control and Data Acquisition/Energy Management Systems (SCADA/EMS), communications infrastructure, and analytical tools, as well as solutions that are generally considered as Smart Grid applications. The Contractor and the Grantee shall together define the most appropriate Smart Grid applications for the Turkish transmission system.
- Determine the range of contractual and technical issues involved with interconnecting in the transmission system and the regulatory and data

requirements each interconnecting entity (including generating facilities, distribution companies, and others connected to the transmission grid) will need to provide to the Grantee.

- Include the identification and analysis of all significant regulatory requirements that will impact those interconnections.

Based on the above activities, the Contractor shall prepare a set of working transmission interconnection guidelines that will help the Grantee transform itself into an operating company that is mature in its use of Smart Grid technologies. These guidelines are meant to assist the Grantee to enhance existing facilities such as SCADA/EMS, communication infrastructure, and analytical tools and improve the contracts for all energy suppliers and users who are requesting to use, or are presently using, the transmission system.

Task 1 Deliverable:

The Contractor shall prepare and submit a report documenting the specifics of the existing system; a description of the legal, contractual, and regulatory requirements; and preferred Smart Grid technologies and systems best suited to the TEIAS transmission network.

Task 2: Technical Analysis and Identification of Gaps and Requirements

Task 2.1: Conduct a Technical Analysis of the System

The Contractor shall work closely with engineers and managers of TEIAS to conduct a detailed technical analysis of the company's systems including review of documents, technical specifications, records, and visits to selected sites such as the various control centers and substations. The technical analysis shall also include a documentation of system requirements for moving forward with the Grantee's plans to extend Smart Grid solutions in its transmission network.

Task 2.2: Conduct a Gap Analysis

Building on the work conducted under Task 2.1, the Contractor shall define and describe the gaps in the systems. These gaps shall include all factors and issues that stand between the present state of the TEIAS system and a technologically mature transmission operating company employing state-of-the-art Smart Grid transmission systems solutions. The factors and issues covered in the gap analysis shall include, but not be limited to, the following:

- A. Identify and analyze all interconnection points to the Grantee:
 - Determine whether each interconnection point is connected to the Grantee's SCADA/EMS;
 - Determine which data each interconnection point is currently supplying; and

- Determine if these connections and data factors satisfy the data requirements in the interconnection guidelines developed in Task 1 above.
- B. Analyze needed SCADA/EMS solutions:
- Determine if existing SCADA systems are connected to the Grantee's EMS; and
 - Determine if the existing SCADA/EMS systems meet the Grantee's needs for operation of the Turkish electricity transmission system and the operation of interconnections.
- C. Analyze needed communication infrastructure solutions:
- Determine if existing communication infrastructure meets the Grantee's data, voice communication and teleprotection needs; and
 - Recommend state-of-the-art technology solutions for strengthening and extending the Grantee's existing data and voice communication system/infrastructure in order to meet current and future needs as well as to facilitate Smart Grid application in the transmission network.
- D. Analyze any other needed Smart Grid solutions identified in Task 1 above:
- Determine the needed Smart Grid solutions for transmission networks and their applications in transmission systems; and
 - Provide transfer of knowledge/information to the Grantee about Smart Grid Solutions applied in the transmission networks of foreign markets with similarities to Turkey's market.

Based on the activities conducted above, the Contractor shall prepare a gap analysis for each interconnection point and substation as well as for the overall transmission network.

Task 2.3: Develop Recommendations to Address the Identified System Gaps

Based on the gap analysis, the Contractor shall develop a set of detailed written recommendations for the Grantee that adhere to industry best practices and that would enhance the Grantee's EMS/SCADA system, communication infrastructure, substation design, and overall transmission network control and management. These practices shall take into account the emerging technologies and Smart Grid solutions for transmission systems that impact a variety of regulatory reliability and operational initiatives.

Task 2.4: Management of Turkey's Wind Generator Portfolio

As part of Task 2, the Contractor shall also determine proper solutions for the Grantee to be able to manage Turkey's present and anticipated wind portfolio on an hourly, daily and longer-term forecasting model. The Contractor shall explore and recommend system management tools that are tailored to wind energy sources. The Grantee shall provide the necessary information to the Contractor that is required for this analysis. The data to be

provided by the Grantee for this purpose shall be kept confidential and shall not be disclosed to any third parties, with the exception of the provision to USTDA in the context of the confidential Final Report detailed elsewhere in the TOR.

Task 2.5: Power System Tools, Loading, Power Flow, Value at Risk (VAR) Analysis, and Outage Management

The Contractor shall recommend tools that will help the Grantee manage the transmission system in terms of loading, power flow, VAR, and contingency planning. The Contractor shall also develop outage management rules for reclosing on faults and other Outage Management Systems (OMS) based on established industry guidelines and supported by the Grantee's present and future control infrastructure requirements.

Task 2 Deliverable:

The Contractor shall prepare and submit a comprehensive report documenting all activities, methodologies, and results from the activities conducted under Task 2, including a gap analysis report describing the results obtained under this Task.

Task 3: Cost Estimates and Investment Needed for the Identified System

Based on the system requirements developed under Task 2 to address the gaps in the TEİAŞ transmission network, the Contractor shall develop detailed cost estimates for various equipment, hardware, software, licenses, and training needed for the next stage program implementation. The cost estimates shall be based on industry quotes for the various items as well as all material and installation costs based on prevailing local costs in Turkey. The Contractor shall closely work with the Grantee in developing the cost estimates. This close working relationship is intended to facilitate capacity building and training for TEİAŞ engineers and managers.

Upon completion of the cost estimate development, the Contractor shall also develop an investment program for TEİAŞ including capital costs; equipment costs; licensing fees; system operations and maintenance costs; and any costs associated with personnel training. In consultation with the Grantee, the Contractor shall break down the investment program into two phases: Phase I (Priority Investment) focusing on the highest priority investments (2-3 years) and Phase II (investments to occur more than 3 years from the time of the Study) focusing on medium- to long-term investment requirements. This approach is intended to help the Grantee with its internal budgeting and acquisition of financing for the needed investments.

Task 3 Deliverable:

The Contractor shall prepare and submit a comprehensive report documenting all activities, methodologies, and results from the activities conducted under Task 3, including the two-phase investment program described in this Task.

Task 4: Economic and Financial Analysis

Based on the total investment requirements for Phase I and Phase II and life cycle cost analysis of equipment and systems, the Contractor shall conduct detailed economic and financial analyses of the proposed investments using an internationally-acceptable methodology for such analyses. Financial analyses of the projects shall be based on a standard methodology used by donors, such as the World Bank, and other potential investors for appraising investment projects. The Contractor shall calculate both the economic and financial internal rates of return (EIRR and FIRR) for the project under a variety of different assumptions such as different interest rates, depreciation, and price of fuel (gas, oil, etc.).

In addition, the Contractor shall conduct a sensitivity analysis of the return on investment (ROI) and return on equity (ROE) for 2-3 practical financial packages for financing the investments.

As the first step under this task, the Contractor shall acquire and compile historical and projected energy and capacity information in Turkey for use in assessing the market for Smart Grid applications in the transmission sector. In addition to the capital costs, the Contractor shall provide an estimate of projected operating expenses, including a detailed breakdown of the general, administrative, operating, and maintenance costs for the project. As part of the financial and economic analysis, the Contractor shall take into consideration the escalation of the costs over a 2-5 year period.

The Contractor shall estimate the projected savings anticipated to result from the recommended Smart Grid applications. In addition, the Contractor shall develop a cash balance pro forma that presents the net cash savings from the projects, determined by netting revenue against costs.

The Contractor shall prepare a financial analysis and model of the project, considering alternative methods and sources of financing, including grants and concessionary financing, equity, and debt. The financial model will be a tool for defining the terms and conditions of the financing structure and testing the volatility of the project's ability to service its debt. Assuming a reasonable debt-equity structure, or a range of debt-equity structures, the Contractor shall calculate the internal rate of return (or rates of return) to equity investors. Following discussion with the Grantee, an optimum, minimum, and most likely economic/financial scenario shall be selected by the Contractor to develop financial documentation that may be used by the Grantee for presentation to financial officials. This documentation shall be included in the Final Report.

In addition, the Contractor shall calculate the value of any carbon credits that will result from Smart Grid applications. The Contractor shall also integrate the cost-benefits anticipated to result from the sale of these credits into the project's financial and economic projections.

Task 4 Deliverable:

The Contractor shall prepare and submit a detailed report on the economic and financial analyses of the projects to be implemented both under Phase I and Phase II and rank the investments in terms of their financial viability and likely investor interest.

Task 5: Blueprint for financing the Investments Needed in Phase I and Phase II

The Contractor shall develop two separate options, one for each of the two Phases described elsewhere in the TOR, for financing the projects to be recommended under this Study. The Contractor shall identify project risk factors and develop a risk avoidance/reduction plan for each factor by means of insurance, bonding, or other means, and these plans shall meet the requirements of potential funding sources including host country sources, multilateral financiers, and others.

Specifically, the Contractor shall identify and analyze the following potential funding sources for financing the Smart Grid projects in both Phase I and Phase II:

- Internal funds from the Grantee's resources or Government budget;
- Combination of internal budget funds and development financing from international financial institutions such as the World Bank;
- Combination of the above and export credit financing from the U.S. Export-Import Bank;
- Blended financing from debt and equity provided by a variety of donors; and
- European Union Funds.

Task 5 Deliverable:

The Contractor shall prepare and submit a detailed report containing a financing plan for the recommended Smart Grid investment projects that shall summarize all activities conducted under this task.

Task 6: Review of Regulatory Issues Related to the Project

The Contractor shall conduct a regulatory analysis of existing power sector regulations in Turkey and detail the regulatory requirements to facilitate the implementation of the Smart Grid projects. In addition, the Contractor shall identify and assess any regulatory barriers that may impede the development, financing, and implementation of the projects.

Specifically, the Contractor shall analyze all regulatory issues that will impact the Grantee's Smart Grid development. The analysis shall include all pertinent documents that deal with import taxes, duties and fees; corporate and personal income taxes; and property and other taxes related to the implementation of the project. It shall also include all permitting requirements, foreign participation regulations, regulations that impact

environmental requirements, and any other regulatory issues that will have a significant impact on the project.

The Contractor shall recommend remedial actions to mitigate the regulatory barriers.

Task 6 Deliverable:

The Contractor shall prepare and submit a detailed report containing a regulatory assessment related to implementing the Smart Grid projects both in the immediate time frame (Phase I) and in the medium- to long-term projects (Phase II).

Task 7: Preliminary Environmental Analysis of the Project

The Contractor shall evaluate and report on the expected environmental impacts of the recommended Smart Grid projects with reference to local, national and international laws and regulations, including those of international finance institutions, such as the World Bank, the European Bank for Reconstruction and Development, the International Finance Corporation, and private banks.

This review shall identify potential negative impacts, discuss the extent to which they can be mitigated, and develop plans for a full environmental impact assessment if and when the project moves forward to the implementation stage. This shall include the identification of the steps that will need to be undertaken by the project sponsor subsequent to the Study's completion and prior to project implementation.

Task 7 Deliverables:

The results of this task shall be included as a stand-alone chapter in the Final Report.

Task 8: Conduct an Analysis of the Key Host Country Development Impacts

The Contractor shall conduct an analysis of the potential social and developmental impact of the proposed Smart Grid investments in Phase I and Phase II. The development impacts shall include (i) infrastructure, (ii) human capacity building, (iii) technology transfer and productivity improvement, (iv) market-oriented reform, and (v) any other impacts. These development impact factors are intended to provide the project's decision-makers and interested parties with a broader view of the project's potential effects on the Host Country.

The Contractor's analysis shall focus on any development impacts likely to occur should the project be implemented according to the Study recommendations. While specific focus shall be paid to the immediate impact of the project, analysis shall include any additional development benefits that may result from the project's implementation, including spin-off and demonstration effects.

Accordingly, the analysis shall be an assessment of each of the following categories with respect to the project's potential development impact:

- Infrastructure: A statement on the infrastructure impact of the project, giving a brief synopsis;
- 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 in Turkey that would be needed to construct and operate the proposed project, as well as the number of people who will receive training, and a brief description of the training program;
- Technology Transfer and Productivity Enhancement: A description of any advanced technologies that will be utilized as a result of the project as well as a description of any efficiency that would be gained as a result of the implementation of the project;
- Integration of Large Amount of Renewable Resources into the Transmission network: A quantified description of any efficiencies that would be gained as a result of the implementation of the project regarding integration of a large amount of renewable energy resources into the transmission network;
- Integration to the European and Other Regional Markets: A quantified description of any efficiencies that would be gained as a result of the implementation of the project regarding the integration of Turkish electricity market to the European electricity market and into other regional electricity markets; and
- Other: Any other developmental impacts or benefits that would result from the project.

The Contractor shall also measure increased productivity benefits to the Grantee and the multiple social benefits, such as increased employment opportunities and enhanced productivity in the electricity sector. The Contractor shall develop a methodology for assessing these impacts over time, and shall identify where to obtain this information in the future. Such sources may include the Türkiye Kömür İşletmeleri Kurumu (TKİ), Devlet Su İşleri (DSİ), Botaş, the Government of Turkey and the U.S. Embassy in Ankara, etc.

Specifically, the Contractor shall provide estimates of the project's benefits in the areas of integration of large amount of renewable energy resources into the transmission network and the integration of the Turkish electricity market into the European electricity market and into other regional electricity markets.

Task 8 Deliverable:

The results of this task shall be included as a stand-alone chapter in the Final Report.

Task 9: Five-Year Project Implementation Plan and Budget

The Contractor shall develop a detailed 5-year implementation plan and budget for the project based on the final agreed upon upgrades as recommended by the Contractor and adopted by the Grantee. The plan shall provide the Grantee with a detailed description of the gaps and associated mitigation options, coupled with a cost/benefit breakdown for each option.

Task 9 Deliverable:

The Contractor shall prepare and submit a detailed implementation plan for the proposed investments. The plan shall include but not be limited to the following:

- Scope of work
- Annual budget
- Cost/benefit analysis
- Technical and training needs to implement each change
- An overall change management plan to implement upgrades

Task 10: Conduct and Assessment of U.S. Sources of Supply

While aiming at the optimum specifications and characteristics of the project, the Contractor shall conduct an assessment of the availability of potential U.S. sources of supply of equipment, systems, and services required for the implementation of the Smart Grid applications recommended in the Study. For each source identified, the Contractor shall provide the contact name and title and all contact information including telephone number, fax number, physical address, and e-mail address. In addition, as part of this task, the Contractor shall arrange site visits to the existing smart grid systems in the U.S. implemented by the potential suppliers of technology and to the related research institutions such as the Electric Power Research Institute (EPRI) in the U.S. related to smart grid application in transmission systems. All travel expenses (tickets, daily allowances, etc.) of the participants to this visit by the Grantee shall be the responsibility of the Grantee.

Task 10 Deliverable:

The Contractor shall compile this information in a stand-alone report and include it as an annex to the Final Report.

Task 11: 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"). The Final Report shall be organized according to the above tasks, and shall include all deliverables and documents that have been provided to the Grantee. The Final

Report shall be prepared in accordance with Clause J of Annex II of the Grant Agreement.

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 _____ ("Client"), dated _____ ("Grant Agreement"). The Client has selected _____ ("Contractor") to perform the feasibility study ("Study") for the Smart Grid in Electricity Transmission Project ("Project") in Turkey ("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. 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. 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. 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. 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."

(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. "

(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 May 31, 2014, 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 13/14 1001
Activity No.:	2013-21005A
Reservation No.:	2013076
Grant No.:	GH201321076

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:
Title:
Phone:
Fax:
E-Mail:

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

Purpose and Objective of the Feasibility Study (Study)

The specific objectives of the Study are as follows:

- Conduct a review of the existing transmission network and identify gaps
- Develop requirements for hardware, software, implementation steps, and capacity building required to address the gaps
- Develop cost estimates and an investment program for the identified requirements
- Conduct an economic and financial analysis of the investment requirements
- Develop a financing and implementation roadmap
- Prepare and submit a report to the Turkish Electricity Transmission Corporation (TEİAŞ or Grantee) and the U.S. Trade and Development Agency (USTDA) including specific recommendations for the next steps.

Scope of Work and Specific Tasks

The scope of the Study shall include the entire transmission network of TEİAŞ and specifically the portion that has not been connected to the supervisory control and data acquisition (SCADA) system. The Contractor shall conduct the following tasks as part of the Study:

Task 1: Review of the Existing System and Identification of Appropriate Smart Grid Systems

As part of this task, the Contractor shall conduct the following activities:

- Conduct a review of the Grantee's existing systems, including an assessment of the technologies currently in use and their appropriateness to the growing demands in the Turkish transmission network.
- Identify and describe objectives to be served by introducing commercially proven utility operational and analytical solutions in the Turkish transmission system. Specific technologies and systems to be analyzed shall include Supervisory Control and Data Acquisition/Energy Management Systems (SCADA/EMS), communications infrastructure, and analytical tools, as well as solutions that are generally considered as Smart Grid applications. The Contractor and the Grantee shall together define the most appropriate Smart Grid applications for the Turkish transmission system.
- Determine the range of contractual and technical issues involved with interconnecting in the transmission system and the regulatory and data

requirements each interconnecting entity (including generating facilities, distribution companies, and others connected to the transmission grid) will need to provide to the Grantee.

- Include the identification and analysis of all significant regulatory requirements that will impact those interconnections.

Based on the above activities, the Contractor shall prepare a set of working transmission interconnection guidelines that will help the Grantee transform itself into an operating company that is mature in its use of Smart Grid technologies. These guidelines are meant to assist the Grantee to enhance existing facilities such as SCADA/EMS, communication infrastructure, and analytical tools and improve the contracts for all energy suppliers and users who are requesting to use, or are presently using, the transmission system.

Task 1 Deliverable:

The Contractor shall prepare and submit a report documenting the specifics of the existing system; a description of the legal, contractual, and regulatory requirements; and preferred Smart Grid technologies and systems best suited to the TEIAS transmission network.

Task 2: Technical Analysis and Identification of Gaps and Requirements

Task 2.1: Conduct a Technical Analysis of the System

The Contractor shall work closely with engineers and managers of TEIAS to conduct a detailed technical analysis of the company's systems including review of documents, technical specifications, records, and visits to selected sites such as the various control centers and substations. The technical analysis shall also include a documentation of system requirements for moving forward with the Grantee's plans to extend Smart Grid solutions in its transmission network.

Task 2.2: Conduct a Gap Analysis

Building on the work conducted under Task 2.1, the Contractor shall define and describe the gaps in the systems. These gaps shall include all factors and issues that stand between the present state of the TEIAS system and a technologically mature transmission operating company employing state-of-the-art Smart Grid transmission systems solutions. The factors and issues covered in the gap analysis shall include, but not be limited to, the following:

- A. Identify and analyze all interconnection points to the Grantee:
 - Determine whether each interconnection point is connected to the Grantee's SCADA/EMS;
 - Determine which data each interconnection point is currently supplying; and

- Determine if these connections and data factors satisfy the data requirements in the interconnection guidelines developed in Task 1 above.
- B. Analyze needed SCADA/EMS solutions:
- Determine if existing SCADA systems are connected to the Grantee's EMS; and
 - Determine if the existing SCADA/EMS systems meet the Grantee's needs for operation of the Turkish electricity transmission system and the operation of interconnections.
- C. Analyze needed communication infrastructure solutions:
- Determine if existing communication infrastructure meets the Grantee's data, voice communication and teleprotection needs; and
 - Recommend state-of-the-art technology solutions for strengthening and extending the Grantee's existing data and voice communication system/infrastructure in order to meet current and future needs as well as to facilitate Smart Grid application in the transmission network.
- D. Analyze any other needed Smart Grid solutions identified in Task 1 above:
- Determine the needed Smart Grid solutions for transmission networks and their applications in transmission systems; and
 - Provide transfer of knowledge/information to the Grantee about Smart Grid Solutions applied in the transmission networks of foreign markets with similarities to Turkey's market.

Based on the activities conducted above, the Contractor shall prepare a gap analysis for each interconnection point and substation as well as for the overall transmission network.

Task 2.3: Develop Recommendations to Address the Identified System Gaps

Based on the gap analysis, the Contractor shall develop a set of detailed written recommendations for the Grantee that adhere to industry best practices and that would enhance the Grantee's EMS/SCADA system, communication infrastructure, substation design, and overall transmission network control and management. These practices shall take into account the emerging technologies and Smart Grid solutions for transmission systems that impact a variety of regulatory reliability and operational initiatives.

Task 2.4: Management of Turkey's Wind Generator Portfolio

As part of Task 2, the Contractor shall also determine proper solutions for the Grantee to be able to manage Turkey's present and anticipated wind portfolio on an hourly, daily and longer-term forecasting model. The Contractor shall explore and recommend system management tools that are tailored to wind energy sources. The Grantee shall provide the necessary information to the Contractor that is required for this analysis. The data to be

provided by the Grantee for this purpose shall be kept confidential and shall not be disclosed to any third parties, with the exception of the provision to USTDA in the context of the confidential Final Report detailed elsewhere in the TOR.

Task 2.5: Power System Tools, Loading, Power Flow, Value at Risk (VAR) Analysis, and Outage Management

The Contractor shall recommend tools that will help the Grantee manage the transmission system in terms of loading, power flow, VAR, and contingency planning. The Contractor shall also develop outage management rules for reclosing on faults and other Outage Management Systems (OMS) based on established industry guidelines and supported by the Grantee's present and future control infrastructure requirements.

Task 2 Deliverable:

The Contractor shall prepare and submit a comprehensive report documenting all activities, methodologies, and results from the activities conducted under Task 2, including a gap analysis report describing the results obtained under this Task.

Task 3: Cost Estimates and Investment Needed for the Identified System

Based on the system requirements developed under Task 2 to address the gaps in the TEİAŞ transmission network, the Contractor shall develop detailed cost estimates for various equipment, hardware, software, licenses, and training needed for the next stage program implementation. The cost estimates shall be based on industry quotes for the various items as well as all material and installation costs based on prevailing local costs in Turkey. The Contractor shall closely work with the Grantee in developing the cost estimates. This close working relationship is intended to facilitate capacity building and training for TEİAŞ engineers and managers.

Upon completion of the cost estimate development, the Contractor shall also develop an investment program for TEİAŞ including capital costs; equipment costs; licensing fees; system operations and maintenance costs; and any costs associated with personnel training. In consultation with the Grantee, the Contractor shall break down the investment program into two phases: Phase I (Priority Investment) focusing on the highest priority investments (2-3 years) and Phase II (investments to occur more than 3 years from the time of the Study) focusing on medium- to long-term investment requirements. This approach is intended to help the Grantee with its internal budgeting and acquisition of financing for the needed investments.

Task 3 Deliverable:

The Contractor shall prepare and submit a comprehensive report documenting all activities, methodologies, and results from the activities conducted under Task 3, including the two-phase investment program described in this Task.

Task 4: Economic and Financial Analysis

Based on the total investment requirements for Phase I and Phase II and life cycle cost analysis of equipment and systems, the Contractor shall conduct detailed economic and financial analyses of the proposed investments using an internationally-acceptable methodology for such analyses. Financial analyses of the projects shall be based on a standard methodology used by donors, such as the World Bank, and other potential investors for appraising investment projects. The Contractor shall calculate both the economic and financial internal rates of return (EIRR and FIRR) for the project under a variety of different assumptions such as different interest rates, depreciation, and price of fuel (gas, oil, etc.).

In addition, the Contractor shall conduct a sensitivity analysis of the return on investment (ROI) and return on equity (ROE) for 2-3 practical financial packages for financing the investments.

As the first step under this task, the Contractor shall acquire and compile historical and projected energy and capacity information in Turkey for use in assessing the market for Smart Grid applications in the transmission sector. In addition to the capital costs, the Contractor shall provide an estimate of projected operating expenses, including a detailed breakdown of the general, administrative, operating, and maintenance costs for the project. As part of the financial and economic analysis, the Contractor shall take into consideration the escalation of the costs over a 2-5 year period.

The Contractor shall estimate the projected savings anticipated to result from the recommended Smart Grid applications. In addition, the Contractor shall develop a cash balance pro forma that presents the net cash savings from the projects, determined by netting revenue against costs.

The Contractor shall prepare a financial analysis and model of the project, considering alternative methods and sources of financing, including grants and concessionary financing, equity, and debt. The financial model will be a tool for defining the terms and conditions of the financing structure and testing the volatility of the project's ability to service its debt. Assuming a reasonable debt-equity structure, or a range of debt-equity structures, the Contractor shall calculate the internal rate of return (or rates of return) to equity investors. Following discussion with the Grantee, an optimum, minimum, and most likely economic/financial scenario shall be selected by the Contractor to develop financial documentation that may be used by the Grantee for presentation to financial officials. This documentation shall be included in the Final Report.

In addition, the Contractor shall calculate the value of any carbon credits that will result from Smart Grid applications. The Contractor shall also integrate the cost-benefits anticipated to result from the sale of these credits into the project's financial and economic projections.

Task 4 Deliverable:

The Contractor shall prepare and submit a detailed report on the economic and financial analyses of the projects to be implemented both under Phase I and Phase II and rank the investments in terms of their financial viability and likely investor interest.

Task 5: Blueprint for financing the Investments Needed in Phase I and Phase II

The Contractor shall develop two separate options, one for each of the two Phases described elsewhere in the TOR, for financing the projects to be recommended under this Study. The Contractor shall identify project risk factors and develop a risk avoidance/reduction plan for each factor by means of insurance, bonding, or other means, and these plans shall meet the requirements of potential funding sources including host country sources, multilateral financiers, and others.

Specifically, the Contractor shall identify and analyze the following potential funding sources for financing the Smart Grid projects in both Phase I and Phase II:

- Internal funds from the Grantee's resources or Government budget;
- Combination of internal budget funds and development financing from international financial institutions such as the World Bank;
- Combination of the above and export credit financing from the U.S. Export-Import Bank;
- Blended financing from debt and equity provided by a variety of donors; and
- European Union Funds.

Task 5 Deliverable:

The Contractor shall prepare and submit a detailed report containing a financing plan for the recommended Smart Grid investment projects that shall summarize all activities conducted under this task.

Task 6: Review of Regulatory Issues Related to the Project

The Contractor shall conduct a regulatory analysis of existing power sector regulations in Turkey and detail the regulatory requirements to facilitate the implementation of the Smart Grid projects. In addition, the Contractor shall identify and assess any regulatory barriers that may impede the development, financing, and implementation of the projects.

Specifically, the Contractor shall analyze all regulatory issues that will impact the Grantee's Smart Grid development. The analysis shall include all pertinent documents that deal with import taxes, duties and fees; corporate and personal income taxes; and property and other taxes related to the implementation of the project. It shall also include all permitting requirements, foreign participation regulations, regulations that impact

environmental requirements, and any other regulatory issues that will have a significant impact on the project.

The Contractor shall recommend remedial actions to mitigate the regulatory barriers.

Task 6 Deliverable:

The Contractor shall prepare and submit a detailed report containing a regulatory assessment related to implementing the Smart Grid projects both in the immediate time frame (Phase I) and in the medium- to long-term projects (Phase II).

Task 7: Preliminary Environmental Analysis of the Project

The Contractor shall evaluate and report on the expected environmental impacts of the recommended Smart Grid projects with reference to local, national and international laws and regulations, including those of international finance institutions, such as the World Bank, the European Bank for Reconstruction and Development, the International Finance Corporation, and private banks.

This review shall identify potential negative impacts, discuss the extent to which they can be mitigated, and develop plans for a full environmental impact assessment if and when the project moves forward to the implementation stage. This shall include the identification of the steps that will need to be undertaken by the project sponsor subsequent to the Study's completion and prior to project implementation.

Task 7 Deliverables:

The results of this task shall be included as a stand-alone chapter in the Final Report.

Task 8: Conduct an Analysis of the Key Host Country Development Impacts

The Contractor shall conduct an analysis of the potential social and developmental impact of the proposed Smart Grid investments in Phase I and Phase II. The development impacts shall include (i) infrastructure, (ii) human capacity building, (iii) technology transfer and productivity improvement, (iv) market-oriented reform, and (v) any other impacts. These development impact factors are intended to provide the project's decision-makers and interested parties with a broader view of the project's potential effects on the Host Country.

The Contractor's analysis shall focus on any development impacts likely to occur should the project be implemented according to the Study recommendations. While specific focus shall be paid to the immediate impact of the project, analysis shall include any additional development benefits that may result from the project's implementation, including spin-off and demonstration effects.

Accordingly, the analysis shall be an assessment of each of the following categories with respect to the project's potential development impact:

- Infrastructure: A statement on the infrastructure impact of the project, giving a brief synopsis;
- 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 in Turkey that would be needed to construct and operate the proposed project, as well as the number of people who will receive training, and a brief description of the training program;
- Technology Transfer and Productivity Enhancement: A description of any advanced technologies that will be utilized as a result of the project as well as a description of any efficiency that would be gained as a result of the implementation of the project;
- Integration of Large Amount of Renewable Resources into the Transmission network: A quantified description of any efficiencies that would be gained as a result of the implementation of the project regarding integration of a large amount of renewable energy resources into the transmission network;
- Integration to the European and Other Regional Markets: A quantified description of any efficiencies that would be gained as a result of the implementation of the project regarding the integration of Turkish electricity market to the European electricity market and into other regional electricity markets; and
- Other: Any other developmental impacts or benefits that would result from the project.

The Contractor shall also measure increased productivity benefits to the Grantee and the multiple social benefits, such as increased employment opportunities and enhanced productivity in the electricity sector. The Contractor shall develop a methodology for assessing these impacts over time, and shall identify where to obtain this information in the future. Such sources may include the Türkiye Kömür İşletmeleri Kurumu (TKİ), Devlet Su İşleri (DSİ), Botaş, the Government of Turkey and the U.S. Embassy in Ankara, etc.

Specifically, the Contractor shall provide estimates of the project's benefits in the areas of integration of large amount of renewable energy resources into the transmission network and the integration of the Turkish electricity market into the European electricity market and into other regional electricity markets.

Task 8 Deliverable:

The results of this task shall be included as a stand-alone chapter in the Final Report.

Task 9: Five-Year Project Implementation Plan and Budget

The Contractor shall develop a detailed 5-year implementation plan and budget for the project based on the final agreed upon upgrades as recommended by the Contractor and adopted by the Grantee. The plan shall provide the Grantee with a detailed description of the gaps and associated mitigation options, coupled with a cost/benefit breakdown for each option.

Task 9 Deliverable:

The Contractor shall prepare and submit a detailed implementation plan for the proposed investments. The plan shall include but not be limited to the following:

- Scope of work
- Annual budget
- Cost/benefit analysis
- Technical and training needs to implement each change
- An overall change management plan to implement upgrades

Task 10: Conduct and Assessment of U.S. Sources of Supply

While aiming at the optimum specifications and characteristics of the project, the Contractor shall conduct an assessment of the availability of potential U.S. sources of supply of equipment, systems, and services required for the implementation of the Smart Grid applications recommended in the Study. For each source identified, the Contractor shall provide the contact name and title and all contact information including telephone number, fax number, physical address, and e-mail address. In addition, as part of this task, the Contractor shall arrange site visits to the existing smart grid systems in the U.S. implemented by the potential suppliers of technology and to the related research institutions such as the Electric Power Research Institute (EPRI) in the U.S. related to smart grid application in transmission systems. All travel expenses (tickets, daily allowances, etc.) of the participants to this visit by the Grantee shall be the responsibility of the Grantee.

Task 10 Deliverable:

The Contractor shall compile this information in a stand-alone report and include it as an annex to the Final Report.

Task 11: 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"). The Final Report shall be organized according to the above tasks, and shall include all deliverables and documents that have been provided to the Grantee. The Final

Report shall be prepared in accordance with Clause J of Annex II of the Grant Agreement.

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>	<input type="checkbox"/> Feasibility Study	<input type="checkbox"/> Technical Assistance	<input type="checkbox"/> Other (specify)
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Activity Title *[To be completed by USTDA]*

Full Legal Name of U.S. Firm

Business Address (street address only)

Telephone	Fax	Website
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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

Type of Ownership	<input type="checkbox"/> Publicly Traded Company
	<input type="checkbox"/> Private Company
	<input type="checkbox"/> 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?	<input type="checkbox"/> Yes
	<input type="checkbox"/> No

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?	<input type="checkbox"/> Yes
	<input type="checkbox"/> No

If yes, U.S. Firm shall complete Attachment C for each subcontractor. Attached?	<input type="checkbox"/> Yes
	<input type="checkbox"/> Not applicable

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.

Identify any specific information which is needed from the Grantee before commencing negotiations.

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 <i>[To be completed by USTDA]</i>	
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Activity Title <i>[To be completed by USTDA]</i>	
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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	<input type="checkbox"/> Publicly Traded Company
	<input type="checkbox"/> Private Company
	<input type="checkbox"/> 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?	<input type="checkbox"/> Yes
	<input type="checkbox"/> 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	
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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	