

REQUEST FOR PROPOSALS

FEASIBILITY STUDY FOR THE

EASTERN TRANSMISSION LINE

Submission Deadline: **12:00 PM**

LOCAL (ACCRA) TIME

JUNE 17, 2011

Submission Place: Ghana Grid Company Ltd (GRIDCo)
Near Tema Steel Works, Off Tema-Aflao Highway
P O Box CS 7979
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

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Section 1: INTRODUCTION

The U.S. Trade and Development Agency (USTDA) has provided a grant in the amount of US\$645,000 to the Ghana Grid Company Ltd (the "Grantee"), Ghana's power transmission operator, in accordance with a grant agreement dated March 24, 2011 (the "Grant Agreement"). The grant will fund the cost of goods and services required for a feasibility study ("FS") on the proposed Eastern Transmission Line project ("Project") in Ghana ("Host Country"). The FS will assist the Grantee in determining the technical and economic viability of expanding and strengthening Ghana's electricity transmission network with a new 62 mile power transmission line between Asiekpe and Kpandu, and a new 143 mile transmission line between Kadjebi and Yendi. 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

The overwhelming majority of Ghana's power generation assets, as well as its largest consumer base, remains concentrated along the Atlantic coast in Ghana's far south. Transmission of power northward is often hindered by inadequate power transmission infrastructure, making power unstable and unreliable. The transmission network consistently runs at well above its rated capacity, and redundancies which can provide alternative delivery in case of a fault are often nonexistent. A fault at just one substation near Kumasi in central Ghana can shut down power transmission to all points north.

Presently, all northbound power transmission is routed through the west and center of the country, leaving the majority of communities on the east side of Lake Volta without power. Presently, a 69 kilovolt (kV) line extends 62 miles north from Asiekpe to Kpandu. This FS will make recommendations on the economic and technical feasibility of constructing a new 161 kV line parallel to this line. Continuing north, a 37 mile 69 kV (upgradeable to 161 kV) line is under construction using funding from the Government of Belgium which will connect Kpandu to Kadjebi. This FS will also make recommendations on connecting these two lines together at Kpandu. Finally, the FS will provide an assessment on the development of a new 161 kV line continuing 143 miles north from Kadjebi to Yendi where it will connect to an existing power transmission line, thus completing a full circuit around Lake Volta.

1.2 OBJECTIVE

The objective of the USTDA-funded FS is to provide the Grantee with an assessment of the technical and economic viability of the construction of a new power transmission line between Asiekpe and Kpandu, and a new power transmission line between Kadjebi and Yendi. The construction of these lines will complete a circuit around Lake Volta and bring electricity to rural areas in the north and eastern regions of Ghana. The Terms of Reference (TOR) for this Feasibility Study are attached as Annex 5.

1.3 PROPOSALS TO BE SUBMITTED

Technical proposals are solicited from interested and qualified U.S. firms. The administrative and technical requirements as detailed throughout the Request for Proposals (RFP) will apply. 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\$645,000. **The USTDA grant of US\$645,000 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\$645,000 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 Eastern 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. A copy of the report is attached at Annex 2 for background information only. Please note that the TOR referenced in the report are included in this RFP as Annex 5.

2.4 EXAMINATION OF DOCUMENTS

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

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

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

2.5 PROJECT FUNDING SOURCE

The Feasibility Study will be funded under a grant from USTDA. The total amount of the grant is not to exceed US\$645,000.

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 Darku
Chief Executive Officer
Ghana Grid Company Ltd (GRIDCo)
Near Tema Steel Works, Off Tema-Aflao Highway
P O Box CS 7979
Tema – Ghana

An Original and eight (8) copies of your proposal must be received at the above address no later than 12:00pm Local (Accra) Time, on June 17, 2011.

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 "original" or "copy number x"; the original and eight (8) copies should be collectively wrapped and sealed, and clearly labeled.

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

2.15 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.

2.16 EFFECTIVE PERIOD OF PROPOSAL

The proposal shall be binding upon the Offeror for NINETY (90) days after the proposal due date, and Offeror may withdraw or modify this proposal at any time prior to the due date upon written request, signed in the same manner and by the same person who signed the original proposal. The Offeror shall also note the duration of the study with particular attention to the estimated completion date as reflected in the Grant Agreement.

2.17 EXCEPTIONS

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

2.18 OFFEROR QUALIFICATIONS

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

2.19 RIGHT TO REJECT PROPOSALS

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

2.20 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.

2.21 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 and, in all cases, the Grantee will be the judge as to whether a proposal has or has not satisfactorily met the requirements of this RFP.

2.22 COMPLETE SERVICES

The successful Offeror shall be required to (a) provide local transportation, office space and secretarial support required to perform the TOR; (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.

2.23 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\$645,000, 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,
- Company Information,
- 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 COMPANY INFORMATION

For convenience, the information required in this Section 3.2 may be submitted in the form attached in Annex 6 hereto.

3.2.1 Company Profile

Provide the information listed below relative to the Offeror's firm. If the Offeror is proposing to subcontract some of the proposed work to another firm(s), the information requested in sections 3.2.5 and 3.2.6 below must be provided for each subcontractor.

1. Name of firm and business address (street address only), including telephone and fax numbers.
2. Year established (include predecessor companies and year(s) established, if appropriate).
3. Type of ownership (e.g. public, private or closely held).
4. If private or closely held company, provide list of shareholders and the percentage of their ownership.
5. List of directors and principal officers (President, Chief Executive Officer, Vice-President(s), Secretary and Treasurer; provide full names including first, middle and last). Please place an asterisk (*) next to the names of those principal officers who will be involved in the Feasibility Study.
6. If Offeror is a subsidiary, indicate if Offeror is a wholly-owned or partially-owned subsidiary. Provide the information requested in items 1 through 5 above for the Offeror's parent(s).
7. Project Manager's name, address, telephone number, e-mail address and fax number.

3.2.2 Offeror's Authorized Negotiator

Provide 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.

3.2.3 Negotiation Prerequisites

1. Discuss any current or anticipated commitments which may impact the ability of the Offeror or its subcontractors to complete the Feasibility Study as proposed and reflect such impact within the project schedule.
2. Identify any specific information which is needed from the Grantee before commencing contract negotiations.

3.2.4 Offeror's Representations

If any of the following representations cannot be made, or if there are exceptions, the Offeror must provide an explanation.

1. Offeror is a corporation *[insert applicable type of entity if not a corporation]* duly organized, validly existing and in good standing under the laws of the State of _____. The Offeror 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 Feasibility Study. The Offeror 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 Offeror has included, with this proposal, a certified copy of its Articles of Incorporation, and a certificate of good standing issued within one month of the date of its proposal by the State of _____. The Offeror commits to notify USTDA and the Grantee if they become aware of any change in their status in the state in which they are incorporated. USTDA retains the right to request an updated certificate of good standing.
3. Neither the Offeror nor any of its principal officers have, within the three-year period preceding this RFP, 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 Offeror, 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 Offeror. The Offeror, 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.
6. The Offeror 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 Offeror has not had filed against it an involuntary petition under any bankruptcy, insolvency or similar law.

The selected Offeror shall notify the Grantee and USTDA if any of the representations included in its proposal are no longer true and correct at the time of its entry into a contract with the Grantee.

Signed: _____
(Authorized Representative)

Print Name: _____

Title: _____

Date: _____

3.2.5 Subcontractor Profile

1. Name of firm and business address (street address only), including telephone and fax numbers.
2. Year established (include predecessor companies and year(s) established, if appropriate).

3.2.6 Subcontractor's Representations

If any of the following representations cannot be made, or if there are exceptions, the Subcontractor must provide an explanation.

1. Subcontractor is a corporation [*insert applicable type of entity if not a corporation*] duly organized, validly existing and in good standing under the laws of the State 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 Offeror is selected, to execute and deliver a subcontract to the Offeror for the performance of the Feasibility Study and to perform the Feasibility Study. 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 three-year period preceding this RFP, 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.

The selected subcontractor shall notify the Offeror, Grantee and USTDA if any of the representations included in this proposal are no longer true and correct at the time of the Offeror's entry into a contract with the Grantee.

Signed: _____
(Authorized Representative)

Print Name: _____

Title: _____

Date: _____

3.3 ORGANIZATIONAL STRUCTURE, MANAGEMENT, AND KEY PERSONNEL

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

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

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

3.4 TECHNICAL APPROACH AND WORK PLAN

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

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

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

3.5 EXPERIENCE AND QUALIFICATIONS

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

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

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

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

Section 4: AWARD CRITERIA

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

COST will not be a factor in the evaluation and therefore, cost proposals should not be submitted.

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

Technical Proposal

35 points

- Technical approach for developing a reasonable forecast of future power requirements and availabilities and of designing a balanced overall system that will assure uninterrupted power flows in the Asiekpe-Yendi line to be constructed and in the overall system of which it is a component (10).
- Technical approach in the optimal design, specifications and routing of the proposed power line and its substations (5).
- Technical approach for the development of a thorough and systematic test plan including load flow calculations, short circuit calculations and power system stability analyses (5).
- Technical approach for recommending an up-to-date IT system capable of providing real time information procurement and automated emergency responses, compatible with the SCADA, GIS, and other systems presently in use or to be installed in GridCo's national transmission dispatch center (5).
- Approach to developing the financial and economic models to assess financial and economic viability of the Project and determining appropriate tariff, subsidy, and financing requirements (10)

Personnel and Management Plan

35 points

- Experience and expertise of the Project Manager in designing and supervising the construction of high-voltage power lines in a difficult international environment (15).
- Experience and expertise of the Team personnel in fulfilling the various functions of each component of the program (10).
- Quality and thoroughness of personnel and management plan (10).

Firm Technical Capability and Past Performance

30 points

- Experience and years of performance in electric-sector consulting (15).
- Experience working with National Power Companies and providing technical assistance and training to them (15).

ANNEX 1

Charles Darku
Ghana Grid Company Ltd (GRIDCo)
Near Tema Steel Works, Off Tema-Aflao Highway
PO Box CS 7979
Tema - Ghana

Phone: +233-22-310310
Fax: +233-22-303327
E-mail: ceo@gridcogh.com

2011-11012A Eastern Transmission Line

POC: Nina Patel, USTDA, 1000 Wilson Boulevard, Suite 1600, Arlington, VA 22209-3901, Tel: (703) 875-4357, Fax: (703) 875-4009. Eastern 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 that will determine the technical and economic viability of expanding and strengthening Ghana's electricity transmission network with a new 62 mile power transmission line between Asiekpe and Kpandu, and a new 143 mile transmission line between Kadjebi and Yendi.

Presently, all northbound power transmission is routed through the west and center of the country, leaving the majority of communities on the east side of Lake Volta without power. Presently, a 69 kilovolt (kV) line extends 62 miles north from Asiekpe to Kpandu. This FS will make recommendations on the economic and technical feasibility of constructing a new 161 kV line parallel to this line. Continuing north, a 37 mile 69 kV (upgradeable to 161 kV) line is under construction using funding from the Government of Belgium which will connect Kpandu to Kadjebi. This FS will also make recommendations on connecting these two lines together at Kpandu. Finally, the FS will provide an assessment on the development of a new 161 kV line continuing 143 miles north from Kadjebi to Yendi where it will connect to an existing power transmission line, thus completing a full circuit around Lake Volta.

The U.S. firm selected will be paid in U.S. dollars from a \$645,000 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 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

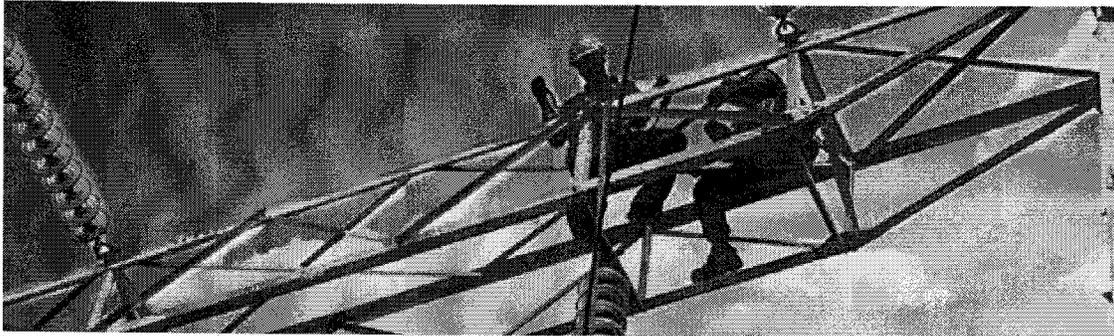
retrieve the RFP should allow one hour after faxing the request to USTDA before scheduling a pick-up. Please note that no telephone requests for the RFP will be honored. Please check your internal fax verification receipt. Because of the large number of RFP requests, USTDA cannot respond to requests 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 12:00pm, Local (Accra) Time, June 17, 2011 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

EASTERN TRANSMISSION REINFORCEMENT PROJECT



A. Executive Summary.

This is the second recommended Project of the Ghana Power Sector Definitional Mission. The DM Team recommends a feasibility study (FS) for GridCo, Ghana's State owned transmission operator, to evaluate the technical, financial, economic, environmental, and other critical aspects of the proposed Eastern Transmission Reinforcement Project, which entails the upgrade/extension of a 390 km high-voltage electric power transmission line in eastern Ghana from Asiekpe to Yendi.

The Project addresses two key priorities for GridCo and the Government of Ghana - increasing rural electrification and increasing the stability of the Country's electric power transmission grid. Currently, the region from Kadjebi north to Nkwanta is served by a single 34.5 kV transmission line while Nkwanta to Yendi has no medium voltage transmission line at all. Not only does this offer limited supplies of power to the region but there is no redundancy in that part of the system. If there is one fault in the line, every community north of that area is affected until the system is repaired.

Regarding the stabilization of the grid, vast areas in the northern regions of Ghana receive power through a single line from one unique source. Under such a star configuration, any upstream power disruption will force a total shut-down of the affected area. For example, it is conceivable that the loss of one or several transformers in Kumasi could shut down the entire power supply to the north, leaving two thirds of the country without power. The Project is also a priority for the Country's electric power system due to the fact that it puts a high-voltage line in the vicinity of two important potential renewable power sites. One of Ghana's most promising wind-power sites is located near Kadjebi and there is an important hydropower site in Juale.

GridCo and the Ministry of Energy have both indicated that the Eastern Transmission Reinforcement Project is a high priority for the Country in order to increase the reliability of the grid and increase rural electrification in the Volta Region. Due to the fact that the Project would bring reliable electric power to a region where penetration rates are so low and power so unreliable, the potential impact on economic development in the region is significant. The Project would also have an impact on several of the USTDA development indicators, including Infrastructure, Human Capacity Building, and Technology Transfer and Productivity Improvement.

The implementation cost for the Project is estimated at \$242.8 million, which would most likely be financed through international finance institutions and/or bilateral export credit agencies. The estimated US export potential for this Project is \$118 million, which could include: engineering and design; construction management; advanced high voltage transmission substation equipment; automation,

software, process controls, and non-interruptible power supply systems; and transmission towers and cabling. European and Asian companies are active and aggressively pursuing opportunities in Ghana's transmission sector, making it difficult for US companies to compete in this sector, but the proposed USTDA study offers a good opportunity for US companies to secure a foothold in the implementation of this Project. US companies have been successful in the power sector in Ghana to date, including the award of a \$350 million turnkey contract to Weldy-Lamont for a transmission and distribution project with US Export Import Bank loan financing.

Based on the positive impact on US exports and job creation prospects in the United States, as well as the developmental benefits that will accrue to Ghana, it is recommended that USTDA fund a Feasibility Study at \$645,000 with GridCo as the Grantee.

B. Project Description

The DM Team recommends a feasibility study (FS) to evaluate the technical, financial, economic, environmental, and other critical aspects of the proposed Eastern Transmission Reinforcement Project, which entails the upgrade/extension of a high-voltage electric power transmission line in eastern Ghana. The Project includes the following key components (see Figure 5):

- Construction of a 161 kV line running parallel to (but with a new right of way) an existing 69 kV line between Asiekpe and Kpandu (approximately 100 km);
- Connecting the upgraded Asiekpe – Kpandu system to a line between Kpandu and Kadjebi (approximately 60 km in length). That line, now under construction with Government of Belgium funding, will be operated as a 69 kV line but will be upgradeable to a 161 kV; and
- Construction of approximately 230 km of a new 161 kV transmission line between Kadjebi and Yendi.

The primary objective of the Study is to provide the Grantee with analyses and recommendations that will support its decision-making with regard to implementation of the Project. Another objective is to assist the Grantee in preparing technical, economic, and financial documents that will assist the Grantee in securing financial support for the Project and developing an implementation plan for Project execution.

The Project was declared a high priority by GridCo, which is the newly created State-owned transmission company and dispatching authority in Ghana. GridCo will be the Grantee if the Project is approved by USTDA. Its mission statement calls for the company to provide open access, non-discriminatory, reliable, secure, and efficient electricity transmission services and wholesale market operations to meet customer and stakeholder expectations within Ghana and the West African Sub-region, in an environmentally sustainable and commercially viable manner.

Project History

There are in effect two reasons why the development of the proposed power line is so important to Ghanaian officials. First, the line will be a significant tool in the government's efforts towards rural electrification and, second, it will make a major contribution towards stabilizing a basically unbalanced electric power transmission system.

As regards rural electrification, Ghana has secured access to electricity for 85% of its urban population, which is largely concentrated in the southern part of the country, and especially along the coast. An 85% urban access rate is a major achievement for a Sub-Saharan nation with limited power resources. However, at a 23% access rate to electricity for its rural population, Ghana has a long way to go to achieve its goal of providing universal access to electric power by 2020.

There are many reasons for the discrepancy between urban and rural access to electricity. Early dependence on hydro-power from power dams located near the coast has favored the more urbanized regions of Ghana. When Ghana's hydropower potential began to reach its limits, the country naturally started to look for alternatives. Wind and solar power showed promise in Ghana, but as in other countries, the realization soon set in that these power sources are not cheap to develop, are not concentrated sufficiently to make a major impact on the national power system, and by their nature do not deliver power in as reliable and continuous a fashion as do the conventional hydro and thermal power plants whose power output can be regulated at will.

Thermal power, then, became the first choice as a supplement to hydro-power. The scarcity of fuels needed for the generation of thermal power (coal, natural gas, and oil) required that these fuels had to be imported, and imports came through shipments to delivery points along the coast. When oil and gas reserves were finally discovered offshore, their deliveries, too, were confined to the coast. What evolved was a power system that had essentially all of its generation facilities and the bulk of its transmission network along the coast, to the benefit of the largely urban population in that region.

The availability of electric power has long been recognized to be a major stimulant for economic growth. In Ghana, that meant that job creation was largely concentrated along the coast, with the result that people from the north increasingly migrated to the south. While there was a power-induced economic stimulus in the south, northern rural areas stagnated in part due to the south-bound exodus. If left unbalanced, this cycle of stagnation in northern Ghana and accelerated population growth in the south will lead to the development of slums along the coast, a movement that is well under way at this time. Rural electrification is felt to be a major tool in developing economic opportunities in northern Ghana and staving off the impoverishment in slum areas to the south that, paradoxically, were brought on by that region's unbalanced and rapid economic growth. Currently, the region from Kadjebi north to Nkwanta is served by a single 34.5 kV transmission line while Nkwanta to Yendi has no medium voltage transmission line at all. Not only does this offer limited supplies of power to the region but there is no redundancy in that part of the system. If there is one fault in the line, every community north of that area is affected until the system is repaired.

As regards the stabilization of Ghana's unbalanced electric power transmission system, vast areas to the north, to the extent that they have power at all, receive it through a single line from one unique source. Under such a star configuration, any upstream power disruption will force a total shut-down of the affected area. For example, it is conceivable that the loss of one or several transformers in Kumasi could shut down the entire power supply to the north, leaving two thirds of the country without power (see Figure 4 on page 15).

Project Lay-out

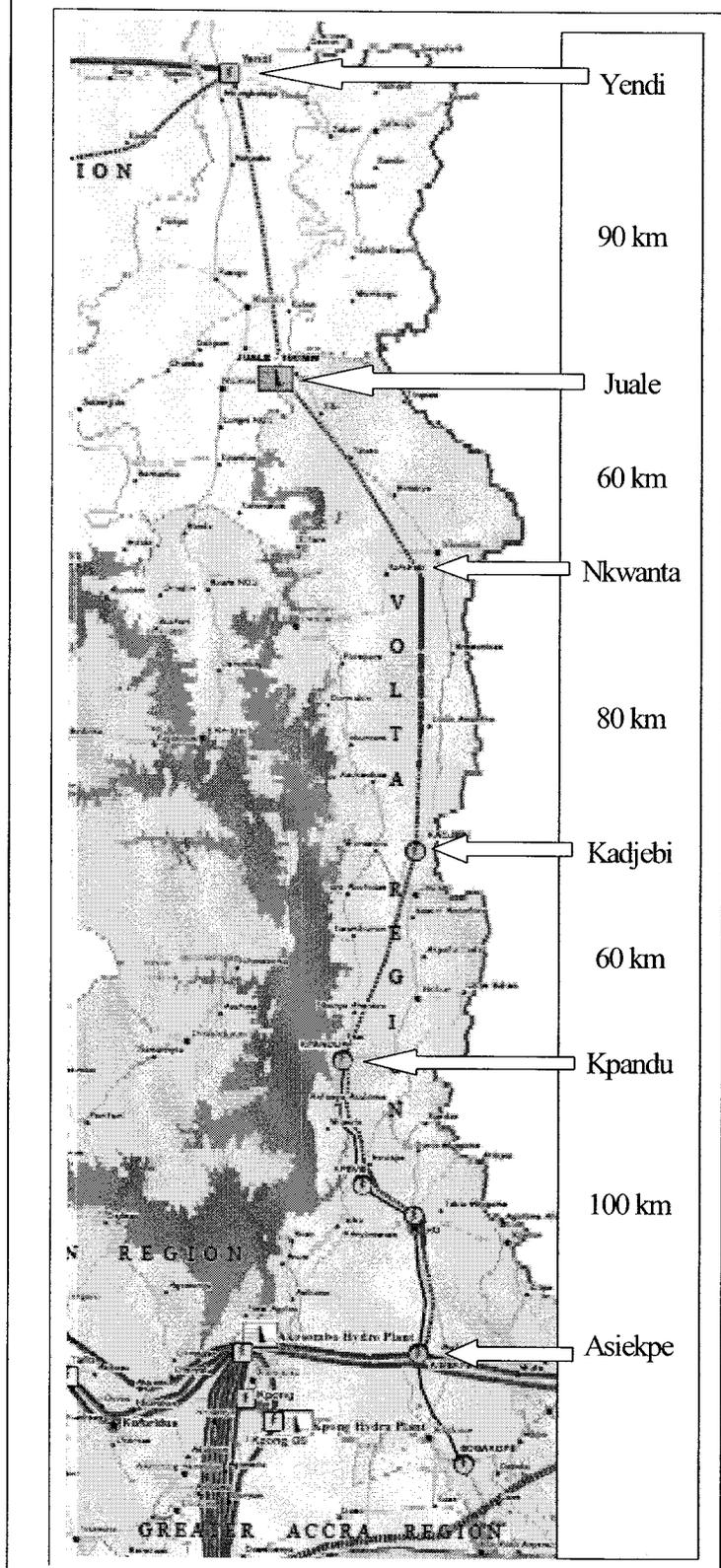
Upgrading the Asiékpe to Kpandu line and extending it to Yendi under the Eastern Transmission Reinforcement Project would create a new north-south power corridor along the eastern shore of Lake Volta, independent of the existing western loop, Figures 4 and 5 on pages 15 and 48. The creation of this loop is a matter of high priority with GridCo officials.

Also to be noted is the fact that the creation of the Eastern Transmission Reinforcement Project puts a high-voltage line in the direct vicinity of two potential renewable power sites: One of Ghana's most promising wind-power sites is located near Kadjebi and there is an important hydropower site in Juale. As mentioned, wind, especially in a remote and sparsely populated region that is not connected to the power grid, may not be an attractive or economically viable power source, but placed right next to a network, it

may well have the potential of making a meaningful contribution to the power supply in the affected region.

As to the Juale hydro-power site, a pre-feasibility study conducted in 1993 assessed the project as being economically and financially feasible with the recommended configuration being a 40 meter high dam with a 87 MW power plant generating a net energy gain of about 300 GWh/yr (taking into account lost energy generation at Akosombo Dam due to decreased water volume from evaporation above the Juale dam). Under this scenario, one of the negative impacts would be the displacement of about 10,000 (est. 1993) people, while one of the positive impacts would be about 7000 tons/yr. of fish produced from the proposed reservoir. Juale appears to be one of the most important hydro-power sites left in Ghana, and it certainly is the most important one east of Lake Volta. The construction/upgrading of the power line proposed here may well change the dynamics of the power transmission and distribution sector of Ghana, as the completion of the Eastern Transmission Reinforcement Project may make the Juale hydro-power site in the immediate vicinity of that line economically attractive. The creation of a hydro-power plant in the north-eastern region of Ghana would establish a balance to the Bui hydro-plant now under construction in the north-western part of Ghana, and therefore make a major contribution towards a better balanced power supply system.

Figure 5 - USTDA Project



The Project would involve:

Construction of a 161 kV line running parallel to an existing 69 kV line between Asiekpe and Kpandu (approximately 100 km);

Connecting the upgraded line to a line between Kpandu and Kadjebi, 60 km in length. That line, now under construction with Government of Belgium funding, will be operated as a 69 kV line but will be upgradeable to a 161 kV; and

Construction of approximately 230 km of a new 161 kV transmission line between Kadjebi and Yendi.

Note: Indicated Distances Are Not Precise.

C. Project Sponsor's Capabilities and Commitment.

The major objective of the power sector reform in Ghana, which began in 1994, is to ensure adequate, reliable and efficient supply of electricity by encouraging private sector investment and introducing competition in the wholesale power supply market and thereby increasing efficiency and reducing cost to the consumer. To achieve this, there was the need to create an Electricity Transmission Utility to provide fair and open access for all market participants to the interconnected power system. The Volta River Development (Amendment) Act 692, 2005, Clause 8 (3) and the Energy Commission Act, 1997 (Act 541) provide for the separation of the transmission functions from the other activities of the Volta River Authority (VRA). Pursuant to the above mentioned Acts, and the ongoing Power Sector Reforms, a transmission utility company, the Ghana Grid Company Limited (GridCo) was established. GridCo was incorporated on December 15, 2006 as a private limited liability company and granted a certificate to commence business on December 18 2006.

The functions of GridCo are as follows:

Undertake economic dispatch and transmission of electricity from wholesale suppliers to bulk customers

Provide fair and non-discriminatory transmission services to all power market participants.

Acquire, own and manage assets, facilities and systems required to transmit electrical energy.

Undertake metering and billing services.

Carry out transmission system planning and implement investments necessary to provide the capacity to reliably transmit electric energy.

Manage the Whole Sale Power Market.

GridCo is a well-staffed and experienced organization. We met with the following executives whose backgrounds are given below:

- Mr. Charles A. Darku, CEO, BSEE Nkrumah University, MS in Public Administration from Harvard, Fellow of the Ghana Institution of Engineers and nearly 30 years of experience in electric power engineering, system operations, and IT strategy and deployment.
- Mr. Norbert Anku, our Contact, Director of Engineering, BSEE Nkrumah University, MS in Public Policy and Management from Harvard University, Fellow of the Ghana Institution of Engineers and of the Institute of Electrical and Electronic Engineers, plus 31 years of experience in electric power engineering. His background includes design services at VRA, performance enhancement strategies for the Takoradi Thermal Power Station, transmission system audits and overall coordination for the 330 kV WAPP Project.
- Mr. Eric Asare, Director of Systems Operations, BSEE, Member of the Ghana Institution of Engineers and of the Institute of Electrical and Electronic Engineers (IEEE). His nearly 30 years of experience includes working with Supervisory Control and Data Acquisition/Energy Management Systems (SCADA/EMS) that are used to supervise, control, optimize and manage generation and transmission systems. Mr. Asare is in charge of the operational management of GridCo's interconnected power system, power system operation and load dispatch, power system transmission planning and analysis, and network control systems,

As to commitment, the project sponsor and eventual Grantee, GridCo has declared the Eastern Transmission Reinforcement Project a high priority. Ministry of Energy officials also told the DM Team that this is a priority project for the sector in order to increase the reliability of the grid and increase rural electrification in the Volta Region.

D. Implementation Financing.

The Government of Ghana has taken significant steps towards the adoption of a modern, regulated electric power system that, among other things, involves an effort to privatize parts of the electric sector, notably generating plants and distribution companies. To this end, Ghana has received help from various quarters, including USAID and other foreign aid organizations. This process is not complete. Several reports pointing in the direction of further improvements are underway or recently completed. This includes a master plan by Tractebel that deals specifically with GridCo, which has embraced the notion it still has some ground to cover. That is an opinion shared by the newly created regulatory authorities in Ghana, the Energy Commission and the Public Utilities Regulatory Commission. It is also shared by the World Bank that has recently committed \$70 million to the country to assist in overhauling the country's aging substations and supply lines, to reduce technical losses, improve supply quality to clients, connect more customers, and increase revenue collection in targeted areas. Other foreign aid aims at finalizing the implementation of regulatory reforms.

According to GridCo, recent tariff rate adjustments by the Public Utilities Regulatory Commission of Ghana (PURC) have set them on a course toward financial self-sustainability. The current tariffs are expected to allow for cost recovery for existing operations as well as allow for additional capital expenditures. This is a critical step for GridCo, which has struggled financially since it was divested from VRA and became the country's independent transmission operator. It is also important for the development of the Eastern Transmission Reinforcement Project as GridCo is now a creditworthy entity which can secure financing through various channels.

The Government is not clear at this point whether it will allow private investors to take a temporary or permanent equity position on power transmission lines. In the distribution and generation sectors, the Government of Ghana is clearly prepared to move ahead with IPP or PPP arrangements. Whether the investment associated with the proposed power line construction is private or public, GridCo will need to hire a construction firm for implementation, as it has done in similar cases before, and that firm will need bridge financing. Hence the need for a USTDA Feasibility Study, complete with financial documentation to support the case.

Mr. Benjamin Todd, Business Development Officer at the US Ex-Im Bank, confirms that short-term loans, up to 12-15 years, would be available to US and foreign companies to cover or support public sector transactions which commit the full faith and credit of the government, depending on ownership and US content of the investment.

The Overseas Private Investment Corporation is similarly supportive, having recently (April 10, 2010) approved \$100 million for the establishment of a private equity investment fund designed to making equity investments in nascent businesses with high growth potential. The fund will target sectors that are central to the function of African economies, and therefore geared to domestic economic growth. Sectors targeted for the fund's investments include power and utilities, among others. The fund's investments will focus on Nigeria, **Ghana**, Kenya, Angola, and South Africa, as well as Cote D'Ivoire, Tanzania, and Uganda.

Various multilateral funding sources may be available to support funding requirements, including the African Development Bank and the World Bank.

E. US Export Potential

Ghana does not have the means to manufacture the electrical or mechanical equipment needed for the construction and equipping of high voltage transmission systems. That goes for high voltage lines and towers, substations, transformers, control systems, and similar equipment. Accordingly, all of the required mechanical equipment and computer control hardware and software will have to be imported. If the construction of the proposed transmission line Project is offered on a turnkey basis, the civil engineering and mechanical construction operations will be designed and directed from abroad and, with the exception of local construction labor, mostly imported.

The DM Team spoke with a number of US companies active in the transmission sector. Regarding the production and export of transformers, we found that overall US production has been declining but that several producers are still competitive in the US market, including Pennsylvania Transformer Technology, Inc., Deltastar, Coleman, Virginia Transformers and Waukesha Electric Systems, Inc. We spoke with Pennsylvania Transformer and Waukesha. Both companies are producing transformers for up to 345kV but are not currently active internationally. However, Weldy-Lamont, which is implementing a \$350 million turnkey transmission and distribution contract for the Ministry of Energy in Ghana with ExIm Bank financing, has informed us that they are supplying the entire project almost exclusively from the US, including transformers (from Howard Industries - Laurel, MS), towers, cables, circuit breakers, insulators, etc. This project, while primarily a distribution buildout, includes several 161/69kV substations and 161kV transmission lines. It demonstrates that US companies can supply nearly every component of a high voltage transmission project such as the Eastern Transmission Reinforcement Project. The presence of a US based construction management firm with US ExIm financing is, of course, critical to giving US suppliers the opportunity to supply into this highly competitive market.

News from the Export-Import Bank of the United States
AUGUST 28, 2008

SMALL ILLINOIS COMPANY WINS \$350 MILLION CONTRACT TO EXPAND ELECTRICITY TRANSMISSION SYSTEM IN GHANA, BACKED BY EX-IM BANK FINANCING

WASHINGTON, D.C. - A 13-employee engineering firm based in Mount Prospect, Ill. has won a \$350 million rural electrification turnkey contract from the government of Ghana, and will procure equipment and services from U.S. suppliers around the country to fill the order backed by a \$344 million loan from the Export-Import Bank of the United States (Ex-Im Bank).

Weldy-Lamont Associates Inc. overcame foreign competition to win the contract for phase four of Ghana's Self Help Electrification Project (SHEP IV), based on the company's successful performance on phase three of the project (SHEP III). The company will provide procurement, engineering, installation and management services.

"Not only is Weldy-Lamont Associates a small business, but it won this substantial contract based on its performance on the earlier contract," said Ex-Im Bank Chairman and President James H. Lambright. "This follow-on business is a tremendous endorsement of both the value and quality of goods and services provided by American exporters."

"We'll be contracting with U.S. suppliers from the Midwest to California to Florida to Georgia," said Weldy-Lamont President Patrick J. Hennelly. "This five-year project is going to help them immensely because normally they are suppliers to the housing industry, which is in a slump. This will help manufacturers avoid layoffs."

An estimated 45 percent of the contract price will go to small businesses.

Weldy-Lamont itself has doubled its business over the last five years and plans to hire two more electrical engineers in the near future. Currently, eight engineers and four other employees are based in Mount Prospect, Ill., and a ninth engineer is based in Milwaukee, Wisc. A significant part of the company's growth is due to increased export business in recent years to countries including China and Thailand.

The government of Ghana sees the ongoing program to bring electrical connectivity to the populace of Ghana as the underpinning for the country's economic growth and poverty reduction. The goal is to connect all eligible communities with a minimum population of 500 individuals, or approximately 3,800 villages, to the national grid by 2020.

Ex-Im Bank also supported Weldy-Lamont's participation in SHEP III, where the company began as a subcontractor but, based on its excellent performance, was asked to become the primary supply contractor.

There are also a number of specialized technologies in which US suppliers are very competitive internationally and which could add up to significant US exports even without a US based construction management firm. One example is OSI Soft's software product, which is globally competitive and could reach up to \$6 million for a transmission system such as GRIDCO. Valmont is a US supplier of high voltage transmission towers which has already had considerable success supplying the Ghanaian market. Valmont's biggest customer in Ghana is the Electricity Corporation of Ghana, ECG, having delivered about 10,000 US-built poles for ECG's 34.5 kV distribution net and 125 poles for 161 kV lines in 2009. For 2010, they have delivered 10,000 poles to date, and they have a commitment for the first quarter of 2011 of another 2,500 poles.

US companies are also very competitive in the export of switching station equipment, VARs, synchrophaser equipment, and circuit breakers for high voltage transmission lines. Internationally competitive consulting firms such as Kema could easily sell several million in services for a transmission modernization project, and engineering, design and construction management firms such as Bechtel and Black and Veatch are active and competitive in African markets.

The total cost and cost breakdowns used in the proposed feasibility study are listed below. They are based on similar investments of recent date made in West Africa. To be noted is the fact that, of the approximate 390 km length of the entire power corridor between Asiekpe and Yendi, only 330 km of new construction fall under the USTDA mandate, since the Kpandu to Kadjebi portion of the line is already under construction with Belgian Government funding.

The equipment portion of the line was estimated to cost \$52.8 million, from 330 km at \$160,000 per km. In addition, the system requires the installation or upgrading of about seven 161 kV substations, estimated to cost \$20 million each, for a total of \$140 million. Adding engineering and design, construction management, civil works, and transmission lines yields an overall construction cost of \$242.8 million. That is less than equivalent costs for a greenfield construction in the US because the proposed lines would be built partially on an existing right-of-way, significantly reducing ground preparation, right-of-way acquisition and environmental studies, and in addition because regulatory costs (attorneys' fees and expert testimony during license applications) are considerably lower in Ghana. The US exports potential for this Project is on the order of \$118 million, as shown in Table 4.

Table 4
US Export Potential Eastern Transmission Reinforcement Project
Millions of US Dollars

Project Component	Implementation Cost	Likelihood of US Exports	Realistic US Export Potential
Engineering and Design	\$5 million	Medium	\$4.0 million
Construction Management	\$5 million	Medium	\$4.0 million
Civil Works and Transmission Line Installation	\$40.0 million	Low	\$0
Substations (7)	\$140.0 million	Medium	\$80.0 million
Transmission Lines (including towers)	\$52.8 million	Medium	\$30.0 million
TOTAL	\$242.8 million		\$118.0 million

Leading US equipment manufacturers, construction and operating firms that stand to benefit from the Project here under consideration are listed below.

Equipment or Service	US Suppliers
Electrical Systems and Substations	Waukesha Electric Systems Howard Industries ABB (US) General Electric
Engineering Services & Construction Management, EPC Contracts	Weldy-Lamont Montgomery Watson Harza (MWH) Black & Veatch Bechtel Fluor Siemens US Sargent and Lundy Stone and Webster (Shaw Group) Symbion
Equipment Supplies	Eaton Electrical (Cutler-Hammer) Square D Co. (Schneider Electric) Encorp Inc. Valmont GE Industrial Siemens US Cooper Power Systems
Automation, software, process	Emerson Process Management

controls, and non-interruptible power supply systems.	Honeywell Schweitzer Rockwell Oracle IBM OSI Soft GE International
Electrical, Controls and Auxiliary Equipment	Eaton Electrical (Cutler-Hammer); GE Energy, GE Industrial, and GE Power Systems; Kohler Power Systems

F. Foreign Competition and Market Entry Issues.

Based on technological know-how, industrial infrastructure, and market forces, many competing foreign manufacturers have the ability to produce most major industrial pieces of transmission systems. That would include manufacturers in practically any European nation, such as ABB (Switzerland), Siemens and Fichtner (Germany), British Power Conversion Co. (UK), ENEL (Italy), as well as in Canada (Hammond Power Solutions), emerging Latin American countries, and in Japan, Singapore, China, India and South Korea. Nearly all of these countries have some means of promoting their exports through government assistance programs similar to the US Overseas Private Investment Corporation and the US Export-Import Bank. China and other countries also have established bilateral tied aid lines of credit with Ghana. Ghana does not, as a matter of policy, discriminate in its international trade and has been a member of the World Trade Organization since 1995.

For relatively complex machinery such as large transformers, competition to US suppliers would come from European and Asian suppliers, and particularly from India and South Korea. Several issues affect the competitiveness of US companies internationally: they are generally 10-15% more expensive than their competition; there are huge logistical issues to overcome in shipping overseas with equipment that often exceeds 500,000 pounds and can be 30 ft. long x 18 ft. wide x 20 ft in height; and many companies don't have international service operations, which is critical to maintaining the product over its useful life of up to 40 years. In Africa, an Indian-South African JV called EMCO has been the most competitive supplier of transformers while Korean, Indian and some European and Chinese suppliers have been active as well.

However, US companies tend to have an edge in computer software and hardware used in sophisticated control systems such as switching station equipment, volt/Var control equipment, SCADA, synchrophaser equipment, and high voltage circuit breakers. European companies such as ABB and Tractebel are entrenched in Ghana's transmission sector and it will be difficult for US companies to compete with them but the proposed USTDA study offers a good opportunity for US companies to enter the market and prove themselves. In Ghana, US companies are generally well regarded for their technical know how and high quality equipment. The DM team did not hear of any Chinese involvement in the transmission sector in Ghana, but Chinese companies are very active, with Chinese government support, in the power sector, especially in hydropower and thermal power generation.

G. Developmental Impact.

Infrastructure – Ghana has experienced a period of robust real economic growth over the past decade, at 5.5% per year over the period 2000 – 2009. The growth rate in the power sector, by any reasonable measurement such as increase in generating capacity, power lines, power delivery and others, has exceeded the country's economic growth rate, which has brought on an infrastructure evolution of unprecedented speed and proportion. The Country is rapidly expanding and modernizing its entire electric sector, including the generation, transmission and distribution of power. The upgrade/new-line construction of the Asiekke-Yendi loop here under consideration, if approved, will be an important part of that development.

This Project will bring electric power to many locations that had no access to electricity before. The availability of electric power will stimulate commercial, industrial and, above all, agricultural development in the eastern part of the country. It will be a contributing factor to the conversion of subsistence farming to mechanized farming. It will make commercial activities more efficient, and it will spur economic activity in general. By doing this, the project will improve the quality of life in the region.

Human Capacity Building – The implementation of this Project would generate an estimated 500 full time jobs during construction and 40 full time jobs for long term maintenance and operation of the new high voltage transmission lines. Revitalizing and expanding the electric sector in eastern Ghana will provide significant employment at advanced technical skill levels. The job stimulation resulting from the mere construction and subsequent operation of the new power line will pale in comparison with general job stimulation in the commercial and industrial sectors.

Technology Transfer and Productivity Improvement – Many of the jobs created through this Project will be technical in nature. This will require training of the work force to raise its skill level to deal with high voltage transmission line operation and maintenance.

Other Developmental Impacts: Government Revenues: Perhaps the most important developmental impact of an invigorated and expanded electric sector and the resulting stimulation of economic activity everywhere will be the expected increase in state and local government revenues. That will stimulate further development of the infrastructure of the region, giving way to better roads, transportation systems, streetlights, and social services.

H. Impact on the Environment.

There is minimal expected negative impact on the environment from the proposed Project which requires the establishment of right-of-ways, the erection of transmission towers, stringing of lines and installation of transformer stations, circuit breakers and switches along the line. For much of the length of the proposed line, the terrain is generally flat, requiring minimal earth moving and civil engineering.

On the positive side of the environmental equation is the fact that diesel fueled local power generators now used in some parts along the proposed line will no longer be needed, or will only intermittently be needed to bridge temporary power losses, thereby minimizing air pollution brought on by diesel oil fumes in the region, keeping in mind that in Ghana most power generated at central power plants now use, or will soon use, clean-burning natural gas. Also the use of wood as a fuel for cooking will be significantly reduced as wood stoves will be widely replaced by electric cooking plates.

I. Impact on US Labor.

Based upon our review, we found that the Project does not provide: (a) any financial incentive to a business enterprise currently located in the United States for the purpose of inducing such an enterprise to relocate outside the United States if such incentive or inducement is likely to reduce the number of employees of such business enterprise in the United States because United States production is being replaced by such enterprise outside the United States; (b) assistance for any project or activity that contributes to the violation of internationally recognized workers rights; or (c) direct assistance for establishing or expanding production of any commodity for export by any country other than the United States, if the commodity is likely to be in surplus on world markets at the time the resulting productive capacity is expected to become operative and if the assistance will cause substantial injury to United States producers of the same, similar, or competing commodity.

In short, the direct impact of constructing the proposed high-voltage power line in eastern Ghana will likely create one year of employment for some 1570 US workers. More importantly, no US jobs will be exported from or eliminated in the US because of the Project.

J. US Contractor Qualifications and Award Criteria.

Contractor Qualifications – This is a highly technical Project calling for solid academic grounding and working experience in power transmission for its lead professionals, the Project Manager, the Senior Electric Power Engineer, and the IT Specialist. One of these individuals must be familiar with the power simulation software currently in use at GridCo. Other important team members are the Senior Financial Specialist, the Senior Economist and the Training Program Manager. The qualifications of these experts and others are listed below:

The Project Manager must have a degree in electrical engineering and solid experience in power transmission. This experience must include work at the executive level with an electric utility company or an engineering consulting firm specializing in power transmission. He/she must be familiar with engineering procurement construction contracts, power purchase agreements, government guarantee agreements and similar documents that assure the unchallenged flow of electricity through a network and he/she must have a thorough understanding of present-value, rate-of-return, and levelized-cost computer programs. The Project Manager is the Team Leader with single-point responsibility for the overall success of the mission. He/she must have a track record in managing complex industrial/legal projects of similar content and size in foreign countries.

The Senior Electrical Engineer must have a degree in electrical engineering with significant experience in power transmission. This experience must include work for an electric utility company or an engineering consulting firm specializing in power transmission, including the design and construction of power transmission systems.

The IT Specialist could be an individual with a degree in electrical engineering with solid work experience in information technology as applied to power transmission, or someone with a degree in information technology with experience in power transmission. In either case, the work experience must have been acquired through a utility company or an engineering consulting firm.

The Senior Finance Specialist must have a degree in accounting or, preferably, finance and considerable experience in the design and use of financial models. He or she will be the lead person in doing the financial computations described in the terms of reference, where he/she will be assisted by a computer modeling specialist.

The Senior Economist should have a degree in economics, finance or related field. He/she will be responsible for the assessment of the economic impact of the project in the host country and, in cooperation with the Senior Financial Analyst, for the tariff and subsidy calculations in Task 6.

The Training Program Manager should have a Bachelor's Degree in an engineering or liberal arts discipline. He/she will be responsible for coordinating the input from the technical experts listed above in appropriate training manuals and for overseeing the logistics of putting together a workable training schedule. Experience in this type of training is the principal qualification required.

The PLS-CADD Trainer should have significant experience in overhead transmission line design and experience training groups of international students in PLS-CADD software.

The Remaining Team Members should have Bachelor's degrees and three years of experience, preferably in the employ of the Contractor.

Evaluation Criteria – The criteria listed below are designed as a guide to rate the proposals received and weigh the extent to which they might be expected to successfully meet the needs of the proposed task. The criteria are illustrative and suggestive for the use of the Grantee and USTDA to develop final award criteria for evaluation and selection of a US contractor.

	Points
Technical Proposal	35
<ul style="list-style-type: none">• Technical approach for developing a reasonable forecast of future power requirements and availabilities and of designing a balanced overall system that will assure uninterrupted power flows in the Asiekpe-Yendi line to be constructed and in the overall system of which it is a component (10).• Technical approach in the optimal design, specifications and routing of the proposed power line and its substations (5).• Technical approach for the development of a thorough and systematic test plan including load flow calculations, short circuit calculations and power system stability analyses (5).• Technical approach for recommending an up-to-date IT system capable of providing real time information procurement and automated emergency responses, compatible with the SCADA, GIS, and other systems presently in use or to be installed in GridCo's national transmission dispatch center (5).• Approach to developing the financial and economic models to assess financial and economic viability of the Project and determining appropriate tariff, subsidy, and financing requirements (10)	
Personnel and Management Plan	35
<ul style="list-style-type: none">• Experience and expertise of the Project Manager in designing and supervising the construction of high-voltage power lines in a difficult international environment (15).• Experience and expertise of the Team personnel in fulfilling the various functions of each component of the program (10).• Quality and thoroughness of personnel and management plan (10).	
Firm Technical Capability and Past Performance	30

- Experience and years of performance in electric-sector consulting (15).
- Experience working with National Power Companies and providing technical assistance and training to them (15).

K. Justification.

There is probably no greater engine for economic development than ready access to electricity. The Government of Ghana is acutely aware of this and is trying its best to lift popular access to the network, especially in the rural sector where the access rate is currently at 23%. It has spent considerable time, effort and money to achieve this goal. Completion of the Asiekpe-Yendi line will significantly improve access to electricity in some of the remote areas of north-eastern Ghana, especially north of Kadjebi, where there is no high voltage transmission infrastructure at present. It will also connect the line to one of Ghana's most favorable wind-power sites at or near Kadjebi and to one of Ghana's few remaining large hydro-power sites near Juale, where the presence of a high-voltage power line is likely to improve the economic viability of both as of yet undeveloped renewable power sources.

Of equal importance, the Asiekpe-Yendi line will create an independent eastern power loop to the north which will be a major achievement in terms of balancing the national grid and reducing the current vulnerability of northern Ghana to black-outs, where large parts of the country are currently served by single lines, or not served at all.

Ghana is one of the most politically stable and fastest growing economies in Africa. It is also capable of sustaining electric sector investments through its expected growth in oil revenues, which makes the funding of the proposed feasibility study a good investment for USTDA. The Eastern Transmission Reinforcement Project here under consideration will easily meet both of USTDA's key criteria: the promotion of US exports and the stimulation of economic development in the host country.

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.

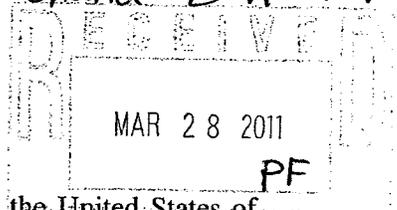
Questions regarding these nationality, source and origin requirements may be addressed to the USTDA Office of General Counsel.

ANNEX 4

Ghana 2011-11012A

HC: LZ
PD
JW

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 Agreement US \$645,000 ("USTDA Grant") to fund the cost of goods and services required for a feasibility study ("Study") on the proposed Eastern Transmission Line ("Project") in Ghana ("Host Country").

PM JJ
NG MB
LB RY
AY
SF

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. The parties to this Grant Agreement and the Contractor shall observe these standards, which include not accepting payment of money or anything of value, directly or indirectly, from any person for the purpose of illegally or improperly inducing anyone to take any action favorable to any party in connection with the Study.

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. USTDA as Financier

(A) USTDA Approval of 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 Approval of Contractor Selection

The Grantee shall notify USTDA at the address of record set forth in Article 17 below upon selection of the Contractor to perform the Study. Upon approval of this selection by USTDA, the Grantee and the Contractor shall then enter into a contract for performance of the Study. The Grantee shall notify in writing the U.S. firms that submitted unsuccessful proposals to perform the Study that they were not selected.

(C) USTDA Approval of Contract Between Grantee and Contractor

The Grantee and the Contractor shall enter into a contract for performance of the Study. This contract, and any amendments thereto, including assignments and changes in the Terms of Reference, must be approved by USTDA in writing. To expedite this approval, the Grantee (or the Contractor on the Grantee's behalf) shall transmit to USTDA, at the address set forth in Article 17 below, a photocopy of an English language version of the signed contract or a final negotiated draft version of the contract.

(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 subcontract thereunder must be consistent with this Grant Agreement. In the event of any inconsistency between the Grant Agreement and any contract or subcontract funded by the Grant Agreement, the Grant Agreement shall be controlling.

6. Disbursement Procedures

(A) USTDA Approval of Contract Required

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

(B) Contractor Invoice Requirements

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

7. Effective Date

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

8. Study Schedule

(A) Study Completion Date

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

(B) Time Limitation on Disbursement of USTDA Grant Funds

Except as USTDA may otherwise agree, (a) 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 (b) all funds made available under the Grant Agreement must be disbursed within four (4) years from the Effective Date of the Grant Agreement.

9. USTDA Mandatory Clauses

All contracts funded under this Grant Agreement shall include the USTDA mandatory 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 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 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.

(B) 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.

11. Nationality, Source and Origin

Except as USTDA may otherwise agree, the following provisions shall govern the delivery of goods and services funded by USTDA under the 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 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 (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 provisions upon request.

12. 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. Neither the Grantee nor the Contractor will seek reimbursement from USTDA for such taxes, tariffs, duties, fees or other levies.

13. Cooperation Between Parties and Follow-Up

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 (as defined in Clause I of Annex II), the Grantee agrees to respond to any reasonable inquiries from USTDA about the status of the Project.

14. 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 the Grant Agreement. The parties may also use jointly agreed upon implementation letters to confirm and record their mutual understanding of matters covered by the Grant Agreement.

15. Recordkeeping and Audit

The Grantee agrees to maintain books, records, and other documents relating to the Study and the Grant Agreement adequate to demonstrate implementation of its responsibilities under the 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.

16. Representation of Parties

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

17. 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 a wire or electronic medium which produces a tangible record of the transmission, such as a telegram, cable or facsimile, and will be deemed duly given or sent when delivered to such party at the following:

To: Ghana Grid Company Limited
P.O. Box CS7979
Tema, Ghana

Phone: +233-22-310310
Fax: +233-22-303327
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

All such communications shall be in English, unless the parties otherwise agree in writing. In addition, the Grantee shall provide the Commercial 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 11/12 1001
Activity No.: 2011-11012A
Reservation No.: 2011142
Grant No.: GH201111142

18. Termination Clause

Either party may terminate the Grant Agreement by giving the other party thirty (30) days advance written notice. 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 which they are committed to make pursuant to noncancellable commitments entered into with third parties prior to the written notice of termination.

19. 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.

20. U.S. Technology and Equipment

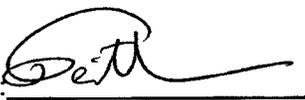
By funding this Study, USTDA seeks to promote the project objectives of the Host Country through the use of U.S. technology, goods, and services. In recognition of this purpose, the Grantee agrees that it will allow U.S. suppliers to compete in the procurement of technology, goods and services needed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

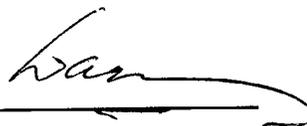
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IN WITNESS WHEREOF, the Government of the United States of America and the Ghana Grid Company Limited, each acting through its duly authorized representative, have caused this Agreement to be signed in the English language in their names and delivered 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: 

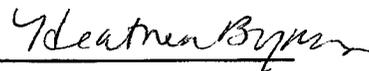
By: 

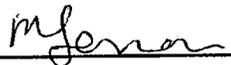
Date: March 24, 2011

Date: March 24, 2011

Witnessed:

Witnessed:

By: 

By: 

Annex I -- Terms of Reference

Annex II -- USTDA Mandatory Clauses

Annex I

Terms of Reference

The purpose of this FS to provide the Grantee with analyses and recommendations that will support its decision-making with regard to implementation of new power transmission infrastructure on the east side of Lake Volta in Ghana. The FS is also intended to assist the Grantee in preparing technical, economic, and financial documents that will assist the Grantee in securing financial support for the Project and developing a implementation plan for Project execution.

Presently, a 69 kilovolt (kV) line extends 62 miles north from Asiekpe to Kpandu. This FS shall make recommendations on the economic and technical feasibility of constructing a new 161 kV line parallel to this line. Continuing north, a 37 mile 69 kV (upgradeable to 161 kV) line is presently under construction using funding from the Government of Belgium which will connect Kpandu to Kadjebi. This FS shall make recommendations on connecting these two lines together at Kpandu. Finally, the FS shall provide an assessment on the development of a new line 161 kV continuing 143 miles north from Kadjebi to Yendi where it would connect to an existing power transmission line, and completing a full circuit around Lake Volta.

Task 1: Document Review and Kickoff Meeting

Task 1.1: Document Review: The Grantee shall provide the Contractor with all available information related to the Project and other electricity generation, transmission, and distribution projects that are currently operational, under construction, and/or expected to become operational within the next fifteen years that would impact the Project. This shall include information regarding potential wind power and hydro-power sites in the region and their potential impacts on the Project. The Contractor shall collect, review and analyze available documents/records relevant to the Project such as: topographic surveys and maps; meteorological data; load demand forecasts; system expansion studies; transmission design standards of the Grantee; and other relevant reports, such as the "Transmission Systems Master Plan Study for GridCo" by Tractebell Engineering.

Task 1.2: Kickoff Meeting, Stakeholder Consultations, Work Plan: The Contractor shall conduct a kickoff meeting with the Grantee at the Grantee's facilities or at another appropriate venue agreed upon by the Contractor and the Grantee, such venue to be provided by the Grantee. The Grantee shall identify appropriate personnel and other relevant stakeholders to participate in the kickoff meeting.

During the kickoff meeting, the Contractor shall introduce the Contractor's personnel; review the tasks to be performed under these Terms of Reference; review the Contractor's work plan to perform the tasks under these Terms of Reference; and gather input from the Grantee regarding the Grantee's goals for the FS, and salient issues surrounding the Grantee's plans for the Project.

For the kickoff meeting, the Contractor shall prepare an agenda, handouts, and presentation materials, as needed, for all meeting attendees; conduct the meeting and facilitate the discussion; draft a summary of the meeting and distribute the meeting summary to meeting 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 summary.

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

Task 2: Regulatory Review

The Contractor shall review existing regulations, laws, and institutions that would impact Project implementation. The Contractor's assessment shall include, at least:

- 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;
- 1997 Public Utilities Regulatory Commission Act, especially as it relates to the regulation of tariffs; and
- 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.

The Contractor's findings in Task 2 shall inform the Contractor's recommendations in Tasks 3-12 below.

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

Task 3: Technical Assessment

The Contractor shall carry out a technical and cost assessment of the Project. The Contractor shall conduct onsite assessments along the proposed right of way of the new line segments between Kadjebi and Yendi and between Asiekpe and Kpandu.

Task 3.1: Load Forecast: The Contractor shall develop a load forecast for the Project. The forecast shall cover the period 2011-2026 and shall include low, medium, and high scenarios for anticipated electricity supply and demand for the Project. The Contractor shall obtain approval from the Grantee for the method selected to develop the load forecast. The Contractor's estimates shall include ongoing and planned electricity generation, transmission and distribution projects that would impact the load forecast for the Project.

Task 3.2: Software and Line Compatibilities: The Contractor shall use a software simulator to carry out load flow and dynamic simulation runs of power flows through the Project. The Contractor shall use power systems simulator software that is the same as, or compatible with, the software currently used by the Grantee.

Task 3.3: Power System Analysis: The Contractor shall model the Project's impact on Ghana's grid infrastructure. The Contractor shall use the existing 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 analyses for the Project for the 2011-2026 projection. The Contractor's analysis shall also include an assessment of the potential limitations of the Akosombo-Asiekpe transmission corridor, including the phase-shifter at Asiekpe. The Contractor shall 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.

Task 3.4: Quality of Supply: The Contractor shall carry out load flow and stability analyses to determine the capacity of the Project 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 Project and on the generation side.

Task 3.5: Substation Inspection and Extension: 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 3.6: Line Route: The Contractor shall develop a preliminary transmission line routing, including proposed substation sites, for the Asiekpe-Kpandu and Kadjebi-Yendi sections of the Project. The Contractor shall present the preliminary transmission line routing to the Grantee and other relevant stakeholders, as identified by the Grantee.

Task 3.7: Cost Estimate: The Consultant shall prepare a cost estimate for the Project prepared on the basis of prevailing market prices. The civil works prices should be derived specifically for the Project taking into account construction methodology and cost for construction equipment, local labor, materials, etc. For materials and equipment, the prices should be based on collected information from potential suppliers.

An estimate for engineering, supervision, administration, legal costs, land acquisition, resettlement, environmental, etc. shall be included. The Contractor's analysis shall include estimates of unforeseen contingencies, price escalation before and during implementation, and financing costs.

The Contractor shall estimate the annual operation and maintenance costs of the Project.

The Contractor shall explain all assumptions and estimates used.

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

Task 4: Capacity Building Workshops

The Contractor shall conduct two technical training workshops for hands-on operational personnel and one managerial workshop for executive personnel. The workshops shall be at the Grantee's facilities or at another appropriate venue agreed upon by the Contractor and the Grantee. The Grantee shall provide an appropriate venue for the workshops to take place.

The Contractor shall coordinate with the Grantee on appropriate workshop content for both workshops and obtain the Grantee's approval on the workshop content before the workshops begin. The Contractor shall provide all workshop participants with an agenda, workbooks, reference materials, and other handouts or presentation materials, as needed; conduct the workshops; and maintain workshop records, including the agenda, workbooks, reference materials, any handouts or presentation materials, a list of all workshop participants, and a summary of the workshops, for inclusion in the Final Report.

Task 4.1: Technical Training Workshops: The first technical workshop shall be focused on technical aspects of electricity transmission infrastructure, planning, engineering, construction, operation, and/or maintenance. The workshop shall be about five days in duration. For planning purposes, the Contractor shall assume that approximately thirty Grantee personnel will participate in the workshop. The Grantee shall identify appropriate personnel to participate in the workshop, focusing on Grantee personnel with responsibilities in various technical aspects of electricity transmission infrastructure.

The second technical workshop shall focus on PLS-CADD™ (Power Line Systems - Computer Aided Design and Drafting), the overhead power line design program currently used by the Grantee. The workshop shall be about five days in duration. For planning purposes, the Contractor shall assume that approximately fifteen Grantee personnel will participate in the workshop. The Grantee shall identify appropriate personnel to participate in the workshop.

Task 4.2: The Managerial Workshop: The managerial workshop shall focus on managerial aspects of electricity transmission infrastructure planning, including economic and financial planning, power purchase, off-take and subsidy agreements, business processes, safety and security, and/or leadership development. The workshop shall be about three days in duration. For planning purposes, the Contractor shall assume that approximately ten Grantee personnel will participate in the workshop. The Grantee shall identify appropriate personnel to participate in the workshop, focusing on Grantee

personnel with responsibilities in various managerial aspects of electricity transmission infrastructure planning.

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

Task 5: Economic Analysis

The Contractor shall carry out an economic analysis for the Project, including any proposed alternatives, taking into account the load demand forecast, costs and benefits identified. Indicators such as the benefit cost ratio shall be calculated. A sensitivity analysis shall be applied on important economic parameters in order to determine their impact on the Project's viability.

The Contractor's analysis shall be based on energy prices and values for other sensitivities agreed upon with the Grantee. The Contractor shall explain the methodology used as well as any estimates and assumptions.

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

Task 6: Financial Analysis

Task 6.1: Internal Rate of Return: The Contractor shall determine the internal rate of return ("IRR") for the Project using a discounted cash flow method. The IRR shall be based on a weighted average of the IRR's for anticipated power flows under the low, medium, and high scenarios in the load forecast developed pursuant to Task 3.1 above. The Contractor shall obtain approval from the Grantee for the method selected for providing the statistical weight to each scenario. When determining the IRR's, the Contractor shall take into account the following factors:

- Investment costs and operating costs of the Project;
- Applicable depreciation rates; and
- The statutory power-purchase and power-sales tariffs at the beginning and end of each line segment of the Project.

The Contractor shall present the results of the IRR calculations to the Grantee and other relevant stakeholders, as identified by the Grantee.

Task 6.2: Sensitivity Analysis: 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 3.1 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 Export-Import Bank

of the United States 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 6.3: Tariff and Subsidy Requirements: The Contractor shall determine the effect of varying tariffs and subsidies on the Project's IRR. The Contractor shall select at least three target IRR levels and determine the tariffs and/or subsidies required to achieve each. Based on these calculations, the Contractor shall provide the Grantee with recommendations on an appropriate tariff and/or subsidy structure for the Project.

Task 6.4: Power Purchase, Off-Take, and Subsidy Agreements: The Contractor shall develop template power purchase, off-take, and subsidy agreements for the Project for the Grantee's use in future negotiations. The Contractor shall not be required to participate in any negotiations.

Task 6 Deliverable: The Contractor shall prepare a report of all work performed under Task 6. The Task 6 Deliverable shall be included in the Final Report.

Task 7: Preliminary Environmental and Social Impact Assessments

The Contractor shall conduct preliminary environmental and social impact assessments of the Project with reference to local requirements and those of multilateral lending agencies such as the World Bank. The assessments shall identify anticipated environmental and social impacts, both positive and negative, associated with the Project, provide recommendations for maximizing positive environmental and social impacts and minimizing negative impacts. The Contractor shall identify steps that the Grantee will need to take subsequent to the completion of the FS and prior to Project implementation to comply with local environmental and social requirements and those of multilateral lending agencies such as the World Bank.

Task 7 Deliverable: The Contractor shall prepare a report of all work performed under Task 7. The Task 7 Deliverable shall be included in the Final Report.

Task 8: Developmental Impact Assessment

The Contractor shall conduct a development impact assessment of the Project. The purpose of the development impact assessment is to provide the Project's decision makers and interested parties with a broader view of the Project's potential effects on Ghana. The development impact assessment shall identify the anticipated impacts of the Project in the following categories:

- (1) Infrastructure: The Contractor shall identify the anticipated infrastructure impacts of the Project, giving a brief synopsis and concrete examples of infrastructure impacts. Examples of infrastructure impacts related to Project

implementation may include the construction of new electricity transmission infrastructure, as well as secondary infrastructure impacts on related electricity generation, transmission and distribution infrastructure and ancillary infrastructure, such as access roads. The Contractor shall provide specific information about the anticipated infrastructure impacts of the Project, such as anticipated voltages and distances of new transmission lines, number and location of substations, increases in the availability of electricity and additional households served in affected areas, etc.

- (2) Human Capacity Building: The Contractor shall identify the anticipated number and types of local positions that would be created or retained as a result of the Project. The Contractor shall also identify the number of local people who would receive training and the types of training programs required for the Project. The Contractor shall not include training performed under these Terms of Reference in the development impact assessment.
- (3) Technology Transfer and Productivity Enhancement: The Contractor shall identify the anticipated advanced technologies that would be utilized for the Project. The Contractor shall also identify anticipated efficiencies that would be gained as a result of the Project. Examples of efficiencies related to Project implementation may include higher output per resource use, lower costs or other common measures of efficiency used in the electricity transmission industry.
- (4) Market Oriented Reforms: The Contractor shall provide a description of any regulations, laws, or institutional changes that are recommended pursuant to these Terms of Reference and the effect they would have if implemented.
- (5) Other: The Contractor shall identify any other anticipated development impacts or benefits that would result from the Project, such as improved financial revenue flows to the Grantee, positive spin-off effects on other economic sectors, increased good governance and transparency, private sector participation, etc.

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

Task 9: U.S. Sources of Supply

The Contractor shall conduct an assessment of available U.S. sources of supply for the Project. 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 9 Deliverable: The Contractor shall prepare a report of all work performed under Task 9. The Task 9 Deliverable shall be included in the Final Report.

Task 10: Capacity Building Needs Assessment

The Contractor shall assess the Grantee's existing capacity in various managerial and technical aspects of electricity transmission infrastructure planning, construction, operation, and maintenance. Based on this assessment, the Contractor shall provide the Grantee with recommendations for long-term training programs that will strengthen the Grantee's capacity in electricity transmission infrastructure planning, construction, operation, and maintenance. The Contractor shall estimate the costs of the recommended long-term training programs and provide the Grantee with recommendations for financing the recommended long-term training programs. The Contractor shall provide the Grantee with detailed Terms of Reference for two training programs that would directly support the implementation of the Project.

Task 10 Deliverable: The Contractor shall prepare a report of all work performed under Task 10. The Task 10 Deliverable shall be included in the Final Report.

Task 11: Implementation Plan

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

Task 11 Deliverable: The Contractor shall prepare a report of all work performed under Task 11. The Task 11 Deliverable shall be included in the Final Report.

Task 12: 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 I of Annex II of the Grant Agreement.

Notes:

- (1) The Contractor is responsible for compliance with U.S. export licensing requirements, if applicable, in the performance of the Terms of Reference.
- (2) The Contractor and the Grantee shall be careful to ensure that the public version of the Final Report contains no security or confidential information.
- (3) The Grantee and USTDA shall have an irrevocable, worldwide, royalty-free, non-exclusive right to use and distribute the Final Report and all work product that is developed under these Terms of Reference.

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 Eastern Transmission Line project ("Project") in Ghana ("Host Country"). 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 any contract or subcontract thereunder, the Grant Agreement shall be controlling.

B. USTDA as Financier

(1) USTDA Approval of Contract

All contracts funded under the Grant Agreement, and any amendments thereto, including assignments and changes in the Terms of Reference, 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 has been formally approved by USTDA or until the contract conforms to modifications required by USTDA during the contract review process.

(2) 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 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 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 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 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 services funded by USTDA under the 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 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 (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 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 contract term 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, and fax number. 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. To make this review in a timely fashion, USTDA must receive from either the Client or the Contractor a photocopy of an English language version of a signed contract or a final negotiated draft version to the attention of the General Counsel's office at USTDA's address listed in Clause M below.

(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 receipt by USTDA of an approved Final Report in accordance with the specifications and quantities set forth in Clause I 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 provisions 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 provisions 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 provisions 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 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 by courier or mail to the attention of the Finance Department at USTDA's address listed in Clause M below.

(4) Termination

In the event that the Contract is terminated prior to completion, the Contractor will be eligible, subject to USTDA approval, for reasonable and documented costs which have been incurred in performing the Terms of Reference prior to termination, as well as reasonable wind down expenses. Reimbursement for such costs shall not exceed the total amount of undisbursed Grant funds. 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 reasonable and documented costs incurred in performing the Terms of Reference prior to termination.

I. 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 version 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) 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) copy of the Public Version of the Final Report to the Foreign Commercial Service Officer or the 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, USTDA's mailing and delivery addresses. 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 mailing and delivery addresses, 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 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 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.

J. Modifications

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

K. Study Schedule

(1) Study Completion Date

The completion date for the Study, which is April 1, 2013, is the date by which the 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) all funds made available under the Grant Agreement must be disbursed within four (4) years from the Effective Date of the Grant Agreement.

L. Business Practices

The Contractor agrees not to pay, promise to pay, or authorize the payment of any money or anything of value, directly or indirectly, to any person (whether a governmental official or private individual) for the purpose of illegally or improperly inducing anyone to take any action favorable to any party in connection with the Study. The Client agrees not to receive any such payment. The Contractor and the Client agree that each will require that any agent or representative hired to represent them in connection with the Study will comply with this paragraph and all laws which apply to activities and obligations of each party under this Contract, including but not limited to those laws and obligations dealing with improper payments as described above.

M. 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 11/12 1001
Activity No.: 2011-11012A
Reservation No.: 2011142
Grant No.: GH201111142

N. Definitions

All capitalized terms not otherwise defined herein shall have the meaning set forth in the Grant Agreement.

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. Neither the Client nor the Contractor will seek reimbursement from USTDA for such taxes, tariffs, duties, fees or other levies.

ANNEX 5

Terms of Reference

The purpose of this FS is to provide the Grantee with analyses and recommendations that will support its decision-making with regard to implementation of new power transmission infrastructure on the east side of Lake Volta in Ghana. The FS is also intended to assist the Grantee in preparing technical, economic, and financial documents that will assist the Grantee in securing financial support for the Project and developing an implementation plan for Project execution.

Presently, a 69 kilovolt (kV) line extends 62 miles north from Asiekpe to Kpandu. This FS shall make recommendations on the economic and technical feasibility of constructing a new 161 kV line parallel to this line. Continuing north, a 37 mile 69 kV (upgradeable to 161 kV) line is presently under construction using funding from the Government of Belgium which will connect Kpandu to Kadjebi. This FS shall make recommendations on connecting these two lines together at Kpandu. Finally, the FS shall provide an assessment on the development of a new line 161 kV continuing 143 miles north from Kadjebi to Yendi where it would connect to an existing power transmission line, and completing a full circuit around Lake Volta.

Task 1: Document Review and Kickoff Meeting

Task 1.1: Document Review: The Grantee shall provide the Contractor with all available information related to the Project and other electricity generation, transmission, and distribution projects that are currently operational, under construction, and/or expected to become operational within the next fifteen years that would impact the Project. This shall include information regarding potential wind power and hydro-power sites in the region and their potential impacts on the Project. The Contractor shall collect, review and analyze available documents/records relevant to the Project such as: topographic surveys and maps; meteorological data; load demand forecasts; system expansion studies; transmission design standards of the Grantee; and other relevant reports, such as the "Transmission Systems Master Plan Study for GridCo" by Tractebell Engineering.

Task 1.2: Kickoff Meeting, Stakeholder Consultations, Work Plan: The Contractor shall conduct a kickoff meeting with the Grantee at the Grantee's facilities or at another appropriate venue agreed upon by the Contractor and the Grantee, such venue to be provided by the Grantee. The Grantee shall identify appropriate personnel and other relevant stakeholders to participate in the kickoff meeting.

During the kickoff meeting, the Contractor shall introduce the Contractor's personnel; review the tasks to be performed under these Terms of Reference; review the Contractor's work plan to perform the tasks under these Terms of Reference; and gather input from the Grantee regarding the Grantee's goals for the FS, and salient issues surrounding the Grantee's plans for the Project.

For the kickoff meeting, the Contractor shall prepare an agenda, handouts, and presentation materials, as needed, for all meeting attendees; conduct the meeting and facilitate the discussion; draft a summary of the meeting and distribute the meeting summary to meeting 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 summary.

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

Task 2: Regulatory Review

The Contractor shall review existing regulations, laws, and institutions that would impact Project implementation. The Contractor's assessment shall include, at least:

- 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;
- 1997 Public Utilities Regulatory Commission Act, especially as it relates to the regulation of tariffs; and
- 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.

The Contractor's findings in Task 2 shall inform the Contractor's recommendations in Tasks 3-12 below.

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

Task 3: Technical Assessment

The Contractor shall carry out a technical and cost assessment of the Project. The Contractor shall conduct onsite assessments along the proposed right of way of the new line segments between Kadjebi and Yendi and between Asiekpe and Kpandu.

Task 3.1: Load Forecast: The Contractor shall develop a load forecast for the Project. The forecast shall cover the period 2011-2026 and shall include low, medium, and high scenarios for anticipated electricity supply and demand for the Project. The Contractor shall obtain approval from the Grantee for the method selected to develop the load forecast. The Contractor's estimates shall include ongoing and planned electricity generation, transmission and distribution projects that would impact the load forecast for the Project.

Task 3.2: Software and Line Compatibilities: The Contractor shall use a software simulator to carry out load flow and dynamic simulation runs of power flows through the Project. The Contractor shall use power systems simulator software that is the same as, or compatible with, the software currently used by the Grantee.

Task 3.3: Power System Analysis: The Contractor shall model the Project's impact on Ghana's grid infrastructure. The Contractor shall use the existing 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 analyses for the Project for the 2011-2026 projection. The Contractor's analysis shall also include an assessment of the potential limitations of the Akosombo-Asiekpe transmission corridor, including the phase-shifter at Asiekpe. The Contractor shall 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.

Task 3.4: Quality of Supply: The Contractor shall carry out load flow and stability analyses to determine the capacity of the Project 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 Project and on the generation side.

Task 3.5: Substation Inspection and Extension: 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 3.6: Line Route: The Contractor shall develop a preliminary transmission line routing, including proposed substation sites, for the Asiekpe-Kpandu and Kadjebi-Yendi sections of the Project. The Contractor shall present the preliminary transmission line routing to the Grantee and other relevant stakeholders, as identified by the Grantee.

Task 3.7: Cost Estimate: The Consultant shall prepare a cost estimate for the Project prepared on the basis of prevailing market prices. The civil works prices should be derived specifically for the Project taking into account construction methodology and cost for construction equipment, local labor, materials, etc. For materials and equipment, the prices should be based on collected information from potential suppliers.

An estimate for engineering, supervision, administration, legal costs, land acquisition, resettlement, environmental, etc. shall be included. The Contractor's analysis shall include estimates of unforeseen contingencies, price escalation before and during implementation, and financing costs.

The Contractor shall estimate the annual operation and maintenance costs of the Project.

The Contractor shall explain all assumptions and estimates used.

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

Task 4: Capacity Building Workshops

The Contractor shall conduct two technical training workshops for hands-on operational personnel and one managerial workshop for executive personnel. The workshops shall be at the

Grantee's facilities or at another appropriate venue agreed upon by the Contractor and the Grantee. The Grantee shall provide an appropriate venue for the workshops to take place.

The Contractor shall coordinate with the Grantee on appropriate workshop content for both workshops and obtain the Grantee's approval on the workshop content before the workshops begin. The Contractor shall provide all workshop participants with an agenda, workbooks, reference materials, and other handouts or presentation materials, as needed; conduct the workshops; and maintain workshop records, including the agenda, workbooks, reference materials, any handouts or presentation materials, a list of all workshop participants, and a summary of the workshops, for inclusion in the Final Report.

Task 4.1: Technical Training Workshops: The first technical workshop shall be focused on technical aspects of electricity transmission infrastructure, planning, engineering, construction, operation, and/or maintenance. The workshop shall be about five days in duration. For planning purposes, the Contractor shall assume that approximately thirty Grantee personnel will participate in the workshop. The Grantee shall identify appropriate personnel to participate in the workshop, focusing on Grantee personnel with responsibilities in various technical aspects of electricity transmission infrastructure.

The second technical workshop shall focus on PLS-CADD™ (Power Line Systems - Computer Aided Design and Drafting), the overhead power line design program currently used by the Grantee. The workshop shall be about five days in duration. For planning purposes, the Contractor shall assume that approximately fifteen Grantee personnel will participate in the workshop. The Grantee shall identify appropriate personnel to participate in the workshop.

Task 4.2: The Managerial Workshop: The managerial workshop shall focus on managerial aspects of electricity transmission infrastructure planning, including economic and financial planning, power purchase, off-take and subsidy agreements, business processes, safety and security, and/or leadership development. The workshop shall be about three days in duration. For planning purposes, the Contractor shall assume that approximately ten Grantee personnel will participate in the workshop. The Grantee shall identify appropriate personnel to participate in the workshop, focusing on Grantee personnel with responsibilities in various managerial aspects of electricity transmission infrastructure planning.

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

Task 5: Economic Analysis

The Contractor shall carry out an economic analysis for the Project, including any proposed alternatives, taking into account the load demand forecast, costs and benefits identified. Indicators such as the benefit cost ratio shall be calculated. A sensitivity analysis shall be applied on important economic parameters in order to determine their impact on the Project's viability.

The Contractor's analysis shall be based on energy prices and values for other sensitivities agreed upon with the Grantee. The Contractor shall explain the methodology used as well as any estimates and assumptions.

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

Task 6: Financial Analysis

Task 6.1: Internal Rate of Return: The Contractor shall determine the internal rate of return ("IRR") for the Project using a discounted cash flow method. The IRR shall be based on a weighted average of the IRR's for anticipated power flows under the low, medium, and high scenarios in the load forecast developed pursuant to Task 3.1 above. The Contractor shall obtain approval from the Grantee for the method selected for providing the statistical weight to each scenario. When determining the IRR's, the Contractor shall take into account the following factors:

- Investment costs and operating costs of the Project;
- Applicable depreciation rates; and
- The statutory power-purchase and power-sales tariffs at the beginning and end of each line segment of the Project.

The Contractor shall present the results of the IRR calculations to the Grantee and other relevant stakeholders, as identified by the Grantee.

Task 6.2: Sensitivity Analysis: 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 3.1 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 Export-Import Bank of the United States 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 6.3: Tariff and Subsidy Requirements: The Contractor shall determine the effect of varying tariffs and subsidies on the Project's IRR. The Contractor shall select at least three target IRR levels and determine the tariffs and/or subsidies required to achieve each. Based on these calculations, the Contractor shall provide the Grantee with recommendations on an appropriate tariff and/or subsidy structure for the Project.

Task 6.4: Power Purchase, Off-Take, and Subsidy Agreements: The Contractor shall develop template power purchase, off-take, and subsidy agreements for the Project for the Grantee's use in future negotiations. The Contractor shall not be required to participate in any negotiations.

Task 6 Deliverable: The Contractor shall prepare a report of all work performed under Task 6. The Task 6 Deliverable shall be included in the Final Report.

Task 7: Preliminary Environmental and Social Impact Assessments

The Contractor shall conduct preliminary environmental and social impact assessments of the Project with reference to local requirements and those of multilateral lending agencies such as the World Bank. The assessments shall identify anticipated environmental and social impacts, both positive and negative, associated with the Project, provide recommendations for maximizing positive environmental and social impacts and minimizing negative impacts. The Contractor shall identify steps that the Grantee will need to take subsequent to the completion of the FS and prior to Project implementation to comply with local environmental and social requirements and those of multilateral lending agencies such as the World Bank.

Task 7 Deliverable: The Contractor shall prepare a report of all work performed under Task 7. The Task 7 Deliverable shall be included in the Final Report.

Task 8: Developmental Impact Assessment

The Contractor shall conduct a development impact assessment of the Project. The purpose of the development impact assessment is to provide the Project's decision makers and interested parties with a broader view of the Project's potential effects on Ghana. The development impact assessment shall identify the anticipated impacts of the Project in the following categories:

- (1) Infrastructure: The Contractor shall identify the anticipated infrastructure impacts of the Project, giving a brief synopsis and concrete examples of infrastructure impacts. Examples of infrastructure impacts related to Project implementation may include the construction of new electricity transmission infrastructure, as well as secondary infrastructure impacts on related electricity generation, transmission and distribution infrastructure and ancillary infrastructure, such as access roads. The Contractor shall provide specific information about the anticipated infrastructure impacts of the Project, such as anticipated voltages and distances of new transmission lines, number and location of substations, increases in the availability of electricity and additional households served in affected areas, etc.
- (2) Human Capacity Building: The Contractor shall identify the anticipated number and types of local positions that would be created or retained as a result of the Project. The Contractor shall also identify the number of local people who would receive training and the types of training programs required for the Project. The Contractor shall not include training performed under these Terms of Reference in the development impact assessment.
- (3) Technology Transfer and Productivity Enhancement: The Contractor shall identify the anticipated advanced technologies that would be utilized for the Project. The Contractor shall also identify anticipated efficiencies that would be gained as a result of the Project. Examples of efficiencies related to Project implementation may

include higher output per resource use, lower costs or other common measures of efficiency used in the electricity transmission industry.

- (4) Market Oriented Reforms: The Contractor shall provide a description of any regulations, laws, or institutional changes that are recommended pursuant to these Terms of Reference and the effect they would have if implemented.
- (5) Other: The Contractor shall identify any other anticipated development impacts or benefits that would result from the Project, such as improved financial revenue flows to the Grantee, positive spin-off effects on other economic sectors, increased good governance and transparency, private sector participation, etc.

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

Task 9: U.S. Sources of Supply

The Contractor shall conduct an assessment of available U.S. sources of supply for the Project. 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 9 Deliverable: The Contractor shall prepare a report of all work performed under Task 9. The Task 9 Deliverable shall be included in the Final Report.

Task 10: Capacity Building Needs Assessment

The Contractor shall assess the Grantee's existing capacity in various managerial and technical aspects of electricity transmission infrastructure planning, construction, operation, and maintenance. Based on this assessment, the Contractor shall provide the Grantee with recommendations for long-term training programs that will strengthen the Grantee's capacity in electricity transmission infrastructure planning, construction, operation, and maintenance. The Contractor shall estimate the costs of the recommended long-term training programs and provide the Grantee with recommendations for financing the recommended long-term training programs. The Contractor shall provide the Grantee with detailed Terms of Reference for two training programs that would directly support the implementation of the Project.

Task 10 Deliverable: The Contractor shall prepare a report of all work performed under Task 10. The Task 10 Deliverable shall be included in the Final Report.

Task 11: Implementation Plan

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

Task 11 Deliverable: The Contractor shall prepare a report of all work performed under Task 11. The Task 11 Deliverable shall be included in the Final Report.

Task 12: 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 I of Annex II of the Grant Agreement.

Notes:

- (1) The Contractor is responsible for compliance with U.S. export licensing requirements, if applicable, in the performance of the Terms of Reference.
- (2) The Contractor and the Grantee shall be careful to ensure that the public version of the Final Report contains no security or confidential information.
- (3) The Grantee and USTDA shall have an irrevocable, worldwide, royalty-free, non-exclusive right to use and distribute the Final Report and all work product that is developed under these Terms of Reference.

ANNEX 6

COMPANY INFORMATION

A. Company Profile

Provide the information listed below relative to the Offeror's firm. If the Offeror is proposing to subcontract some of the proposed work to another firm(s), the information requested in sections E and F below must be provided for each subcontractor.

1. Name of firm and business address (street address only), including telephone and fax numbers:

2. Year established (include predecessor companies and year(s) established, if appropriate).

3. Type of ownership (e.g. public, private or closely held).

4. If private or closely held company, provide list of shareholders and the percentage of their ownership.

5. List of directors and principal officers (President, Chief Executive Officer, Vice-President(s), Secretary and Treasurer; provide full names including first, middle and last). Please place an asterisk (*) next to the names of those principal officers who will be involved in the Feasibility Study.

6. If Offeror is a subsidiary, indicate if Offeror is a wholly-owned or partially-owned subsidiary. Provide the information requested in items 1 through 5 above for the Offeror's parent(s).

7. Project Manager's name, address, telephone number, e-mail address and fax number .

B. Offeror's Authorized Negotiator

Provide 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.

C. Negotiation Prerequisites

1. Discuss any current or anticipated commitments which may impact the ability of the Offeror or its subcontractors to complete the Feasibility Study as proposed and reflect such impact within the project schedule.
2. Identify any specific information which is needed from the Grantee before commencing contract negotiations.

D. Offeror's Representations

Please provide exceptions and/or explanations in the event that any of the following representations cannot be made:

1. Offeror is a corporation [*insert applicable type of entity if not a corporation*] duly organized, validly existing and in good standing under the laws of the State of _____ . The Offeror 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 Feasibility Study. The Offeror 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 Offeror has included, with this proposal, a certified copy of its Articles of Incorporation, and a certificate of good standing issued within one month of the date of its proposal by the State of _____. The Offeror commits to notify USTDA and the Grantee if they become aware of any change in their status in the state in which they are incorporated. USTDA retains the right to request an updated certificate of good standing.
3. Neither the Offeror nor any of its principal officers have, within the three-year period preceding this RFP, 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 Offeror, 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 Offeror. The Offeror, 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.
6. The Offeror 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 Offeror has not had filed against it an involuntary petition under any bankruptcy, insolvency or similar law.

The selected Offeror shall notify the Grantee and USTDA if any of the representations included in its proposal are no longer true and correct at the time of its entry into a contract with the Grantee.

Signed: _____
(Authorized Representative)

Print Name: _____

Title: _____

Date: _____

Subcontractor Profile

1. Name of firm and business address (street address only), including telephone and fax numbers.

2. Year established (include predecessor companies and year(s) established, if appropriate).

E. Subcontractor's Representations

If any of the following representations cannot be made, or if there are exceptions, the subcontractor must provide an explanation.

1. Subcontractor is a corporation [*insert applicable type of entity if not a corporation*] duly organized, validly existing and in good standing under the laws of the State 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 Offeror is selected, to execute and deliver a subcontract to the Offeror for the performance of the Feasibility Study and to perform the Feasibility Study. 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 three-year period preceding this RFP, 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.

The selected subcontractor shall notify the Offeror, Grantee and USTDA if any of the representations included in this proposal are no longer true and correct at the time of the Offeror's entry into a contract with the Grantee.

Signed: _____
(Authorized Representative)

Print Name: _____

Title: _____

Date: _____