

REQUEST FOR PROPOSALS

FEASIBILITY STUDY FOR THE

ABOADZE-DOMUNLI-PRESTEA TRANSMISSION LINE

Submission Deadline: **5:00 P.M.**
LOCAL (ACCRA) TIME
July 10, 2013

Submission Place: **Charles A. Darku**
Chief Executive Officer
Ghana Grid Company Limited
P.O. Box CS7979
Tema, Ghana

Or

Charles A. Darku
Chief Executive Officer
Ghana Grid Company Limited
Off Tema Motorway Roundabout- Aflao Highway
Near Tema Steel Works
Tema, Ghana

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

| | | |
|------------|--|----|
| SECTION 1: | INTRODUCTION | 4 |
| 1.1 | BACKGROUND SUMMARY | 4 |
| 1.2 | OBJECTIVE | 4 |
| 1.3 | PROPOSALS TO BE SUBMITTED | 4 |
| 1.4 | CONTRACT FUNDED BY USTDA..... | 5 |
| SECTION 2: | INSTRUCTIONS TO OFFERORS | 5 |
| 2.1 | PROJECT TITLE | 5 |
| 2.2 | DEFINITIONS | 5 |
| 2.3 | DEFINITIONAL MISSION REPORT..... | 5 |
| 2.4 | EXAMINATION OF DOCUMENTS | 5 |
| 2.5 | PROJECT FUNDING SOURCE..... | 6 |
| 2.6 | RESPONSIBILITY FOR COSTS | 6 |
| 2.7 | TAXES | 6 |
| 2.8 | CONFIDENTIALITY | 6 |
| 2.9 | ECONOMY OF PROPOSALS | 6 |
| 2.10 | OFFEROR CERTIFICATIONS | 6 |
| 2.11 | CONDITIONS REQUIRED FOR PARTICIPATION..... | 7 |
| 2.12 | LANGUAGE OF PROPOSAL..... | 7 |
| 2.13 | PROPOSAL SUBMISSION REQUIREMENTS..... | 7 |
| 2.14 | PACKAGING..... | 7 |
| 2.15 | OFFEROR'S AUTHORIZED NEGOTIATOR..... | 8 |
| 2.16 | AUTHORIZED SIGNATURE..... | 8 |
| 2.17 | EFFECTIVE PERIOD OF PROPOSAL | 8 |
| 2.18 | EXCEPTIONS | 8 |
| 2.19 | OFFEROR QUALIFICATIONS | 8 |
| 2.20 | RIGHT TO REJECT PROPOSALS | 8 |
| 2.21 | PRIME CONTRACTOR RESPONSIBILITY | 8 |
| 2.22 | AWARD | 9 |
| 2.23 | COMPLETE SERVICES | 9 |
| 2.24 | INVOICING AND PAYMENT | 9 |
| SECTION 3: | PROPOSAL FORMAT AND CONTENT | 9 |
| 3.1 | EXECUTIVE SUMMARY | 10 |
| 3.2 | U.S. FIRM INFORMATION | 10 |
| 3.3 | ORGANIZATIONAL STRUCTURE, MANAGEMENT, AND KEY PERSONNEL | 10 |
| 3.4 | TECHNICAL APPROACH AND WORK PLAN | 11 |
| 3.5 | EXPERIENCE AND QUALIFICATIONS | 11 |
| SECTION 4: | AWARD CRITERIA..... | 12 |

| | |
|---------|---|
| ANNEX 1 | FEDBIZOPPS ANNOUNCEMENT |
| ANNEX 2 | PORTIONS OF BACKGROUND DEFINITIONAL MISSION REPORT |
| ANNEX 3 | USTDA NATIONALITY REQUIREMENTS |
| ANNEX 4 | USTDA GRANT AGREEMENT, INCLUDING MANDATORY CONTRACT CLAUSES |
| ANNEX 5 | TERMS OF REFERENCE (FROM USTDA GRANT AGREEMENT) |
| ANNEX 6 | U.S. FIRM INFORMATION FORM |

Section 1: INTRODUCTION

The U.S. Trade and Development Agency (USTDA) has provided a grant in the amount of US\$655,000 to the Ghana Grid Company Limited (GRIDCO) (the “Grantee”) in accordance with a grant agreement dated March 22, 2013 (the “Grant Agreement”), for a Feasibility Study (“FS”) on the development of a new double-circuit power transmission line (Project) in southwestern Ghana (“Host Country”). The Grant Agreement is attached at Annex 4 for reference. The Grantee is soliciting technical proposals from qualified U.S. firms to provide expert consulting services to perform the FS.

1.1 BACKGROUND SUMMARY

In Ghana, increases in electricity demand are outpacing increases in supply. The most current load forecast for Ghana points to a projected annual demand growth of 6.1% - 6.4% over the period 2011 – 2021, which poses a major challenge for Ghana in terms of the need for upgrades to generation, transmission, and distribution infrastructure. The Government of Ghana (GoG) intends to increase its supply of power in order to meet these demands. Specifically, one of the most important plans for additional capacity includes the development of a power park at the Domunli site, starting with 450-900 MW in new power projects that are now nearing financial close.

In order to evacuate power from Domunli, as well as from Aboadze’s 550 MW thermal plant and hydropower sites in the Central and Northern part of the country, the Grantee has developed a 10-year transmission network expansion plan which includes the proposed Project. The strengthening of Ghana’s power transmission grid is a high priority for the Grantee and the GoG. Ghana has an extensive electricity transmission system, which covers all regions of the country. Transmission infrastructure has, however, deteriorated over the years, resulting in transmission bottlenecks, overloaded transformer sub stations, and high system losses.

Portions of a background Definitional Mission are provided for reference in Annex 2.

1.2 OBJECTIVE

The objective of this FS is to assist the Grantee, Ghana’s state-owned power transmission company, in determining the technical and economic viability of expanding and strengthening Ghana’s electricity transmission network with a new 330 kilovolt (kV) power transmission line between Aboadze and Domunli and Prestea. The FS would also provide the Grantee with a grid reliability assessment based on international benchmarks. The Terms of Reference (TOR) for this FS 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\$655,000. **The USTDA grant of US\$655,000 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 Grant Agreement, USTDA has provided a grant in the amount of US\$655,000 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 Aboadze-Domunli-Prestea Transmission Line.

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 DEFINITIONAL MISSION REPORT

USTDA sponsored a Definitional Mission 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 FS.

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 FS.

2.5 PROJECT FUNDING SOURCE

The FS will be funded under a grant from USTDA. The total amount of the grant is not to exceed US\$655,000.

2.6 RESPONSIBILITY FOR COSTS

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

2.7 TAXES

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

2.8 CONFIDENTIALITY

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

2.9 ECONOMY OF PROPOSALS

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

2.10 OFFEROR CERTIFICATIONS

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

2.11 CONDITIONS REQUIRED FOR PARTICIPATION

Only U.S. firms are eligible to participate in this tender. However, U.S. firms may utilize subcontractors from the Host Country for up to 20 percent of the amount of the USTDA grant for specific services from the TOR identified in the subcontract. USTDA's nationality requirements, including definitions, are detailed in Annex 3.

2.12 LANGUAGE OF PROPOSAL

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

2.13 PROPOSAL SUBMISSION REQUIREMENTS

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

Charles A. Darku
Chief Executive Officer
Ghana Grid Company Limited
P.O. Box CS7979
Tema, Ghana

Or

Charles A. Darku
Chief Executive Officer
Ghana Grid Company Limited
Off Tema Motorway Roundabout- Aflao Highway
Near Tema Steel Works
Tema, Ghana

An Original and eight (8) copies of your proposal must be received at the above address no later than 5:00 PM local (Accra) time, on July 10, 2013.

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

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

2.14 PACKAGING

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

should be collectively wrapped and sealed, and clearly labeled, including the contact name and the name of the project.

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

2.15 OFFEROR'S AUTHORIZED NEGOTIATOR

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

2.16 AUTHORIZED SIGNATURE

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

2.17 EFFECTIVE PERIOD OF PROPOSAL

The proposal shall be binding upon the Offeror for 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, FS 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\$655,000, which is a fixed amount.

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

Each proposal must include the following:

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

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

3.1 EXECUTIVE SUMMARY

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

3.2 U.S. FIRM INFORMATION

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

3.3 ORGANIZATIONAL STRUCTURE, MANAGEMENT, AND KEY PERSONNEL

Describe the Offeror's proposed project organizational structure. Discuss how the project will be managed including the principal and key staff assignments for this FS. 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 FS.

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 FS.

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 FS. 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 FS 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:

| | |
|---|-----|
| Experience of the firm in feasibility studies of transmission lines of 330 KV and above | 25% |
| International experience of the firm in prior similar transmission line feasibility studies | 20% |
| Experience of the proposed experts | 25% |
| Technical approach of the firm in transmission line feasibility studies of 300 KV and above | 20% |
| Approach for assessing the economic and financial impact of the proposed transmission line, and impact of reliable grid systems | 10% |

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

Price will not be a factor in contractor selection.

ANNEX 1

CHARLES A. DARKU
CHIEF EXECUTIVE OFFICER
GHANA GRID COMPANY LIMITED
P.O. BOX CS7979
TEMA, GHANA

Or

CHARLES A. DARKU
CHIEF EXECUTIVE OFFICER
GHANA GRID COMPANY LIMITED
OFF TEMA MOTORWAY ROUNDABOUT- AFLAO HIGHWAY
NEAR TEMA STEEL WORKS
TEMA, GHANA

Aboadze-Domunli-Prestea Transmission Line (USTDA Activity No. 2013-11007A)

POC: Jennifer Van Renterghem, USTDA, 1000 Wilson Boulevard, Suite 1600, Arlington, VA 22209-3901, Tel: (703) 875-4357, Fax: (703) 875-4009. Aboadze-Domunli-Prestea Transmission Line. 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 ("FS") for the proposed 330 kV Aboadze-Domunli-Prestea Transmission line ("Project") for GRIDCO in Ghana ("Host Country"). The project will strengthen the backbone transmission capacity of Ghana's power grid and increase the throughput capacity substantially.

In Ghana, increases in electricity demand are outpacing increases in supply. The most current load forecast for Ghana points to a projected annual demand growth between 6.1% and 6.4% from 2011 – 2021, which poses a major challenge for Ghana in terms of the need for upgrades to generation, transmission, and distribution infrastructure. The Government of Ghana (GoG) intends to increase its supply of power in order to meet these demands. Specifically, one of the most important plans for additional capacity includes the development of a power park at the Domunli site, starting with 450-900 MW in new power projects that are now nearing financial close.

In order to evacuate power from Domunli, as well as from Aboadze's 550 MW thermal plant and hydropower sites in the Central and Northern part of the country, the Grantee has developed a 10-year transmission network expansion plan which includes the proposed Project Ghana has an extensive electricity transmission system, which covers all regions of the country. Transmission infrastructure has, however, deteriorated over the years, resulting in transmission bottlenecks, overloaded transformer sub stations, and high system losses.

This FS would make recommendations to expand and strengthen Ghana's electricity transmission network with a new 330 kV power transmission line between Aboadze, Domunli and Prestea, creating nearly 150 miles of new transmission linkages in southwestern Ghana. The FS would also provide the Grantee with a grid reliability assessment based on international benchmarks. Along the proposed new transmission network, the Grantee

requires the expansion of two existing substations and one new substation at Domunli, as well as investment in new infrastructure to connect to the distribution network.

The U.S. firm selected will be paid in U.S. dollars from a \$655,000 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 5:00PM local (Accra) time, July 10, 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



U.S. Trade and Development
Agency

Definitional Mission: Ghana and Nigeria Power Projects

Project No. CO201211226

Final Report

January 23, 2013

Prepared by

CORE International, Inc.
5101 Wisconsin Avenue, N.W., Suite 305
Washington, DC 20016



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.

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

The U.S. Trade and Development Agency

The U.S. Trade and Development Agency (USTDA) advances economic development and U.S. commercial interests in developing and middle-income countries. The agency funds various forms of technical assistance, feasibility studies, training, orientation visits and business workshops that support the development of a modern infrastructure and a fair and open trading environment.

USTDA's strategic use of foreign assistance funds to support sound investment policy and decision-making in host countries creates an enabling environment for trade, investment and sustainable economic development. Operating at the nexus of foreign policy and commerce, USTDA is uniquely positioned to work with U.S. firms and host countries in achieving the agency's trade and development goals. In carrying out its mission, USTDA gives emphasis to economic sectors that may benefit from U.S. exports of goods and services.

1 Project Description

1.1 Power Sector Background and Opportunities in Ghana

1.1.1 Power Sector Background in Ghana

Context: Ghana currently gets about 70% of its electricity from hydropower stations, but it aims to supply 10% of its domestic demand through modern renewable technologies by 2020. The current national access to electricity supply is about 43% of the population yet over 80% of the domestic electricity supply is consumed in cities and towns. Currently, the country has an installed capacity of 1960 MW made up of hydropower stations and thermal facilities.

Ghana has an extensive transmission system, which covers all the regions of the country. Transmission infrastructure has, however, deteriorated over the years, resulting in transmission bottlenecks, overloaded transformer sub stations, and high system losses. The electricity distribution infrastructure is extensive providing access to about 66% of the population. However, it is old and obsolete, leading to frequent interruptions in power supply and relatively high system losses. While national electricity access is about 66%, access in the three northern regions is about 30%.

{REDACTED}

Renewable Energy Potential in Ghana: {REDACTED}

Solar Energy Resource Potential: {REDACTED}

Hydropower Resource Potential: {REDACTED}

Bioenergy Resource Potential: {REDACTED}

Transmission and Distribution Potential: In addition to power generation, Ghana needs to rehabilitate its transmission and distribution assets. It is estimated that rehabilitation of the current T&D system alone would require an investment of over \$400 million. In addition, to keep pace with demand and increase access of power to peri-urban and rural areas could take an additional \$500 million. Major interconnection projects with neighboring countries and under the planning of the West African Power Pool (WAPP) are expected to require over \$2 billion in HV transmission networks and substation.

Key Energy Sector Institutions in Ghana: Exhibit 2 lists the key energy sector institutions in Ghana that were visited during the DM in addition to private project sponsors and companies that have already approached the American Embassy with project requests.

Exhibit 2: Key Energy Sector Institutions in Ghana

| AGENCY | RESPONSIBILITIES |
|--|--|
| <p><u>POWER SUB-SECTOR</u></p> <ul style="list-style-type: none"> • Volta River Authority (VRA) • Bui Power Authority • Independent Power Producers (IPPs) • Ghana Grid Company (GRIDCo) • Electricity Company of Ghana (ECG) • Northern Electricity Department (NED) | <ul style="list-style-type: none"> • Power Generation • Power Generation • Power Generation • Power Transmission • Power Distribution in Southern Ghana • Power Distribution in Northern Ghana |
| <p><u>REGULATORY AGENCIES</u></p> <ul style="list-style-type: none"> • Public Utilities Regulatory Commission (PURC) • Energy Commission (EC) • National Petroleum Authority (NPA) | <ul style="list-style-type: none"> • Electricity tariffs approval, monitoring quality of service and consumer protection • Licensing of operators in the power sectors and setting technical standards for their performance, sector planning and policy advice to Minister of Energy • Licensing of operators in the petroleum sector and setting of technical standards and enforcement |

The Ministry of Energy is responsible for formulating, monitoring and evaluating policies, programs and projects for the energy sector in general. The Ministry is also responsible implementing the Government’s National Electrification Scheme, which seeks to extend the reach of electricity to all communities in the long term.

Electricity generation is undertaken by the state-owned Volta River Authority (VRA), which operates the Akosombo Hydro Power Station, Kpong Hydro Power Station and the Takoradi Thermal Power Plant (TAPCO) at Aboadze. VRA is also a minority joint partner with TAQA, a private sector company that owns and operates the Takoradi International Power Company (TICO) thermal power plant also located at Aboadze. Bui Power Authority (BPA), another state-owned entity, is charged with the implementation of the Bui Hydro electric Power Project.

The distribution of electricity is mainly done by two state-owned enterprises, namely the Electricity Company of Ghana (ECG) and Northern Electricity Department (NED), which is a subsidiary of VRA. ECG distributes electricity in the southern part of the country; NED distributes power in the northern part of the country, while Enclave Power provides power to the Free Zones.

The Electricity Supply Industry is regulated by the Energy Commission (EC) and the Public Utilities Regulatory Commission (PURC), two key regulators in Ghana. The EC is responsible for technical regulation of the power sector, including licensing of operators. In addition, EC also advises the Minister of Energy on matters relating to energy planning and policy. The PURC is an independent regulatory agency, and is responsible for economic regulation of the power sector, specifically approving rates for electricity sold by distribution utilities to the public. Its functions also include monitoring of quality of electricity services delivered to consumers.

Key Energy Sector Projects in Ghana: Demand for power is currently at 1400 MW and is increasing 10% annually. The Republic of Ghana is working to develop, modernize and diversify their energy sector. There are a variety of projects currently underway to help meet these energy consumption demands. {REDACTED}

Energy Sector Policies in Ghana: The electricity sector in Ghana faces many challenges including: (i) inadequate power supply infrastructure which requires huge investments, (ii) inadequate access to electricity, (iii) high cost of fuel for electricity generation, (iv) inadequate regulatory capacity and enforcement, and (v) operational and management difficulties in utility companies. The Government of Ghana has established and continues to implement key policies that allow the country's energy sector to progress.

One major policy driver is Ghana's "Vision 2020." The government set forth a development strategy aimed at creating a stable macroeconomic environment and implementing a decisive structural transformation to foster strong economic growth and a broad-based improvement of living standards. The strategy envisages steps to achieve balanced social and regional development, and encourage private sector activity and export orientation. The long-term vision for Ghana is to become a middle-income country by the year 2020 through economic growth and development of the country and its people.

In 2011, the Government of Ghana approved a Renewable Energy Law, which seeks to integrate renewable energy security in the country. The Law is to provide for the management, development and utilization of renewable energy (RE); to develop a sustainable and adequate supply of renewable energy; and to provide for related matters. The Renewable Energy Law also establishes a feed-in tariff (FIT) scheme with rates established by PURC, and requires utilities to purchase a specified percentage of its total electricity from renewable energy sources. The Law also established the Ghana Renewable Energy Fund (GREEN Fund), which will provide financial resources for the promotion, research, development and utilization of renewable energy resources.

The above policies are intended to help achieve the following goals: (i) Ensure adequate, reliable and improved supply of electricity, rehabilitation and expansion of electricity generation, transmission and distribution infrastructure; (ii) Increase access to electricity to

at least 80% by 2015; (iii) Secure sources of cost-effective and sustainable fuel supply for electricity generation; (iv) Increase financing for electricity supply infrastructure development from Government sources, Development Partners and the private sector; (v) Strengthen institutional and management capacity as well as regulatory regime for the smooth development and operation of the power sub-sector; and (vi) Ensure cost-effective pricing regime for electricity services.¹

In response to the inadequacies of the power supply infrastructure, the government has proposed increasing generation capacity, reinforcing and adding capacity to the transmission and distribution components, opening up the power sector to IPPs and private sector participation in generation, and strengthening the regulatory environment.

To address the inadequate access to electricity by consumers, the power sector institutions have established policy responses to increase the momentum of the National Electrification Scheme to provide access to electricity progressively to all communities, upgrade and reinforce transmission and distribution network capacity, and open up the sub-sector to private sector participation in power distribution and sale.

1.1.2 Potential Opportunities for USTDA's Assistance

The entire generation (Gx), transmission (Tx), and distribution (Dx) chain in the power supply sector in Ghana has been undergoing a reform. Ghana has unbundled the sector and is implementing reform under the major World Bank program. One of the key goals of the Government is to prepare the sector for private investment. There are numerous opportunities for USTDA to be involved in all aspects of Ghana's power sector ranging from generation to modernization of the country's transmission and distribution network and business processes.

{REDACTED}

2 Project Sponsor's Capabilities and Commitment

{REDACTED}

- Project 2: Feasibility Study of the Grid Reliability and the 330 kV Aboadze-Domunli-Prestea Transmission Line for GRIDCo in Ghana

“Grantee”: GRIDCo, Ghana

¹Republic of Ghana Ministry of Energy, “Energy Sector Strategy and Development Plan,” http://ghanaoilwatch.org/images/laws/energy_strategy.pdf, 5.

{REDACTED}

2.1 Project 2: Feasibility Study of the Grid Reliability and the 330 kV Aboadze-Domunli-Prestea Transmission Line for GRIDCo in Ghana

The proposed Grantee for this feasibility study is the Grid Company of Ghana (GRIDCo). GRIDCo is the national transmission company of Ghana and is responsible for operating and maintenance of the country's Grid. GRIDCo is fully committed to this Project because strengthening the transmission backbone for evacuating power from the power parks in the South to demand centers in Central and Northern Ghana is a key priority of the Government in order to meet the anticipated power demand in the North.

GRIDCo is fully capable of implementing the proposed feasibility study grant. Indeed, GRIDCo has implemented scores of loans and grants from multilateral donors and is currently implementing a USTDA feasibility study grant for Ghana's Eastern Transmission Line.

{REDACTED}

2.2 U.S. Sources of Financing

A number of organizations within the U.S. Government provide financing for infrastructure projects to developing countries and emerging economies depending upon the components of the project and their respective criteria for funding. The following are some of the key sources for financing in the U.S:

2.2.1 Millennium Challenge Corporation

The Millennium Challenge Corporation (MCC) is preparing a Compact to finance power sector distribution rehabilitation in Ghana. Currently, the MCC and the Government of Ghana are preparing a Concept Paper that would provide details on the contents of the actual rehabilitation projects that would be financed by the MCC. The focus of the Compact is on power transmission and distribution projects, as these two areas have been identified by the Government of Ghana as the priorities in reforming its power sector. While the DM has no direct knowledge of the details of the Compact under preparation by MCC, it appears that the total amount of financing could be approximately \$250 million. For the projects proposed as part of this DM, MCC would be the key financing source.

It should be noted that the DM has no direct information either from the MCC or the MCA-Ghana regarding the total amount of the Compact and the projects that would be included in the Compact. Sometime in the near future, MCC would publish a Concept Paper that would provide further details. Therefore, the information included here is based on discussions with various energy sector officials in Ghana.

2.2.2 The U.S. Export-Import Bank:

The Export-Import Bank of the United States (Ex-Im Bank) provides direct loans to foreign buyers with competitive, fixed-rate financing for their purchases from the United States. The Ex-Im Bank also provides working capital guarantees to cover 90% of the principal and interest on commercial loans to creditworthy small and medium-sized companies that need funds to buy or produce U.S. goods or services for export. For project financing, long-term Ex-Im Bank guarantees of commercial loans are available for major projects, large capital goods acquisitions, and project-related services. Given the competitiveness of U.S. industry in the power sector, U.S. Export-Import Bank financing will be another channel available to U.S. companies for financing projects in Ghana and Nigeria.

2.2.3 The Overseas Private Investment Corporation (OPIC):

OPIC, an agency of the U.S. Government provides project financing through direct loans and loan guarantees that provide medium- to long term funding for ventures involving significant equity or management participation by U.S. businesses. Since project financing looks for repayment from cash flows generated by projects, OPIC carefully analyzes the economic, technical, marketing and financial soundness of each project. In addition, OPIC provides political risk insurance to U.S. companies for overseas projects. U.S. companies routinely use OPIC to provide insurance against risks in foreign investments. While OPIC would not be financing the infrastructure projects in Ghana and Nigeria, it would be a source for U.S. companies to seek risk insurance associated with investments in the two countries.

2.3 Sources of International Financing

The following are some of the international sources of concessional financing available to Ghana and Nigeria.

2.3.1 Equity and Debt Financing from International Finance Institutions (IFIs):

The World Bank and the African Development Bank are two of the most active IFIs in Ghana and Nigeria. Some of the infrastructure components of the proposed projects could be financed by these institutions. GRIDCo has been the recipient of World Bank financing for some of its coastal transmission lines. In the past the World Bank has financed both transmission and distribution “projects in Ghana totaling approximately \$220 million. In addition, the World Bank is considering a new project which would be the next phase of the Ghana Energy Development and Access Project (GEDAP). This Project would focus on increasing electricity

access. The specific components of the Project would include rural electrification, peri-urban electricity access and renewable energy applications.

The African Development Bank (AfDB) has also been active in financing power projects in Ghana. The largest project financed by the AfDB was the Euro 179 million North-South transmission line to strengthen the backbone line for evacuating power from the power-rich South to demand centers in the North..

In addition, GRIDCo informed the DM that it is in discussions with Societe Generale (France) for the financing of the Eastern Transmission line for which USTDA has funded the feasibility study.

In addition, the International Finance Corporation (IFC), the private sector part of the World Bank Group, typically offers both equity investments and financial syndicating services for major energy projects. Specifically, the IFC is exploring opportunities for financing independent power projects (IPPs) in Ghana that would provide additional capacity to meet power demand in the Central and Northern parts of Ghana.

Both the World Bank and the African Development Bank are active in Nigeria as well.

2.3.1.1 Selected World Bank Projects in Ghana

The World Bank's Ghana portfolio comprises US \$1.626 billion in 26 projects. The disbursed amount has been increasing since FY 2009. US \$386.2 million was disbursed in FY 2011, the sixth largest of the International Development Association (IDA), and reached US \$342.9 million in fiscal year 2012, a country record. Regional projects reflect Ghana's role as a hub in West Africa, with a regional portfolio of eight projects of nearly US \$752 million in transport, energy, trade facilitation and agriculture. An IDA guarantee helped the completion of the West Africa Gas Pipeline which connects Nigeria's gas resources to Benin, Togo and Ghana, lowering energy production costs in Ghana.

In the energy sector in Ghana, the World Bank has financed the following projects:

- Ghana Energy Development and Access Project (GEDAP) – improvement of the operation efficiency of power distribution and increase access of electricity. Additional financing in the amount of US \$90 million is being considered to expand and scale up the scope of the Project. This Project is being implemented by the ECG and new Phase III loan in the amount of \$90 million is being prepared by the Bank.
- Ghana Solar Energy Development Project (4.35 million)
- Ghana Rural Energy Access Project (\$5.5 million)

- Aboadze – Volta 330 kV Transmission Line Project – completed in 2010
- Aboadze – Prestea – Kumasi – Wa 330 kV Transmission Line Project (ongoing, completion expected in 2014).

Based on the above discussion, it is clear that all of the proposed projects in Ghana fit the pattern and characteristics of projects that are routinely financed by these institutions. All of the proposed Grantees have well-established relationships with these institutions and are currently implementing projects funded by them.

{REDACTED}

2.3.2 Bilateral Donor Agencies:

While most bilateral agencies do not finance major projects they can make an important difference at the early stages of the projects as well as during project implementation. Typically, bilateral agencies could provide funding for technical assistance and training that strengthen the project viability and also attract investors and lenders. A number of international bilateral donors are active in Ghana and Nigeria including GTZ (Germany), DfID (UK), USAID, and SIDA (Sweden) who could be approached for co-financing certain components of the proposed projects.

{REDACTED}

2.3.3 The Multilateral Investment Guarantee Agency (MIGA):

MIGA and OPIC both provide political risk insurance for U.S. exporters involved in international transactions. OPIC insurance is available for investments in new ventures or expansions of existing enterprises and can cover assigned inventory or equipment, exporters' and contractors' exposures, and advance payment and other guarantees posted in favor of foreign buyers. MIGA programs are designed to encourage foreign investment by filling gaps in investment insurance against non-commercial risks in developing countries.

2.3.4 Equity and Debt Financing from the Capital Markets:

Depending upon how the proposed projects are structured and packaged certain components of the overall projects could be eligible for commercial financing, especially if other components of the projects are able to generate concessional financing and if the governments of Ghana and Nigeria are prepared to guarantee some parts of the Project.

Ghana and Nigeria enjoy a good reputation among the capital markets as a “destination of choice” for major investments in Africa. Both countries offer extensive opportunities for investments in the power sector. A large number of U.S. firms and firms from Europe, Australia, and Japan have presence in the countries because of an increasing investment opportunities in the power sector. Therefore, financing is not expected to be a constraint for the recommended projects.

{REDACTED}

2.3.5 Project 2: Feasibility Study of the Grid Reliability and the 330 kV Aboadze-Domunli-Prestea Transmission Line for GRIDCo in Ghana

This Project will strengthen the backbone transmission capacity of Ghana’s power grid and increase the throughput capacity substantially. Initial estimates indicate that the completion of this segment of the backbone line would increase the throughput capacity of the transmission line by as much as 800 MW of power throughout its route.

{REDACTED}

The DM has estimated that in the early years, the total financing requirement for implementing the proposed Project (excluding connecting to the distribution system) would be in the range of \$150 -250 million.

Discussions with GRIDCo confirm that given the strategic importance of the proposed 330 kV transmission line it would not have any difficulty in seeking financing for the Project from the World Bank and the African Development Bank. The history of Project financing for projects at GRIDCo has been as follows:

- World Bank Two Coastal Transmission Line Projects (\$130 million)
- AfDB North-South Transmission Line (Euro \$170 million)
- Societe Generale (France) Discussions on the Financing of the Eastern Transmission Line
- World Bank Discussion on Phase III of the GEDAP) – critical Tx/Dx Interface

Given this history of international financing in the transmission sector in Ghana, GRIDCo has assured the DM that it would not have any difficulty in securing international financing the proposed transmission line project.

Exhibit 5 in the next section provides details of the investment requirements for this Project.

3 U. S. Export Potential

3.1 Investment Requirements and Export Potential

{REDACTED}

4 Foreign Competition and Market Entry Issues

This section discusses the completion that U.S. firms face in the transmission and distribution technology and systems market in Ghana and Nigeria.

4.1 Foreign Competition

{REDACTED}

4.2 Market Entry Issues

{REDACTED}

Both Ghana and Nigeria have made considerable reforms over the last few years in their respective power sectors. The sectors have been unbundled in both countries. Both countries have made reforms in tariffs, IPP regime, and regulatory approaches to promoting private investments in their markets.

4.2.1 Market Entry Issues in Ghana

{REDACTED}

U.S. firms will face competition from a number of European firms on product supply and from Indian, Egyptian, Chinese, and Saudi firms in Tx/Dx construction projects. There are no unusual market entry issues other than severe competition. Ghana is considered as a country that is politically stable and is making substantial reforms. This has resulted in many firms interested in the power sector market in Ghana, thereby, increasing competition.

Accordingly, the DM does not foresee any major hurdles to market entry other than those posed in African markets in general.

{REDACTED}

5 Evaluation Strategy

{REDACTED}

| | | | |
|-------------------|---|---|--|
| Development 2. | Project 2: Feasibility Study of the Grid Reliability and the 330 kV Aboadze-Domunli-Prestea Transmission Line for GRIDCo in Ghana | <p>Infrastructure Related Impact</p> <p>Market-Oriented Reform</p> <p>Human Capacity Building</p> <p>Technology Transfer and Productivity Enhancement</p> <p>Other</p> | <p>This Project will have considerable infrastructure impacts, as the Project will result in the construction of a backbone 330 kV transmission line in Ghana. The construction of this backbone transmission line would result in the construction of distribution lines and substations throughout Ghana. Accordingly, the infrastructure impacts of this Project would be huge and spread over many years in the future.</p> <p>Many of the technological solutions needed to build new modern transmission lines require well-defined rules for the operation of the grid. These rules would include a Grid Code, standards for grid quality and reliability, and grid connection and power wheeling rules. Accordingly, the Project would lead to power sector market reform in Ghana.</p> <p>This Project would involve substantial interaction among US experts and Power sector transmission planning and Project implementation experts in Ghana. Operation and maintenance of modern high voltage transmission networks requires specialized skills. USTDA's funding of this Project would expose the GRIDCo personnel to improving their skills and increasing their familiarity with state-of-the-art transmission systems and technologies, including smart grid applications.</p> <p>This Project is likely to result in significant technology transfer in a number of areas including grid development, OHL technology, designing and implementing smart grid solution to grid management and reliability, two-way communication systems to improve power flow and grid utilization, and a variety of other technology and systems. Thus, the Project would have significant technology transfer and productivity improvements in Ghana.</p> |
|-------------------|---|---|--|

| | | | |
|--|--|--|--|
| | | | No direct impacts are expected as a result of this Project. Indirect impacts include new jobs and income generation in the various communities and states as a result of a large number of small investments made possible by the replication of the many distribution projects. |
|--|--|--|--|

6 Impact on the Environment

All four projects would result in the improvement of the existing transmission and distribution systems in Ghana and Nigeria and the construction of new transmission and distribution line and sub-stations. Typical environmental impacts associated with these types are projects include the following:

- Resettlement and right-of-way issues associated with transmission lines related to project affected parties (PAPs) that must be compensated to clear areas for the high voltage transmission lines
- Ecological impacts associated with the routing of the lines through wooded areas and forests
- Oil spill related impacts with leakages around sub-stations and transformers.
- Disposal of batteries and used oil during transformer maintenance.

It should be noted that except for the resettlement requirements and right-of-way issues associated only with transmission line projects, all other environmental issues are common to transmission and distribution projects.

None of the traditional environmental impacts often associated with fossil power plants such as carbon and nitrogen oxides, wastewater, and waste disposal will be present as these are all network projects.

The TORs for each of the recommended projects include a specific task for assessing potential environmental impacts and recommending appropriate remedial actions.

7 Impact on Labor

No U.S. jobs will be relocated as a result of USTDA providing any financial assistance to Ghana and Nigeria for the projects recommended in this DM. In fact, as the projects funded by USTDA come to fruition, they will require potential imports of a wide variety of transmission and distribution smart systems, technology and equipment, most of which are manufactured by U.S. firms in facilities located in the U.S. Therefore, with this increase in demand for U.S. exports, these projects are expected to have a net positive impact on U.S. employment. Also, no relocation of U.S. jobs is expected as a result of USTDA providing funding for the projects. Thus, the recommended projects will not displace any U.S. jobs.

8 Qualifications

{REDACTED}

9 Justification and Recommendation

{REDACTED}

10 Detailed Terms of Reference for the Recommended Activities

{REDACTED}

11 Detailed Budgets for the Recommended Activities

{REDACTED}

ANNEX 3



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

NATIONALITY, SOURCE, AND ORIGIN REQUIREMENTS

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

USTDA STANDARD RULE (GRANT AGREEMENT STANDARD LANGUAGE):

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

NATIONALITY:

1) Rule

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

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

2) Application

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

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

3) Definitions

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

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

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

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

SOURCE AND ORIGIN:

1) Rule

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

2) Application

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

3) Definitions

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

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

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

ANNEX 4

GRANT AGREEMENT

(FEASIBILITY STUDY ON THE 330KV ABOADZE-DOMUNLI-PRESTEA TRANSMISSION LINE)

BETWEEN



**THE GOVERNMENT OF THE UNITED STATES OF AMERICA
(ACTING THROUGH THE UNITED STATES TRADE AND DEVELOPMENT AGENCY
(USTDA))**

AND

GHANA GRID COMPANY LIMITED (GRIDCo)

MARCH, 2013

LZ GHA 2013-11007A
RECEIVED
MAR 25 2013
PF
U.S. TRADE AND DEVELOPMENT AGENCY
PMSU
MSPC
CGEE
LB
KK
JTB
MB
EB
AO
JY
DD
SW

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 Ghana Grid Company Limited ("Grantee"). USTDA agrees to provide the Grantee under the terms of this Grant Agreement US\$655,000 ("USTDA Grant") to fund the cost of goods and services required for a feasibility study ("Study") on the Aboadze-Domunli-Prestea Transmission Line ("Project") in the Republic of Ghana ("Host Country").

1. USTDA Funding

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

2. Terms of Reference

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

3. Standards of Conduct

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

4. Grantee Responsibilities

The Grantee shall undertake its best efforts to provide reasonable support for the Contractor, such as local transportation, office space, and secretarial support.

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 April 30, 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. In addition, the Grantee agrees to notify USTDA any time the Grantee selects a new primary contact person for this Project during the five-year period referenced above.

14. Recordkeeping and Audit

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

15. Representation of Parties

For all purposes relevant to this Grant Agreement, the Government of the United States of America will be represented by the U. S. Ambassador to Host Country or USTDA and Grantee will be represented by its Chief Executive Officer. 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: Charles A. Darku
Chief Executive Officer
Ghana Grid Company Limited
P.O. Box CS7979
Tema, Ghana

Phone: +233 030 331 0310
Fax: +233 030 330 3327
E-mail: ceo@gridcogh.com

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
Africa@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.: 2013-11007A
Reservation No.: 2013100
Grant No.: GH201311100

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 a thirty (30) day written notice thereof. The termination of the Grant Agreement will end any obligations of the parties to provide financial or other resources for the Study, except for payments that may be made pursuant to Clause I of the USTDA Mandatory Contract Clauses set forth in Annex II to this Grant Agreement. This article and Articles 5, 12, 13, 14, and 21 of the Grant Agreement shall survive termination of the Grant Agreement.

20. Non-waiver of Rights and Remedies

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

21. U.S. Technology and Equipment

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

22. Governing Law

This Grant Agreement shall be governed by, and construed in accordance with, the applicable laws of the United States of America. In the absence of federal law, the laws of the State of New York shall apply.

23. 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.

[THE REMAINDER OF THIS PAGE IS INTENTIONALLY LEFT BLANK]

IN WITNESS WHEREOF, the Government of the United States of America and the Ghana Grid Company Limited, 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 Ghana Grid
Company Limited**

By: Paul H. M.

By: [Signature]

Date: 22 March 2013

Date: 22nd March 2013

Witnessed:

Witnessed:

By: [Signature]
Paul Wigert

By: [Signature]
Mossica Senanu

Annex I -- Terms of Reference

Annex II -- USTDA Mandatory Clauses

Annex I

Terms of Reference

The purpose of this Feasibility Study is to determine the technical and economic viability of expanding and strengthening Ghana's electricity transmission network with a new 330 kilovolt (kV) power transmission line between Aboadze, Domunli and Prestea. The Study will also provide the Grantee with a grid reliability assessment based on international benchmarks.

In particular, the Study shall include the following:

- A review of the grid operations and reliability of the Grantee's main grid based on international grid reliability benchmarks
- A review of the Grantee's plans for the proposed transmission line, including site maps, route, number of substations, and other data developed by the Grantee
- Site visits to select peg points along the proposed route
- Detailed requirements including hardware for the line, the structure of the line, substations, connection points, and transformers needed to evacuate various levels of power from the Domunli site
- Detailed cost estimates and an investment program for the identified requirements
- An economic and financial analysis of the investment requirements
- A financing plan and an implementation roadmap for the Project
- Environmental and developmental impacts of the Project
- A final report to the Grantee and USTDA including specific recommendations for the next steps

The Contractor shall conduct the following tasks as part of the Study:

Task 1: Technical Assessment: Conduct a Review of Grid Reliability, Document Review, Kickoff Meeting, Stakeholder Consultations, and Work Plan

As part of Task 1, the Contractor shall conduct the following subtasks:

Task 1.1: Grid Reliability Review: The Contractor shall conduct a detailed review of the operations and maintenance data for the entire grid in Ghana. In addition, the Contractor shall hold discussions with the managers and operators of all of the control centers and a set of substations jointly selected by the Contractor and the Grantee. The Contractor and Grantee shall make these selections based on their criticality to the network.

Task 1.2: Document Review for the Proposed 330 kV Transmission Line: The Grantee shall provide the Contractor with all available information related to the proposed transmission line project and other electricity generation, transmission, and distribution projects that are currently operational, under construction, and/or expected to become operational within the next twenty years that would impact the requirements for the

proposed 330 kV transmission line. Specifically, the Contractor shall review the following information:

- All available reports and documents, including electricity demand forecast, which may include the forecast developed by the USTDA Contractor for the Eastern Transmission Line Feasibility Study, if publicly available; other forecasts from the Ministry of Energy, the World Bank, and any other sources; the Grantee's "Transmission Systems Master Plan Study" completed by Tractebell Engineering; and other reports deemed relevant by the Grantee and Contractor to the Project;
- All technical details for the proposed transmission line, including, but not limited to: site, route, number of substations planned, number of interconnections planned for distribution voltages, number of transformers required, and other technical details deemed relevant by the Grantee and Contractor associated with the Project; and
- Topographic surveys, maps, meteorological data, obstructions along the planned route, flora and fauna, and communities along the planned transmission route.

Task 1.3: Kickoff Meeting, Stakeholder Consultations and Work Plan: The Contractor shall organize a kickoff meeting with the Grantee and other relevant stakeholders. The Grantee shall coordinate with the Contractor to identify appropriate personnel and other relevant stakeholders to participate in the kickoff meeting. During the kickoff meeting, the Contractor shall introduce the Contractor's Study team; review the tasks to be performed under these Terms of Reference; review the Contractor's work plan (Work Plan); and gather input from the Grantee regarding the Grantee's goals for the Study, salient issues surrounding the Grantee's plans for the Project, and Grantee requests for changes in the Work Plan, if any.

For the kickoff meeting, the Contractor shall coordinate with the Grantee on appropriate meeting content; prepare an agenda, handouts, and presentation materials, as needed, for all meeting attendees; conduct the meeting and facilitate discussion; draft a report of the meeting and distribute the meeting report to attendees and other relevant stakeholders identified by the Grantee; and maintain meeting records, including the agenda, any handouts and presentation materials, a list of all meeting participants, and the meeting report.

Task 1 Deliverable: The Contractor shall prepare a report including all work performed under Task 1. The Task 1 Deliverable shall be included in the Final Report.

Task 2: Technical Assessment: Conduct a Technical Assessment of the Project and Develop Detailed Requirements

The Contractor shall carry out a technical assessment of the proposed transmission line and develop all requirements for the transmission system development. As part of Task 2, the Contractor shall conduct the following subtasks:

WJ

Task 2.1: Review of the Reliability of the Grid: Based on available data and information on grid operations, maintenance records, and prior grid failures or stresses, the Contractor shall also conduct an assessment of the current status of Ghana's grid reliability indices. Next, the Contractor shall compare the reliability indices of Ghana's grid with international benchmarks (e.g., line losses) for similar-size systems and document specific areas where Ghana's grid would need upgrades and improvement. The Contractor shall document these requirements to improve grid reliability and recommend remedial actions. The Contractor shall update the requirements of equipment, systems, and training needed to improve the reliability of Ghana's grid.

Task 2.2: Site Review and Right-of-Way Issues: The Contractor shall conduct onsite assessments along the proposed route of the transmission line between Aboadze and Domunli and between Domunli and Prestea. In consultation with the Grantee, the Contractor shall conduct a selected walking-of-the-line route at key peg sites already identified by the Grantee and assess the right-of-way (ROW) needs as well as any project-affected parties (PAPs). Utilizing internationally acceptable approaches for both formal and informal settlements along the proposed route, the Contractor shall assess the total resettlement requirements. The Contractor shall use international guidelines used by the international financial institution (specifically, the International Finance Corporation, or "IFC") to assess the ROW and PAPs.

Task 2.3: Review Load Forecasts: The Contractor shall review all available demand forecasts, which may include the forecast developed by the USTDA Contractor for the Eastern Transmission Line Feasibility Study, if publicly available; other forecasts from the Ministry of Energy, the World Bank, and any other sources; the Grantee's "Transmission Systems Master Plan Study" completed by Tractebell Engineering; and other reports deemed relevant by the Grantee and Contractor to the Project. Based on this review, the Contractor and Grantee shall agree on a specific forecast for the 2013 – 2033 period. The Contractor and Grantee shall agree on the method selected to develop the load forecast. The forecast agreed to between the Grantee and the Contractor shall govern the rest of the Study and shall be the basis for assessing the system requirements for the proposed transmission line. The forecast shall include low, medium, and high scenarios for anticipated electricity supply and demand for the Project. The Contractor's estimates shall include ongoing and planned electricity generation, transmission and distribution projects that would impact the load forecast for the Project and the power evacuation requirements of the proposed transmission line over the next 20 years.

Task 2.4: Transmission Line Throughput Capacity Assessment, Simulations and Load Flow Studies: Based on the requirements for power evacuation (megawatt (MW) throughput at different intervals over the 20-year planning period), the Contractor shall conduct a series of load flow studies and stress tests to assess the capacity of the proposed line for evacuating the total power to be generated at Domunli and any adjoining site. The Contractor shall use an internationally acceptable software simulator to carry out load flow and dynamic simulation runs of power flows through the proposed transmission

line. The Contractor shall use the power systems simulator software that is the same as, or compatible with, the software currently used by the Grantee.

Based on these load flow studies, the Contractor shall model the proposed line's impact on Ghana's grid infrastructure. The Contractor shall use the Grantee's power systems simulator software database and the existing system model to perform this task. The Grantee shall provide access to this data to the Contractor. The Contractor's analysis shall include load flow calculations, short circuit calculations, and power system stability and reliability analyses for the proposed transmission line over the 2013– 2033 period, with annual intervals for the first five years and five-year intervals thereafter. The Contractor shall also develop a protection sensitivity plan. The Contractor's methodology for the protection sensitivity plan shall be compatible with the methodology and the principles adopted for the Grantee's national electricity transmission dispatch center operated by the Grantee.

The load flow studies carried out by the Contractor shall also include grid stability analyses to determine the capacity of the proposed line for different load conditions and electricity generation schedules. The Contractor shall carry out analyses of critical component outages and potential for real-time detection of problems on the line and on the generation side.

Task 2.5: Substation Inspection and Extension: Based on the MW throughput requirements and the load along the route of the proposed transmission line, the Contractor shall develop a conceptual design for all substations required for the Project. The conceptual design shall include the required electrical compensation system and protection scheme for the communication, control, and supervisory control and data acquisition (SCADA) systems required for the Project.

Task 2.6: Proposed Line Route: Based on the throughput requirements, using MW, and the load requirements, using megawatt hour (MWh), the Contractor shall develop a preliminary transmission line routing, including proposed substation sites, for the segments of the 330 kV line between Aboadze and Domunli and between Domunli and Prestea. The Contractor shall present the preliminary transmission line routing to the Grantee and other relevant stakeholders, as selected by the Grantee.

Task 2 Deliverable: The Contractor shall prepare a report including all work performed under Task 2. The Task 2 Deliverable shall be included in the Final Report.

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

Based on the complete set of requirements developed under Task 2, the Contractor shall prepare detailed cost estimates for implementing the requirements to improve grid reliability and for the construction of the proposed transmission line and all related system and equipment requirements. The Contractor shall derive civil works prices for the Project, specifically taking into account internationally acceptable and practiced

construction methodologies for estimating the costs for construction equipment, local labor, materials, etc. The Contractor shall base the materials and equipment prices on industry quotes and appropriate equipment contingencies. The Contractor shall consult the Grantee on the methods to be used, which may include the International Federation of Consulting Engineers (FIDIC) Yellow Book or Red Book.

In addition to the construction, material, labor, and related Project costs, the Contractor shall develop cost estimates for engineering, supervision, administration, legal requirements, land acquisition, resettlement, and environmental remediation. The Contractor shall allow for appropriate contingencies, price escalations due to inflation, and financing costs for the duration of the construction time needed for the proposed transmission line.

Furthermore, the Contractor shall also estimate the annual operation and maintenance costs of the proposed transmission line.

Once all of the cost estimates have been developed, the Contractor shall develop an investment program and an annual investment schedule for the Grantee for the duration of the Project. This approach will help the Grantee in its internal budgeting and seeking financing for the needed investments.

Throughout Task 3, the Contractor shall closely work with the Grantee in developing the cost estimates. This close working relationship will facilitate capacity building for the Grantee's engineers and managers.

Task 3 Deliverable: The Contractor shall prepare a report including all work performed under Task 3. The Task 3 Deliverable shall be included in the Final Report.

Task 4: Conduct a Financial and Economic Analysis of Recommended Investments

Based on the total investment requirements for the Project, the Contractor shall conduct detailed economic and financial analyses, including a life cycle cost analysis of equipment and services, of the proposed investments using an internationally acceptable methodology for such analyses. The Contractor's financial analyses of the proposed requirements shall be based on a standard methodology used by donors, such as the World Bank, and 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 (i.e. gas, oil, etc.), and the results of the load flow analyses. The Contractor shall obtain approval from the Grantee for the method selected providing the statistical weight of each scenario.

In addition, the Contractor shall carry out a financial sensitivity analysis of the Project using factors including, but not limited to, varying debt/equity ratios for Project financing, and different levels of power supply and off-take commitments based on the anticipated power flows under the low, medium, and high scenarios in the load forecast

developed pursuant to Task 2.3 above. The Contractor shall evaluate potential sources of Project financing, including, but not limited to, Government of Ghana budgetary resources, bilateral lending agencies such as the United States Export-Import Bank and the Overseas Private Investment Corporation, multilateral lending agencies such as the World Bank and African Development Bank, and private sector financing through build-own-operate-transfer agreements, engineering, procurement and construction contracts, commercial loans, supplier credits, and/or other relevant financial structures involving private sector financing.

Task 4 Deliverables: The Contractor shall prepare a report including all work performed under Task 4. The Task 4 Deliverable shall be included in the Final Report.

Task 5: Develop a Blueprint for Financing the Investments Requirements

The Contractor shall develop a financing plan and a financing strategy, including several approaches to securing financing for the Project. The Contractor shall identify any Project risk factors and develop a risk avoidance/reduction plan for each factor by means of insurance and bonding or other means, adequate to the requirements of the 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 proposed transmission line:

- Internal funds from the Grantee's resources or government budget
- Combination of internal budget funds and development financing from international financial institutions
- Combination of the above and export credit financing from the United States Export-Import Bank
- Blended financing from debt and equity from a variety of donors

Task 5 Deliverables: The Contractor shall prepare a report including all work performed under Task 5. The Task 5 Deliverable shall be included in the Final Report.

Task 6: Conduct a Review of Regulatory Issues

The Contractor shall conduct a regulatory analysis of existing power sector regulations in Ghana and detail the regulatory requirements to facilitate the implementation of the Project. At a minimum, the Contractor shall review the following:

- The 1997 Energy Commission Act, especially as it relates to the regulation of licenses for the transmission, wholesale supply, and distribution of electricity; the establishment and enforcement of standards; and, the promotion of uniform rules of practice;
- The 1997 Public Utilities Regulatory Commission Act, especially as it relates to the regulation of tariffs; and

- The mandate of Economic Community of West African States (ECOWAS) Regional Electricity Regulatory Authority (ERERA), especially as it relates to the implementation of uniform technical standards for ECOWAS countries.

In addition, the Contractor shall identify and assess any regulatory barriers that may impede the development, financing, and implementation of the Project. Specifically, the Contractor shall analyze all regulatory issues that will impact the Project implementation process and schedule. 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 Deliverables: The Contractor shall prepare a report including all work performed under Task 6. The Task 6 Deliverable shall be included in the Final Report.

Task 7: Conduct Preliminary Environmental and Social Impact Assessments

The Contractor shall evaluate and report on the expected environmental impacts of the proposed grid reliability improvement and transmission line for the Project with reference to local, national and international laws and regulations, including those of international finance institutions, such as the World Bank, the African Development Bank, 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 Grantee subsequent to the study's completion and prior to Project implementation.

In addition, based on the standard approach used by the international financial institutions, especially the International Finance Corporation, the Contractor shall draft a Social Impact Assessment that considers Right-of-Way (ROW) and resettlement requirements and estimates the number of project-Affected Parties (PAPs) as a result of the construction of the proposed transmission line.

Task 7 Deliverables: The Contractor shall prepare a report including all work performed under Task 7. The Task 7 Deliverable shall be included 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 Project. 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 in Ghana.

The Contractor's analysis shall focus on what development impact is likely if the Project is implemented according to the Study recommendations. While the Contractor shall pay specific focus to the immediate impact of the Project, the analysis shall include any additional development benefits that may result from the Project's implementation, including spin-off and demonstration effects.

Accordingly, the Contractor's 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 Ghana that would be needed to construct and operate the 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;
- *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.

Task 8 Deliverables: The Contractor shall prepare a report including all work performed under Task 8. The Task 8 Deliverable shall be included in the Final Report.

Task 9: Develop a Project Implementation Plan and Budget

The Contractor shall develop an implementation plan that identifies all the steps the Grantee will need to take to implement the Project. These steps may include, but are not limited to:

- Detailed Project design;
- Full environment and social impact assessments which comply with local requirements and those of multilateral lending agencies such as the World Bank;
- Relevant regulatory, legal, and institutional requirements;

msf

- Power purchase, off-take, and subsidy agreements;
- Financial arrangements;
- Procurements of goods and services;
- Construction; and
- Long-term training requirements.

Task 9 Deliverables: The Contractor shall prepare a report including all work performed under Task 9. The Task 9 Deliverable shall be included in the Final Report.

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

The Contractor shall conduct an assessment of available U.S. sources of supply for the Project. This assessment shall include information gathered through direct communication with U.S. firms that have previously supplied to the Host Country the kinds of goods and services recommended under these Terms of Reference, as well as U.S. companies who currently or have previously had a business relationship with the Grantee. Based on this information gathered, the Contractor shall list the U.S. companies that are able to provide the goods and services recommended for Project implementation (“U.S. sources of supply”). U.S. sources of supply shall include U.S. providers of the different categories of goods and services required for Project implementation. For each source identified, the Contractor shall include the company name, point of contact, address, telephone, fax, e-mail, and relevant goods and services provided. The Contractor shall contact at least twenty-five potential U.S. equipment, technology, and service providers for the Project, including U.S. providers of engineering, construction management, legal, and financial services, and compile a list of those companies that express interest in participating in the Project.

Task 10 Deliverables: The Contractor shall prepare a report including all work performed under Task 10. The Task 10 Deliverable shall be included in 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 the Ghana Grid Company Limited ("Client"), dated _____ ("Grant Agreement"). The Client has selected _____ ("Contractor") to perform the feasibility study ("Study") for the Aboadze-Domunli-Prestea Transmission Line project ("Project") in the Republic of Ghana ("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 April 30, 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.: | 2013-11007A |
| Reservation No.: | 2013100 |
| Grant No.: | GH201311100 |

ms

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

The purpose of this Feasibility Study is to determine the technical and economic viability of expanding and strengthening Ghana's electricity transmission network with a new 330 kilovolt (kV) power transmission line between Aboadze, Domunli and Prestea. The Study will also provide the Grantee with a grid reliability assessment based on international benchmarks.

In particular, the Study shall include the following:

- A review of the grid operations and reliability of the Grantee's main grid based on international grid reliability benchmarks
- A review of the Grantee's plans for the proposed transmission line, including site maps, route, number of substations, and other data developed by the Grantee
- Site visits to select peg points along the proposed route
- Detailed requirements including hardware for the line, the structure of the line, substations, connection points, and transformers needed to evacuate various levels of power from the Domunli site
- Detailed cost estimates and an investment program for the identified requirements
- An economic and financial analysis of the investment requirements
- A financing plan and an implementation roadmap for the Project
- Environmental and developmental impacts of the Project
- A final report to the Grantee and USTDA including specific recommendations for the next steps

The Contractor shall conduct the following tasks as part of the Study:

Task 1: Technical Assessment: Conduct a Review of Grid Reliability, Document Review, Kickoff Meeting, Stakeholder Consultations, and Work Plan

As part of Task 1, the Contractor shall conduct the following subtasks:

Task 1.1: Grid Reliability Review: The Contractor shall conduct a detailed review of the operations and maintenance data for the entire grid in Ghana. In addition, the Contractor shall hold discussions with the managers and operators of all of the control centers and a set of substations jointly selected by the Contractor and the Grantee. The Contractor and Grantee shall make these selections based on their criticality to the network.

Task 1.2: Document Review for the Proposed 330 kV Transmission Line: The Grantee shall provide the Contractor with all available information related to the proposed transmission line project and other electricity generation, transmission, and distribution projects that are currently operational, under construction, and/or expected to become operational within the next twenty years that would impact the requirements for the

proposed 330 kV transmission line. Specifically, the Contractor shall review the following information:

- All available reports and documents, including electricity demand forecast, which may include the forecast developed by the USTDA Contractor for the Eastern Transmission Line Feasibility Study, if publicly available; other forecasts from the Ministry of Energy, the World Bank, and any other sources; the Grantee's "Transmission Systems Master Plan Study" completed by Tractebell Engineering; and other reports deemed relevant by the Grantee and Contractor to the Project;
- All technical details for the proposed transmission line, including, but not limited to: site, route, number of substations planned, number of interconnections planned for distribution voltages, number of transformers required, and other technical details deemed relevant by the Grantee and Contractor associated with the Project; and
- Topographic surveys, maps, meteorological data, obstructions along the planned route, flora and fauna, and communities along the planned transmission route.

Task 1.3: Kickoff Meeting, Stakeholder Consultations and Work Plan: The Contractor shall organize a kickoff meeting with the Grantee and other relevant stakeholders. The Grantee shall coordinate with the Contractor to identify appropriate personnel and other relevant stakeholders to participate in the kickoff meeting. During the kickoff meeting, the Contractor shall introduce the Contractor's Study team; review the tasks to be performed under these Terms of Reference; review the Contractor's work plan (Work Plan); and gather input from the Grantee regarding the Grantee's goals for the Study, salient issues surrounding the Grantee's plans for the Project, and Grantee requests for changes in the Work Plan, if any.

For the kickoff meeting, the Contractor shall coordinate with the Grantee on appropriate meeting content; prepare an agenda, handouts, and presentation materials, as needed, for all meeting attendees; conduct the meeting and facilitate discussion; draft a report of the meeting and distribute the meeting report to attendees and other relevant stakeholders identified by the Grantee; and maintain meeting records, including the agenda, any handouts and presentation materials, a list of all meeting participants, and the meeting report.

Task 1 Deliverable: The Contractor shall prepare a report including all work performed under Task 1. The Task 1 Deliverable shall be included in the Final Report.

Task 2: Technical Assessment: Conduct a Technical Assessment of the Project and Develop Detailed Requirements

The Contractor shall carry out a technical assessment of the proposed transmission line and develop all requirements for the transmission system development. As part of Task 2, the Contractor shall conduct the following subtasks:

WJ

Task 2.1: Review of the Reliability of the Grid: Based on available data and information on grid operations, maintenance records, and prior grid failures or stresses, the Contractor shall also conduct an assessment of the current status of Ghana's grid reliability indices. Next, the Contractor shall compare the reliability indices of Ghana's grid with international benchmarks (e.g., line losses) for similar-size systems and document specific areas where Ghana's grid would need upgrades and improvement. The Contractor shall document these requirements to improve grid reliability and recommend remedial actions. The Contractor shall update the requirements of equipment, systems, and training needed to improve the reliability of Ghana's grid.

Task 2.2: Site Review and Right-of-Way Issues: The Contractor shall conduct onsite assessments along the proposed route of the transmission line between Aboadze and Domunli and between Domunli and Prestea. In consultation with the Grantee, the Contractor shall conduct a selected walking-of-the-line route at key peg sites already identified by the Grantee and assess the right-of-way (ROW) needs as well as any project-affected parties (PAPs). Utilizing internationally acceptable approaches for both formal and informal settlements along the proposed route, the Contractor shall assess the total resettlement requirements. The Contractor shall use international guidelines used by the international financial institution (specifically, the International Finance Corporation, or "IFC") to assess the ROW and PAPs.

Task 2.3: Review Load Forecasts: The Contractor shall review all available demand forecasts, which may include the forecast developed by the USTDA Contractor for the Eastern Transmission Line Feasibility Study, if publicly available; other forecasts from the Ministry of Energy, the World Bank, and any other sources; the Grantee's "Transmission Systems Master Plan Study" completed by Tractebell Engineering; and other reports deemed relevant by the Grantee and Contractor to the Project. Based on this review, the Contractor and Grantee shall agree on a specific forecast for the 2013 – 2033 period. The Contractor and Grantee shall agree on the method selected to develop the load forecast. The forecast agreed to between the Grantee and the Contractor shall govern the rest of the Study and shall be the basis for assessing the system requirements for the proposed transmission line. The forecast shall include low, medium, and high scenarios for anticipated electricity supply and demand for the Project. The Contractor's estimates shall include ongoing and planned electricity generation, transmission and distribution projects that would impact the load forecast for the Project and the power evacuation requirements of the proposed transmission line over the next 20 years.

Task 2.4: Transmission Line Throughput Capacity Assessment, Simulations and Load Flow Studies: Based on the requirements for power evacuation (megawatt (MW) throughput at different intervals over the 20-year planning period), the Contractor shall conduct a series of load flow studies and stress tests to assess the capacity of the proposed line for evacuating the total power to be generated at Domunli and any adjoining site. The Contractor shall use an internationally acceptable software simulator to carry out load flow and dynamic simulation runs of power flows through the proposed transmission

line. The Contractor shall use the power systems simulator software that is the same as, or compatible with, the software currently used by the Grantee.

Based on these load flow studies, the Contractor shall model the proposed line's impact on Ghana's grid infrastructure. The Contractor shall use the Grantee's power systems simulator software database and the existing system model to perform this task. The Grantee shall provide access to this data to the Contractor. The Contractor's analysis shall include load flow calculations, short circuit calculations, and power system stability and reliability analyses for the proposed transmission line over the 2013– 2033 period, with annual intervals for the first five years and five-year intervals thereafter. The Contractor shall also develop a protection sensitivity plan. The Contractor's methodology for the protection sensitivity plan shall be compatible with the methodology and the principles adopted for the Grantee's national electricity transmission dispatch center operated by the Grantee.

The load flow studies carried out by the Contractor shall also include grid stability analyses to determine the capacity of the proposed line for different load conditions and electricity generation schedules. The Contractor shall carry out analyses of critical component outages and potential for real-time detection of problems on the line and on the generation side.

Task 2.5: Substation Inspection and Extension: Based on the MW throughput requirements and the load along the route of the proposed transmission line, the Contractor shall develop a conceptual design for all substations required for the Project. The conceptual design shall include the required electrical compensation system and protection scheme for the communication, control, and supervisory control and data acquisition (SCADA) systems required for the Project.

Task 2.6: Proposed Line Route: Based on the throughput requirements, using MW, and the load requirements, using megawatt hour (MWh), the Contractor shall develop a preliminary transmission line routing, including proposed substation sites, for the segments of the 330 kV line between Aboadze and Domunli and between Domunli and Prestea. The Contractor shall present the preliminary transmission line routing to the Grantee and other relevant stakeholders, as selected by the Grantee.

Task 2 Deliverable: The Contractor shall prepare a report including all work performed under Task 2. The Task 2 Deliverable shall be included in the Final Report.

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

Based on the complete set of requirements developed under Task 2, the Contractor shall prepare detailed cost estimates for implementing the requirements to improve grid reliability and for the construction of the proposed transmission line and all related system and equipment requirements. The Contractor shall derive civil works prices for the Project, specifically taking into account internationally acceptable and practiced

construction methodologies for estimating the costs for construction equipment, local labor, materials, etc. The Contractor shall base the materials and equipment prices on industry quotes and appropriate equipment contingencies. The Contractor shall consult the Grantee on the methods to be used, which may include the International Federation of Consulting Engineers (FIDIC) Yellow Book or Red Book.

In addition to the construction, material, labor, and related Project costs, the Contractor shall develop cost estimates for engineering, supervision, administration, legal requirements, land acquisition, resettlement, and environmental remediation. The Contractor shall allow for appropriate contingencies, price escalations due to inflation, and financing costs for the duration of the construction time needed for the proposed transmission line.

Furthermore, the Contractor shall also estimate the annual operation and maintenance costs of the proposed transmission line.

Once all of the cost estimates have been developed, the Contractor shall develop an investment program and an annual investment schedule for the Grantee for the duration of the Project. This approach will help the Grantee in its internal budgeting and seeking financing for the needed investments.

Throughout Task 3, the Contractor shall closely work with the Grantee in developing the cost estimates. This close working relationship will facilitate capacity building for the Grantee's engineers and managers.

Task 3 Deliverable: The Contractor shall prepare a report including all work performed under Task 3. The Task 3 Deliverable shall be included in the Final Report.

Task 4: Conduct a Financial and Economic Analysis of Recommended Investments

Based on the total investment requirements for the Project, the Contractor shall conduct detailed economic and financial analyses, including a life cycle cost analysis of equipment and services, of the proposed investments using an internationally acceptable methodology for such analyses. The Contractor's financial analyses of the proposed requirements shall be based on a standard methodology used by donors, such as the World Bank, and 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 (i.e. gas, oil, etc.), and the results of the load flow analyses. The Contractor shall obtain approval from the Grantee for the method selected providing the statistical weight of each scenario.

In addition, the Contractor shall carry out a financial sensitivity analysis of the Project using factors including, but not limited to, varying debt/equity ratios for Project financing, and different levels of power supply and off-take commitments based on the anticipated power flows under the low, medium, and high scenarios in the load forecast

developed pursuant to Task 2.3 above. The Contractor shall evaluate potential sources of Project financing, including, but not limited to, Government of Ghana budgetary resources, bilateral lending agencies such as the United States Export-Import Bank and the Overseas Private Investment Corporation, multilateral lending agencies such as the World Bank and African Development Bank, and private sector financing through build-own-operate-transfer agreements, engineering, procurement and construction contracts, commercial loans, supplier credits, and/or other relevant financial structures involving private sector financing.

Task 4 Deliverables: The Contractor shall prepare a report including all work performed under Task 4. The Task 4 Deliverable shall be included in the Final Report.

Task 5: Develop a Blueprint for Financing the Investments Requirements

The Contractor shall develop a financing plan and a financing strategy, including several approaches to securing financing for the Project. The Contractor shall identify any Project risk factors and develop a risk avoidance/reduction plan for each factor by means of insurance and bonding or other means, adequate to the requirements of the 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 proposed transmission line:

- Internal funds from the Grantee's resources or government budget
- Combination of internal budget funds and development financing from international financial institutions
- Combination of the above and export credit financing from the United States Export-Import Bank
- Blended financing from debt and equity from a variety of donors

Task 5 Deliverables: The Contractor shall prepare a report including all work performed under Task 5. The Task 5 Deliverable shall be included in the Final Report.

Task 6: Conduct a Review of Regulatory Issues

The Contractor shall conduct a regulatory analysis of existing power sector regulations in Ghana and detail the regulatory requirements to facilitate the implementation of the Project. At a minimum, the Contractor shall review the following:

- The 1997 Energy Commission Act, especially as it relates to the regulation of licenses for the transmission, wholesale supply, and distribution of electricity; the establishment and enforcement of standards; and, the promotion of uniform rules of practice;
- The 1997 Public Utilities Regulatory Commission Act, especially as it relates to the regulation of tariffs; and

- The mandate of Economic Community of West African States (ECOWAS) Regional Electricity Regulatory Authority (ERERA), especially as it relates to the implementation of uniform technical standards for ECOWAS countries.

In addition, the Contractor shall identify and assess any regulatory barriers that may impede the development, financing, and implementation of the Project. Specifically, the Contractor shall analyze all regulatory issues that will impact the Project implementation process and schedule. 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 Deliverables: The Contractor shall prepare a report including all work performed under Task 6. The Task 6 Deliverable shall be included in the Final Report.

Task 7: Conduct Preliminary Environmental and Social Impact Assessments

The Contractor shall evaluate and report on the expected environmental impacts of the proposed grid reliability improvement and transmission line for the Project with reference to local, national and international laws and regulations, including those of international finance institutions, such as the World Bank, the African Development Bank, 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 Grantee subsequent to the study's completion and prior to Project implementation.

In addition, based on the standard approach used by the international financial institutions, especially the International Finance Corporation, the Contractor shall draft a Social Impact Assessment that considers Right-of-Way (ROW) and resettlement requirements and estimates the number of project-Affected Parties (PAPs) as a result of the construction of the proposed transmission line.

Task 7 Deliverables: The Contractor shall prepare a report including all work performed under Task 7. The Task 7 Deliverable shall be included 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 Project. 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 in Ghana.

The Contractor's analysis shall focus on what development impact is likely if the Project is implemented according to the Study recommendations. While the Contractor shall pay specific focus to the immediate impact of the Project, the analysis shall include any additional development benefits that may result from the Project's implementation, including spin-off and demonstration effects.

Accordingly, the Contractor's 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 Ghana that would be needed to construct and operate the 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;
- *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.

Task 8 Deliverables: The Contractor shall prepare a report including all work performed under Task 8. The Task 8 Deliverable shall be included in the Final Report.

Task 9: Develop a Project Implementation Plan and Budget

The Contractor shall develop an implementation plan that identifies all the steps the Grantee will need to take to implement the Project. These steps may include, but are not limited to:

- Detailed Project design;
- Full environment and social impact assessments which comply with local requirements and those of multilateral lending agencies such as the World Bank;
- Relevant regulatory, legal, and institutional requirements;

ms

- Power purchase, off-take, and subsidy agreements;
- Financial arrangements;
- Procurements of goods and services;
- Construction; and
- Long-term training requirements.

Task 9 Deliverables: The Contractor shall prepare a report including all work performed under Task 9. The Task 9 Deliverable shall be included in the Final Report.

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

The Contractor shall conduct an assessment of available U.S. sources of supply for the Project. This assessment shall include information gathered through direct communication with U.S. firms that have previously supplied to the Host Country the kinds of goods and services recommended under these Terms of Reference, as well as U.S. companies who currently or have previously had a business relationship with the Grantee. Based on this information gathered, the Contractor shall list the U.S. companies that are able to provide the goods and services recommended for Project implementation (“U.S. sources of supply”). U.S. sources of supply shall include U.S. providers of the different categories of goods and services required for Project implementation. For each source identified, the Contractor shall include the company name, point of contact, address, telephone, fax, e-mail, and relevant goods and services provided. The Contractor shall contact at least twenty-five potential U.S. equipment, technology, and service providers for the Project, including U.S. providers of engineering, construction management, legal, and financial services, and compile a list of those companies that express interest in participating in the Project.

Task 10 Deliverables: The Contractor shall prepare a report including all work performed under Task 10. The Task 10 Deliverable shall be included in 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> | Feasibility Study | Technical Assistance | Other (specify) |
|---|-------------------|----------------------|-----------------|

Activity Title *[To be completed by USTDA]*

Full Legal Name of U.S. Firm

Business Address (street address only)

| | | |
|-----------|-----|---------|
| Telephone | Fax | Website |
|-----------|-----|---------|

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

Please provide a list of directors and principal officers as detailed in Attachment A. Attached? Yes

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

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

| | |
|--|-----|
| Is the U.S. Firm a wholly-owned or partially owned subsidiary? | Yes |
| | 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? | Yes |
| | No |

| | |
|---|----------------|
| If yes, U.S. Firm shall complete Attachment C for each subcontractor. Attached? | Yes |
| | 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> | |
|---|--|

| | |
|--|--|
| Activity Title <i>[To be completed by USTDA]</i> | |
|--|--|

| | |
|------------------------------|--|
| Full Legal Name of U.S. Firm | |
|------------------------------|--|

| | |
|--------------------------------|--|
| Full Legal Name of Shareholder | |
|--------------------------------|--|

| | |
|---|--|
| Business Address of Shareholder (street address only) | |
|---|--|

| | | | |
|------------------|--|------------|--|
| Telephone number | | Fax Number | |
|------------------|--|------------|--|

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

| | |
|--|--|
| Country of Shareholder's Principal Place of Business | |
|--|--|

| | |
|--|-----|
| 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 |

| | |
|---|--|
| 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. | |
|---|--|

| | |
|--|------------------------------|
| 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. | |
|--|--|

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 [<i>To be completed by USTDA</i>] | |
|---|--|

| | |
|--|--|
| Activity Title [<i>To be completed by USTDA</i>] | |
|--|--|

| | |
|---|--|
| Full Legal Name of Prime Contractor U.S. Firm ("U.S. Firm") | |
|---|--|

| | |
|----------------------------------|--|
| Full Legal Name of Subcontractor | |
|----------------------------------|--|

| | |
|---|--|
| Business Address of Subcontractor (street address only) | |
|---|--|

| | |
|------------------|--|
| Telephone Number | |
|------------------|--|

| | |
|------------|--|
| Fax Number | |
|------------|--|

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

Subcontractor Point of Contact

| | | |
|------|------------|--|
| Name | Surname | |
| | Given Name | |

| | |
|---------|--|
| Address | |
|---------|--|

| | |
|-----------|--|
| Telephone | |
|-----------|--|

| | |
|-----|--|
| Fax | |
|-----|--|

| | |
|-------|--|
| Email | |
|-------|--|

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 |
|--|--------------------------------------|------------------------------|--------------------------------------|--|--------------------------------|

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 | |