

**REQUEST FOR PROPOSALS**

**FEASIBILITY STUDY FOR THE**

**SOUTHWEST NIGERIA GAS PIPELINE**

**Submission Deadline: 5:00 P.M.**

**LOCAL (LAGOS) TIME**

**FEBRUARY 23, 2012**

**Submission Place:**

Oando Gas & Power  
Tender Committee  
9th Floor  
No. 2 Ajose Adeogun Street  
Victoria Island, Lagos

Attention: Olugboyega Akintobi  
Phone No: +234 (0)7057286660

**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.**

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## **Section 1: INTRODUCTION**

The U.S. Trade and Development Agency (USTDA) has provided a grant in the amount of US\$446,000 to Oando Gas & Power Limited (the "Grantee") to partially fund a feasibility study that will provide an assessment of the technical and economic viability of an approximately 280 mile natural gas pipeline to serve customers in the southwestern states of Nigeria (the "Project"). In accordance with a grant agreement dated November 30, 2011 (the "Grant Agreement"), the Grantee will provide additional funding in amount of US\$380,000. The Grant Agreement is attached at Annex 4 for reference. The Grantee is soliciting technical proposals from qualified U.S. firms to provide expert consulting services to perform the Feasibility Study.

### **1.1 BACKGROUND SUMMARY**

Nigeria faces a developmental challenge of efficiently supplying energy to a growing number of industrial and commercial consumers in the country. The Grantee has made notable progress towards addressing the problem through the ongoing development of a privately owned and operated gas pipeline network. The Grantee presently serves about 90 commercial clients in the Lagos area through its 62 mile pipeline, owned and operated by its wholly owned subsidiary, Gaslink Nigeria Limited. The Grantee is also developing an additional 80 miles of pipeline to serve customers in Akwa Ibom and Cross River States through another wholly owned subsidiary, Eastern Horizon Gas Company. Combined, these gas transmission and distribution systems represent an investment by the Grantee of more than \$250 million.

The Grantee now seeks to expand its customer base to the north and west of Lagos where it aims to reach customers in the commercial centers of Ibadan and Ilorin, and the densely populated cities of Iwo, Oshogbo, and Ogbomoho. The Project entails the development of a 280 mile natural gas pipeline originating at the Nigerian Gas Company's Escravos-Lagos pipeline, which will supply gas to the Project, in Ogun State. From there, the Project runs northeast through Ibadan and Ogbomosho, Oyo State, and ends in Ilorin, Kwara State. The Project also features two spurs from the main pipeline, one running southeast from Ibadan, the second running southeast from Ogbomosho to Oshogbo, Osun State, and then east into Ekiti State. Where the Project passes through urban areas, gas distribution infrastructure will also be developed to deliver gas directly to high volume customers.

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

### **1.2 OBJECTIVE**

This FS will provide a market assessment of the Project and make recommendations on the routing, layout, sizing, and configuration of the gas pipeline and surface facilities, including the main control center in Ibadan. The FS will also make recommendations on supervisory control and data acquisition (SCADA) technologies to continuously monitor the Project's operation. Although relocation of residents is generally not required for pipeline projects due to their small profiles, the FS will provide the Grantee with recommendations on the Project's land requirements including an assessment of the road, rail, and river crossings the Project will encounter, any protected geographical features in the pipeline's path, and regulatory issues with

respect to the Project's right-of-way. The FS will also perform an economic and financial analysis of the Project and develop an operational plan for the Grantee's use upon implementation, including consideration of the Project's safety and security implications.

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 at US\$826,000. USTDA is contributing \$446,000 and the Grantee is contributing \$380,000, for a total of \$826,000. **The USTDA grant of \$446,000 is a fixed amount. The Grantee's contribution of \$380,000 is also 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\$446,000 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.

The Grantee has agreed to provide reasonable support for the Contractor, such as local transportation, office space, and secretarial support. In addition to the USTDA funding provided under this Grant Agreement, the Grantee shall cover at least \$380,000 of costs to complete the full Terms of Reference ("Grantee Cost Share"). The Grantee shall pay the Grantee Cost Share to the Contractor in cash in proportion to the funding being provided by USTDA and the Grantee, respectively (USTDA US \$446,000 : Grantee US \$380,000) and in accordance with the Grant Agreement.

## **Section 2: INSTRUCTIONS TO OFFERORS**

### **2.1 PROJECT TITLE**

The project is called Southwest Nigeria Gas Pipeline.

### **2.2 DEFINITIONS**

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

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

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

### **2.3 DESK STUDY**

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

### **2.4 EXAMINATION OF DOCUMENTS**

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

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

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

## **2.5 PROJECT FUNDING SOURCE**

The Feasibility Study will be partially funded under a grant from USTDA and partially by the Grantee. The total amount of the USTDA funded grant is not to exceed US\$446,000. In addition to the USTDA funding provided under this Grant Agreement, the Grantee shall cover at least \$380,000 of costs to complete the full Terms of Reference.

## **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. Refer to Section 1.4 of this RFP for additional information on the applicability of USTDA's Nationality Requirements.

## **2.12 LANGUAGE OF PROPOSAL**

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

## **2.13 PROPOSAL SUBMISSION REQUIREMENTS**

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

Oando Gas & Power  
Tender Committee  
9th Floor  
No. 2 Ajose Adeogun Street  
Victoria Island, Lagos

Attention: Olugboyega Akintobi  
Phone No: +234 (0)7057286660

**An Original and eight (8) copies of your proposal must be received at the above address no later than 5:00 PM LOCAL (LAGOS) TIME, on FEBRUARY 23, 2012.**

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

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

## **2.14 PACKAGING**

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

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

#### **2.15 OFFEROR'S AUTHORIZED NEGOTIATOR**

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

#### **2.16 AUTHORIZED SIGNATURE**

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

#### **2.17 EFFECTIVE PERIOD OF PROPOSAL**

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

#### **2.18 EXCEPTIONS**

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

#### **2.19 OFFEROR QUALIFICATIONS**

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

#### **2.20 RIGHT TO REJECT PROPOSALS**

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

#### **2.21 PRIME CONTRACTOR RESPONSIBILITY**

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

## **2.22 AWARD**

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

## **2.23 COMPLETE SERVICES**

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

## **2.24 INVOICING AND PAYMENT**

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

### **Section 3: PROPOSAL FORMAT AND CONTENT**

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

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

The proposal shall consist of a technical proposal only. A cost proposal is NOT required because the amount for the contract has been established at \$826,000 , which is a fixed amount. In addition to the USTDA funding (US\$446,000) provided under the Grant Agreement, the Grantee shall cover at least \$380,000 of costs to complete the full Terms of Reference.

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

Each proposal must include the following:

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

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

#### **3.1 EXECUTIVE SUMMARY**

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

### **3.2 U.S. FIRM INFORMATION**

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

### **3.3 ORGANIZATIONAL STRUCTURE, MANAGEMENT, AND KEY PERSONNEL**

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

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

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

### **3.4 TECHNICAL APPROACH AND WORK PLAN**

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

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

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

### **3.5 EXPERIENCE AND QUALIFICATIONS**

Provide a discussion of the Offeror's experience and qualifications that are relevant to the objectives and TOR for the Feasibility Study. If a subcontractor(s) is being used, similar information must be provided for the prime and each subcontractor firm proposed for the project.

The Offeror shall provide information with respect to relevant experience and qualifications of key staff proposed. The Offeror shall include letters of commitment from the individuals proposed confirming their availability for contract performance.

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

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

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

#### **Section 4: AWARD CRITERIA**

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

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

<b>Section No.</b>	<b>Technical &amp; Quality Criteria</b>	<b>Section Weighting %</b>
1	Presentation of Technical Proposal	5
	Cover letter	
	Presentation of technical proposal	
	Completeness of proposal	
2	Expertise in oil & gas pipeline feasibility and capabilities	35
	Offeror's experience on similar contracts	
	List of Offeror's past and current contracts	

	Evidence of local support or partnership	
	Overall technical competence	
3	Project Organisation Chart	20
	List of key personnel & qualifications	
	Overall Project organisation chart	
	Project organisation chart for all phases of the project	
	Details of sub-contracting arrangements, including MOUs	
4	Project Execution Plan (PEP)	25
	Overall adequacy of the PEP	
	Project quality plan	
	Project execution methodology	
	Contractor's design assurance system	
	Contractor's plan for addressing the environmental, social, and other developmental impacts of the Project	
5	Project Schedule	15
	Schedule details	
	Minimal redundancy and float	
	Realistic detailed execution plan	
	Total	100

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

Price will not be a factor in contractor selection.

**ANNEX 1**

Oando Gas & Power  
Tender Committee  
9th Floor  
No. 2 Ajose Adeogun Street  
Victoria Island, Lagos

Attention: Olugboyega Akintobi  
Phone No: +234 (0)7057286660

Southwestern Nigeria Gas Pipeline Project. 2012-11003A

POC: Nina Patel, USTDA, 1000 Wilson Boulevard, Suite 1600, Arlington, VA 22209-3901, Tel: (703) 875-4357, Fax: (703) 875-4009. Southwestern Nigeria Gas Pipeline Project. 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 perform a feasibility study to assist the Grantee in its effort to develop a natural gas transmission and distribution network.

Nigeria faces a developmental challenge of efficiently supplying energy to a growing number of industrial and commercial consumers in the country. The Grantee has made notable progress towards addressing the problem through the ongoing development of a privately owned and operated gas pipeline network. The Grantee presently serves about 90 commercial clients in the Lagos area through its 62 mile pipeline, owned and operated by its wholly owned subsidiary, Gaslink Nigeria Limited. The Grantee is also developing an additional 80 miles of pipeline to serve customers in Akwa Ibom and Cross River States through another wholly owned subsidiary, Eastern Horizon Gas Company. Combined, these gas transmission and distribution systems represent an investment by the Grantee of more than \$250 million.

The Grantee now seeks to expand its customer base to the north and west of Lagos where it aims to reach customers in the commercial centers of Ibadan and Ilorin, and the densely populated cities of Iwo, Oshogbo, and Ogbomoho. The Project entails the development of a 280 mile natural gas pipeline originating at the Nigerian Gas Company's Escravos-Lagos pipeline, which will supply gas to the Project, in Ogun State. From there, the Project runs northeast through Ibadan and Ogbomosho, Oyo State, and ends in Ilorin, Kwara State. The Project also features two spurs from the main pipeline, one running southeast from Ibadan, the second running southeast from Ogbomosho to Oshogbo, Osun State, and then east into Ekiti State. Where the Project passes through urban areas, gas distribution infrastructure will also be developed to deliver gas directly to high volume customers.

The U.S. firm selected will be paid in U.S. dollars from a combination of a \$446,000 grant to the Grantee from the U.S. Trade and Development Agency (USTDA) and a \$380,000 cost share provided by the Grantee.

A detailed Request for Proposals (RFP), which includes requirements for the Proposal, the Terms of Reference, and a background desk study report are available from USTDA, at 1000 Wilson Boulevard, Suite 1600, Arlington, VA 22209-3901. To request the RFP in PDF format, please go to: <https://www.ustda.gov/businessopps/rfpform.asp>. Requests for a mailed hardcopy version of the RFP may also be faxed to the IRC, USTDA at 703-875-4009. In the fax, please include your firm's name, contact person, address, and telephone number. Some firms have found that RFP materials sent by U.S. mail do not reach them in time for preparation of an adequate response. Firms that want USTDA to use an overnight delivery service should include the name of the delivery service and your firm's account number in the request for the RFP. Firms that want to send a courier to USTDA to retrieve the RFP should allow one hour after faxing the request to USTDA before scheduling a pick-up. Please note that no telephone requests for the RFP will be honored. Please check your internal fax verification receipt. Because of the large number of RFP requests, USTDA cannot respond to requests for fax verification. Requests for RFPs received before 4:00 PM will be mailed the same day. Requests received after 4:00 PM will be mailed the following day. Please check with your courier and/or mail room before calling USTDA.

Only U.S. firms and individuals may bid on this USTDA financed activity. Interested firms, their subcontractors and employees of all participants must qualify under USTDA's nationality requirements as of the due date for submission of qualifications and proposals and, if selected to carry out the USTDA-financed activity, must continue to meet such requirements throughout the duration of the USTDA-financed activity. All goods and services to be provided by the selected firm shall have their nationality, source and origin in the U.S. or host country. The U.S. firm may use subcontractors from the host country for up to 20 percent of the USTDA grant amount. Details of USTDA's nationality requirements and mandatory contract clauses are also included in the RFP.

Interested U.S. firms should submit their Proposal in English directly to the Grantee by 5:00pm, Local (Lagos) Time, February 23, 2012 at the above address. Evaluation criteria for the Proposal are included in the RFP. Price will not be a factor in contractor selection, and therefore, cost proposals should NOT be submitted. The Grantee reserves the right to reject any and/or all Proposals. The Grantee also reserves the right to contract with the selected firm for subsequent work related to the project. The Grantee is not bound to pay for any costs associated with the preparation and submission of Proposals.

**ANNEX 2**

## **Oando Western Nigeria Pipeline Desk Study (DS)**

**USTDA-PO201111284**

### **Desk Study Final Report**

**September 20 2011**

Submitted By:

INVENIRE, INC.  
5090 Richmond Ave., No. 378;  
Houston TX 77056-7402

Attn: David C. Shaw,  
(713) 560-7692  
(713) 669-9765 (fax)  
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Federal EIN: 760488350  
DUNS: 131329984  
Invenire, Inc. is a C-Type Corporation, Incorporated in Texas.



INVENIRE



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

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



## **The U.S. Trade and Development Agency**

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

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

## Summary

Oando PLC of Nigeria, through its midstream division, Oando Gas & Power (OGP), wishes to commission a bankable Feasibility Study (FS) to evaluate the technical and economic issues that would lead to the development of a natural gas transmission and distribution pipeline system in Western Nigeria. The study will consider the various route options for the pipeline, construction issues, operational issues, a market survey and the economic viability of the project. It will provide Oando with the necessary details to proceed with investment and to raise capital.

OGP submitted a preliminary proposal for support for this FS to USTDA in July 2011. A Desk Study (DS) was commissioned from Invenire, Inc. on August 3, 2011 in order to evaluate the project.

The proposed Grantee, Oando PLC is one of Africa's largest integrated energy firms. It has a primary listing on the Nigerian Stock Exchange and a secondary listing on the Johannesburg Stock Exchange. It has experience in building and operating similar facilities in Nigeria, and is committed to taking this project as far as is technically, operationally and commercially viable.

This report suggests that this project offers good alignment with USTDA objectives – in particular, U.S. export potential, commitment by the Grantee, and project financing. We suggest that the project is well worth further feasibility study. It includes detailed Terms of Reference and draft budgets for the FS.

The estimated overall USTDA grant budget is \$445,994. We estimate that if the project goes forward the total Oando project might cost in the range of \$762.5 million, and the potential for U.S. supplies is over \$389 million. Therefore, the payback for USTDA investment, in terms of return on grant financing to U.S. export potential, is good.

## Introduction

Oando PLC of Nigeria, through its midstream division, Oando Gas & Power (OGP), wishes to commission a bankable Feasibility Study (FS) to evaluate the technical and economic issues that would lead to the development of natural gas transmission and distribution infrastructure from the Nigerian Gas Company (NGC) Transmission Pipeline at Ogun State, through Ibadan, Oyo State to Ilorin, Kwara State, with extensions to the adjacent states of Osun and Ekiti. The study will consider the various route options for the pipeline, construction issues, operational issues, a market survey and the economic viability of the project. It will provide Oando with the necessary details to proceed with investment and to raise capital.

The parent of the proposed Grantee, Oando PLC, is one of Africa's largest integrated energy firms. It has a primary listing on the Nigerian Stock Exchange and a secondary listing on the Johannesburg Stock Exchange.

Oando Gas and Power Limited (OGP) owns and operates Nigeria's largest private natural gas distribution network. OGP pioneered private sector transmission and distribution of natural gas to industrial and commercial consumers, successfully reviving private sector participation in the gas distribution business in Nigeria. More than 100 km of pipe is already laid and in operation (through the Gaslink subsidiary) in Lagos State, and another 128 km was commissioned (through its Eastern Horizon subsidiary) in Akwa Ibom and Cross River States.

Gaslink Nigeria Limited is the subsidiary of Oando that operates a 20-year Gas Sale and Purchase Agreement (GSPA) with the Nigeria Gas Company, NGC. Gaslink is a pioneer, and one of the few companies in Nigeria involved in the piping and distribution of natural gas to industrial, residential and commercial consumers. Through a pipeline network from the NGC city gate that covers Ikeja and the Greater Lagos Area, Gaslink currently supplies natural gas through its 100 km pipeline in Lagos to about 110 industrial customers. The distribution network has the combined capacity to deliver 82 mmscf/d (million standard cubic feet per day).

Oando seeks to replicate the Greater Lagos natural gas distribution system in other parts of Nigeria and West Africa as well as to develop synergies with its business in Independent Power Generation, other gas infrastructure and Exploration & Production assets. For example, the Government of Nigeria recently awarded a \$2 billion contract to AGIP and Oando in partnership, to build a natural gas processing facility at Obiafu in the southern Rivers state. Nigeria's gas reserves are estimated at 187 TCF (trillion cubic feet), the world's seventh largest. The country selected 15 companies including Shell, Chevron and Oando in 2009 to participate in its development plan, the Gas Master Plan (GMP).

## Project Description

A local map showing the states and major cities in the area of Ogun State, Oyo State, Kwara State, and Osun and Ekiti States is shown below.



**Figure 1 - Regional map**

A very rough conceptual sketch of the transmission portion of the pipeline is shown in red below. Bear in mind that many kilometers of pipeline will also be laid in distribution systems at cities and industrial complexes.



Figure 2 - Approximate pipeline route

It is probable that the Main Control Center (MCC) will be at Ibadan, although it could also be at Lagos – or indeed there may two MCC’s, one in each city, as backups. We note that the transmission route between Ibadan and Ilorin might follow an established interstate highway and is therefore both relatively secure and also close to potential domestic and industrial markets.

### ***Scale of the Project***

Simply to gauge the magnitude of the pipeline, we can divide this system into:

- Main transmission line Ibadan – Ilorin, and NGC off-take from the Escravos-Lagos Pipeline in Ogun State. High pressure (100 bar) and large diameter (at least 36-inch) pipeline, about 200 km (125 miles) long.
- Extension to Osun and Ekiti States: Ogbomosho – Osogbo – Ado. Medium pressure (60 bar) and 20-inch pipeline, about 150 km (95 miles) long.
- Six-inch diameter distribution systems, perhaps 100 km (60 miles) long.

Of course, the precise pipeline layout, configuration and sizing are meant to be the subject of much more detailed analysis in the Feasibility Study.

Simply to gauge the potential budgetary size of this project, we can use the Oil and Gas Journal (OGJ) pipeline construction costs survey for the USA – which of course may be quite inaccurate for Nigeria, but at least gives an order-of-magnitude yardstick. The OGJ survey breaks down

construction costs. Materials costs account for approximately 26% of the total construction costs on average. Labor, right of way, and miscellaneous costs make up 45%, 22%, and 7% of the total cost on average, respectively. Miscellaneous costs are all costs not included in labor, material, or right of way. They generally include surveying, engineering, supervision, contingencies, allowances, overhead, and filing fees. With respect to Nigeria, we expect materials costs to be comparable. However, labor costs may be lower, miscellaneous costs (including logistics) may be rather higher, and right of way purchases are unknown. Nevertheless, total construction costs in the USA average:

- 36-inch materials - \$1.5 million per mile (low \$500,000 / high \$3 million per mile)
- 20-inch materials - \$800,000 per mile (low \$100,000 / high \$2 million per mile)
- 6-inch materials - \$400,000 per mile (low \$50,000 / high \$1 million per mile)

Note that even in the USA there is a considerable spread in the range of potential costs. Using these estimates the total Oando pipeline would cost in the range of \$287.5 million (low \$75 million / high \$625 million). {Redacted}

The West Africa Gas Pipeline Project (WAGP) is a high-pressure gas export line from Nigeria to Ghana, with off-takes in between, and therefore corresponds reasonably well with the main transmission line Ibadan – Ilorin. Although the actual construction costs have not been published, an estimate of the likely per-mile cost is \$3.12 million per mile. This corresponds quite closely to the USA high-end benchmark, so it is best to assume the higher end of construction cost estimates, at \$625 million.

Again, to use USA benchmarks, an average of another 18% (low 8% / high 22%) of pipeline construction costs are needed for additional equipment on a natural gas pipeline, especially one that runs near inhabited or industrial areas. These additional costs cover the need for compressor stations, metering and valve stations, Supervisory Control and Data Acquisition (SCADA) systems and Safety Systems. Adding these estimates, the total Oando project would cost in the range of \$339.25 million (low \$81 million / high \$762.5 million).

These costs may increase if the system requires more than average compression for the gas due to mountainous terrain. This would require additional compression facilities and the system cost would be closer to the high end of the estimates. For the purposes of budgeting, we therefore tend to consider the high end of the estimates, at \$762.5 million.

Operating costs for gas transmission and distribution pipelines in the USA average 8% of initial capital expenditure per year (low 3% / high 12%). This includes engineering, operation and maintenance. Local issues including security, as well as perhaps additional fuel costs for compression would add to operating expenditures, and they would be closer to the high end of

the estimates. For the purposes of budgeting, we therefore only continue to consider the high end of the estimates.

### **Market Estimate**

In Nigeria, piped natural gas is primarily used for industrial purposes and power generation. Vehicular use is also being explored. The high cost of laying pipelines, coupled with minimal consumption (no heating requirements), restricts residential use.

### **Security of Supply**

Security of supply is in the hands of a single supplier, the NGC. Oando has already negotiated and operates a 20-year GSPA with NGC in the Lagos area. They therefore have experience with and a track record of doing business with the NGC.

Most Production Sharing Agreements in Nigeria with the international oil companies specify a share in the liquid crude oil produced, but reserve all gas production to the Government of Nigeria. The Nigerian National Petroleum Company, NNPC, manages the Nigerian share of production, which in turn delivers gas to NGC for processing and distribution. Gas supply reliability has not been historically very good. Much of the infrastructure is in disrepair or has been deliberately damaged during the recent civil unrest. Furthermore, with all gas reserved for NNPC, there is little incentive for the IOC's to explore and to produce more gas. The large West Africa Gas Pipeline that was intended as an export route for apparently plentiful Nigerian gas is currently only about half full. Gas supply is therefore a concern for the viability of this project, and should be a central theme of the Feasibility Study.

The Government of Nigeria has recognized this issue, and is actively seeking to improve the security of gas supplies with three main policies. Recall that our estimate above shows that Oando needs a secure supply of about 700 mscf/d (thousand standard cubic feet per day):

- NGC is in the process of adding additional transmission capacity to the Escravos-Lagos pipeline (ELP) system that supplies both WAGP and the proposed Oando system. The current ELP has a capacity of 800 mmscf/d (million standard cubic feet per day), and a second, parallel ELP-2 will double that. The ELP-2 should be completed in about the same timeframe as the proposed Oando system. Given that the Gaslink system alone consumes only 82 mmscf/d this should be plenty of supply capacity.
- The Government's Gas Master Plan (GMP) has specified a number of critical new plants around Nigeria, chosen to improve the availability of natural gas to the domestic market. This includes two major new Gas Processing Plants in this region, one of which is being built by Oando in partnership with AGIP. This one GPP alone has about ten times the capacity needed to supply Gaslink and the new pipeline.
- The upstream E&P operators (including Chevron, Shell, Total and Exxon) are being encouraged to gather "stranded" natural gas production and to deliver it to market.

This includes capturing and processing gas that is currently flared at the production fields. There is so much of this gas that it is estimated to nearly double Nigeria's current natural gas production.

Therefore, despite perhaps a poor historical record in this area, there is at least a national will to improve security of gas supply in Nigeria, and in this region in particular.

### ***Physical Security and Safety***

Transportation of hydrocarbons over long distances is intrinsically hazardous and all pipeline systems are high-risk operations. Nigeria also has a history of civil strife and a track record of poor maintenance of its petroleum infrastructure – made worse by the lack of security for inspection and maintenance personnel. These difficulties were particularly severe in Rivers State, which was the center of much of the violence and vandalism. However, low grade tampering with facilities, particularly theft of oil and gas from storage and pipelines, is widespread.

Much of the armed violence has by now ceased following recent political developments, and in any case the States where the proposed Oando Pipeline will be located were never particularly affected. Also, at least in principle the pipeline could be routed very close to major highways and is never very far from substantial population centers, so it will be relatively easy to monitor. At the same time, it will be necessary to install appropriate safety systems and procedures to protect the population and the environment. The Terms of Reference specifically call for an analysis of:

- Appropriate pipeline monitoring, surveillance and safety systems, including leak and rupture detection, and inventory management. Surveillance includes remote video monitoring and inspection as well as security patrols. These are essential components of the overall Automation and Control strategy.
- Emergency shutdown equipment that is able to minimize the impact of a detected fault.
- Contingency planning to specify procedures to be followed in the event of a safety or security breach.

### ***Objectives of the Study***

The objective of the FS is to evaluate the technical feasibility and economic viability of building the pipeline infrastructure for gas transmission and distribution. The study will consider the requirements of a gas pipeline linking the NGC transmission pipeline at Ogun State to viable/prospective cities/towns, centers and nodes within these states. The study will also include the local distribution of gas within major markets. The broad aim of the FS is to examine the feasibility of providing gas from the NGC transmission line at Ogun state to the other identified states in the western flank of Nigeria. This includes a basic conceptual design, in order to:

- Determine pipeline route options (including above and below ground options), through satellite imagery, starting from Shagamu at a suitable location on the ELP and passing through the cities of Ibadan, Oshogbo with a provision for extension to Ekiti State from Oshogbo. The pipeline will further continue to Ilorin and terminate at Jebba with provisions for Compressed Natural Gas (CNG) Stations and Valve Tees for likely future connections.
- Prepare a market assessment report (including detailed enumeration of potential markets and segments throughout the region of interest, as well as an analysis of future potential demand and supply),
- Identify the likely route and road, track and river crossings to be encountered by the pipeline(s),
- Provide an estimate of the land requirements associated with the construction of the pipeline(s), associated infrastructure and aboveground installations (AGI's),
- Define any relevant protected geographical and archaeological features that might be encountered within the envisaged construction activity,
- Describe, and recommend upgrades to existing gas infrastructure in the various areas,
- Carry out a Preliminary Environmental Impact Assessment,
- Define the major components, potential locations and basic layouts for connecting AGI's and delivery AGI's.

The FS will also contain a preliminary Front-End Engineering Analysis (pre-FEED or conceptual engineering design). This is intended to provide engineering details, schedules and budgets with a degree of detail sufficient to include in proposals for investment, funding and commercial loans.

This analysis is part of a Front-End Loading engineering strategy (also referred to as pre-project planning, PPP, or FEED), standard in the process for conceptual development of processing industry projects. The FS will take this study to Level 2 (FEL-2) including:

- Preliminary equipment design, and bills of materials
- Preliminary layouts and plans
- Preliminary project schedule
- Preliminary budget estimate

By "preliminary" it is customary to anticipate an accuracy of around +/- 20%-30% against the actual, final plans delivered at FEL-3.

Within this analysis, it will be important to:

- Provide a reasonable additional capacity for projected long-term growth.

- Establish the operational philosophy of the pipeline system including operating, control, safety, maintenance, remote monitoring, and safeguard of technical integrity, leak detection and emergency shutdown philosophies.
- Undertake reconnaissance surveys of critical areas (for example, locations for possible Compressor Stations, Pigging Stations, Intermediate Scrapper Stations, Reduction and Metering Stations) in determining the optimum route.
- Establish the most suitable anti-corrosion coating for the pipeline and establish the cathodic protection design for the pipeline.
- Where necessary, establish the locations and size of any compressor stations
- Establish the design of the SCADA and control system.
- Advise on Testing and Commissioning aspects of the pipeline and compressor stations.
- Adjust the preliminary implementation schedule and strategy in order to capture identified market windows.

The FS will include an analysis of potential social and economic benefits to the region as a whole, as well as any related regulatory and legal issues, and the alignment of this technology with USTDA objectives in general.

### ***Anticipated Benefits***

The benefits of this project to Oando Gas & Power are evident. If it can replicate the success that it has already had with the Gaslink system in the greater Lagos area, then it would more than double their business in domestic natural gas distribution and marketing.

The benefits to the economy of the region are also evident. Most domestic fuel is currently Liquefied Petroleum Gas (LPG) that is typically transported in bottles. The availability of piped natural gas would eliminate transportation bottlenecks and provide much more cost-effective domestic fuel. In addition, industries that rely on large amounts of heat (smelting, forging, ceramics, and similar) will benefit by no longer requiring expensive electric heaters. Finally, electric power generation projects – which currently would have to be coal or oil fired – can be planned using much cleaner and cheaper natural gas.

The local market for petroleum was, until recently, tightly regulated. Both oil and gas prices were fixed, with the gas price extremely low. However, the recent Petroleum Industry Bill (PIB) has deregulated domestic pricing of natural gas and Oando will be able to charge commercial rates to its customers. Oando has, through its current 20-year GSPA with NGC, demonstrated that it can negotiate commercial terms effectively with the national oil companies.

The total potential market reached by the proposed system includes at least 3.7M people. This is in addition to the industrial areas surrounding the metropolitan hubs. The Nigerian GDP growth rate is currently 8.4%. Nigeria's gas reserves are estimated at 187 TCF (trillion cubic

feet), the world's seventh largest. There is therefore no shortage of supply nor demand for natural gas.

There is a big benefit to safety and the environment. The FS contains a task related to minimizing environmental impact. Natural gas is a cleaner fuel than the current alternatives, which include LPG, oil and coal / coke.

## **Project Sponsor's Capabilities and Commitment**

The proposed Grantee, Oando PLC is one of Africa's largest integrated energy firms. Oando Gas and Power Limited (OGP) owns and operates Nigeria's largest private natural gas distribution network. Nearly 100 km of pipe is already laid and in operation in Lagos State, and another 128 km is in progress in Akwa Ibom and Cross River States.

Gaslink Nigeria Limited is the subsidiary of Oando that operates a 20-year Gas Sale and Purchase Agreement (GSPA) with the Nigeria Gas Company, NGC. Gaslink is a pioneer, and one of the few companies in Nigeria involved in the piping and distribution of natural gas to industrial, residential and commercial consumers. Through a pipeline network from the NGC city gate that covers Ikeja and the Greater Lagos Area, Gaslink currently supplies natural gas through its 100 km pipeline in Lagos to about 110 industrial customers. The distribution network has the combined capacity to deliver 82 mmscf/d (million standard cubic feet per day).

The Grantee therefore has experience in the planning, construction, operation and commercial business of natural gas transmission and distribution in this region.

The Nigerian government selected Oando among 15 companies (including Shell, Chevron and Total) in 2009 to participate in its national petroleum development plan.

For example, Nigeria recently awarded a \$2 billion contract to Agip and Oando in partnership, to build a natural gas processing facility at Obiafu in the southern Rivers state. A second similar GPP is also currently under negotiation.

Oando is committed to replicating the Greater Lagos Natural Gas Distribution System in other parts of Nigeria and West Africa as well as to develop synergies with its business in Independent Power Generation, other gas infrastructure, and Exploration & Production assets. The request for support for this FS originated directly from Oando senior management.

Oando PLC is listed on the Nigerian Stock Exchange and has a secondary listing on the Johannesburg Stock Exchange. Both of its current pipelines were financed in part by conventional domestic Nigerian bank loans. It therefore has a demonstrated capacity both to provide shareholder and internal investment as well as debt financing of the scale needed for this magnitude of project.

## Implementation Financing

The most probable form of financing for this project is a combination of internal operational funding from Oando PLC, private investor funding, and bank debt financing. Nigeria has a modern and sophisticated banking system that includes several foreign banks, as well as both commercial and merchant banks. Nine Nigerian banks are among the largest 1,000 in the world. They include government-owned specialized development banks like the Nigerian Industrial Development Bank and the Nigerian Bank for Commerce and Industry. The Central Bank of Nigeria fixes only the base interest rate, which currently stands at 8.75%.

Another very likely source of implementation financing is from the technology and services providers themselves. If Oando chooses a US general contractor for implementation – similar to Fluor, Bechtel, KBR or Parsons – then the contractor itself will usually offer financing for equipment and services. Similarly, the larger equipment and technology suppliers – like General Electric, Pratt & Whitney, Honeywell and Fischer Controls – will offer financing for substantial purchases. A project of this size is well within the means of US firms of this magnitude.

This project would very likely qualify for Ex-Im Bank financing, providing the supplier of the system is US-based and the materials and services are sourced in the US. We spoke informally with:

Patrick Crilley,  
Director and Manager, South Texas  
Ex-Im Bank Southwest Regional Office  
1880 South Dairy Ashford II, Suite 405  
Houston, TX 77077  
(281) 721-0470  
(281) 679-0156 FAX

This project was described in the broadest terms and a conceptual loan for \$500M to Oando was discussed. The feedback was as follows:

- Subject to review, an application for a loan to a reputable Nigerian company that has government guarantees, for supplies from an "A"-rated US supplier, is welcome.
- Nevertheless, Nigeria is rated as having an exposure level of 6 (out of a worst case of 7). The exposure fee would be around 8% - 9% for a direct loan on 5-year terms, but 15% - 17% for 10-year terms. Most loans are in fact on greater than 7-year terms. Nevertheless, these are comparable to the Nigerian base rate.

- Up to 85% of the project budget could be financed by Ex-Im. The remaining 15% must be paid directly from Oando to the supplier. This can itself be financed, but it must be paid in cash to the US firm.
- These interest rates are for "Sovereign Debt" – in other words, loans guaranteed by the Government of Nigeria. In practice, the Ministry will have to co-sign the loan agreement. Other rates for conventional borrowers can be very high.
- The Ex-Im bank has certain policies relating to Foreign Content, Impact on Labor, Development Impact and so on – especially for loans of this size – but these are similar to the USTDA's.
- However, subject to guidelines, Ex-Im Bank can support up to 30% of the value of the US exports for locally originated and/or manufactured goods and services. This will be attractive to Oando since it allows the use of local labor and expertise, and helps provide technology transfer

Ex-Im Bank is perhaps the preferred US source of direct loans, since it is fairly rapid, transparent and systematic in its policies. Other potential sources of funding include:

- The African Development Bank (AFDB), which emphasizes transportation and energy infrastructure projects. It must be said that although its financial standing has been restored, from near collapse, its operational credibility remains a work-in-progress. There are long delays in its decision-making and it remains a relatively small (about 6%) source of development finance for Africa.
- The World Bank, as part of their Energy and Transportation development programs. The World Bank actually provides four times the financing in Africa that AFDB does. However, it often has strong political and economic requirements attached to its loans, which Ex-Im does not, and the decision-making process can be accordingly quite slow. In exchange, the commercial terms can be very attractive.
- The Overseas Private Investment Corporation (OPIC) tends to focus on risk reduction in investment in Nigeria (e.g. export guarantees to US firms), but may nevertheless be available as a source of direct funding.

## U.S. Export Potential

{Redacted}

## Foreign Competition and Market Entry Issues

{Redacted}

## Developmental Impact

We see substantial Developmental Impact in the following categories:

**Infrastructure** – There is clearly a need in Nigeria to provide the facilities for market utilization of gas production. This project is a further step towards a complete natural gas grid infrastructure. Positive environmental impacts include the ability to actually deliver on a commitment to avoid flaring associated gas at production wells, avoid burning oil, coal and wood as fuels, and to reduce the domestic consumption of LPG / fuel oil.

**Human Capacity Building** – will arise both during the construction and commissioning phase, and during operations. Up to 30% local content is allowed under financing rules, and this will likely take the form of using local construction and facilities firms. During commissioning of the system, local staff will be trained in its operation and maintenance. During operations, we see no reason why there should not be a gradual evolution towards 100% Nigerian operation.

We anticipate around 100 full-time engineering positions being required for the operation of the system, in addition to some expansion to Oando's overall administrative structure. We also see potential expansion in the local Nigerian facilities maintenance industry, to support the operation of the pipeline and plant.

**Technology Transfer and Productivity Improvements** – will, similarly, arise during commissioning of the system and operations. It is important for any supplier to train and support, at least initially, the operations of the pipeline network.

**Market Oriented Reforms** – may arise in two ways. The first is in support of the Petroleum Industry Bill that aims in part at deregulating the gas industry to allow multiple pipeline access and a separate transportation function. The second is by promoting public / private collaboration by distributing NGC gas to market through a private, publicly traded enterprise.

**Host Country Direct Revenues** – Financial revenue enhancements are clear, since this infrastructure is the only way to monetize about 260 million cubic feet per year or approximately \$500M per year. There will also be associated tax revenues from commercial operations, and the employment of well-paid personnel.

## Impact on the Environment

There is no question that gas pipeline operations are potentially very hazardous, and the FS therefore contains an explicit task that is designed to examine these issues in detail. Some of the more important of these include the following:

Explosion / Fire	Gas plants handle large quantities of inflammable natural gas and crude oil. Furthermore, many of the chemicals used (acid treatments, diesel, etc.) are either inflammable or explosive. The processes involve high temperatures and pressures.
Leaks / Spillage	Methane is a pollutant, and a powerful greenhouse gas. Many of the products are not only harmful to the environment, but are also highly toxic even in small quantities to humans and animal / plant life. Even trace quantities of some petroleum chemicals can be carcinogenic.
Air and Water Quality	If the process system is not sealed, then leaks in any of the subsystems will result in contamination of the air and any local rivers or groundwater. This could lead to environmental damage very far from the site.
Noise and Scenery	Compressors, pumps and other mechanical process equipment can be noisy and vibrate excessively when poorly maintained.

Positive impacts on the environment include assistance to the government of Nigeria to actually deliver on a commitment to avoid flaring associated gas at production wells, to reduce the amount of wood, coal and coke burned as fuel, and to reduce the domestic consumption of fuel oil.

It will also allow power stations that currently burn oil to use much cleaner natural gas instead.

It will be the mission of the USTDA advisor under the FS to ensure that conditions of performance for the delivery of this project meet US and international standards for the protection of the environment

## **Impact on U.S. Labor**

We have reviewed the "Impact on U.S. Labor Statement" as contained in the Foreign Operations, Export Financing and Related Programs Appropriations legislation. That Statement details certain prohibitions on U.S. foreign assistance in cases in which the project to be funded, or the subsequent foreign country operation after the project is completed, would have a negative impact on U.S. labor.

Having examined the requirements of the U.S. legislation, we find that this project does not violate the provisions of the appropriations legislation.

The Natural Gas Transportation projects are infrastructure maintenance and development projects that will encourage and accelerate the utilization of a U.S. origin technology in petroleum infrastructure utilization throughout Nigeria. This will provide opportunity for future sales of equipment, engineering services, technology licenses and supplies from the United States to implement the project. This will create jobs for U.S. citizens in the course of project implementation.

The project provides a future opportunity for a U.S. engineering and technology provider to expand its area of business in Nigeria. However, it does not offer any financial incentive to a U.S. business enterprise currently located in the United States for the purpose of inducing that enterprise to relocate outside the United States with the effect of reducing the number of employees of such business enterprise in the United States because U.S. production is being replaced by such enterprise outside the United States.

The project does not assist in establishing or developing any export processing zone or designated area in which the tax, tariff, labor, environment, and safety laws of Nigeria do not apply, in part or in whole, to activities carried out within that zone or area.

The project does not provide assistance that contributes to the violation of internationally recognized workers rights.

The project does not provide direct assistance for establishing or expanding production of any commodity for export from Nigeria that is likely to be in surplus on world markets at the time the project becomes operative. The essence of the project is infrastructure development that will utilize advanced technology to improve the capabilities of the Nigeria's energy sector to better meet domestic demand. The project will not cause substantial injury to U.S. producers of the same, similar, or competing commodity. The project will provide a market for U.S. commodities that heretofore was not available.

Procurement and construction of natural gas transportation infrastructure will not lead to an export of existing U.S. labor overseas, but instead will add jobs to the U.S. economy. It will increase the opportunities for US labor and exports for various U.S. equipment, technology and services providers.

## Qualifications

The likely supplier of the FS to the Grantee is a specialist midstream petroleum engineering design consultancy that includes a strong economics and project management team.

{Redacted}

The Feasibility Study is intended to provide support to the Grantee in the planning and acquisition of supplies and services for the construction of a natural gas transmission and distribution network in Western States of Nigeria. The Grantee will probably be the intended owner and operator of the pipeline, Oando Gas & Power, Ltd (OGP).

This Feasibility Study is to provide support to OGP in the planning and acquisition of supplies and services for the Natural Gas Infrastructure Project. The contractor must provide reviews of:

- Any current Conceptual Design Studies and Proposals for this project;
- Any current Front-End Engineering & Design (FEED) studies for this project;
- Budget estimates and financing options;
- Timetables; and
- The business plan for the operation of the facilities, including pricing and market issues and risks.

The contractor will also be responsible for:

- A Business Plan for the development and operation of the Infrastructure in the short-medium term (3 – 5 years);
- A detailed FEL-2 engineering design for the system; and
- Advising the Grantee on well-qualified US sources of supply.

The Natural Gas Infrastructure project involves: a high-pressure transmission system; local distribution system(s); a spur line; and associated compression, maintenance, measurement and control systems.

Delivery of this FS will therefore require a team with expertise in:

- The requirements analysis, technical design and planning of similar projects;
- The financing and commercial management of similar systems; and
- The technical operation of natural gas delivery systems.

## **1. Pipeline Facilities Engineer**

Experience in pipeline facilities requirements analysis, technical design and planning, in onshore gas transmission and distribution pipelines.

Will have work experience at Engineering Design Firms, or EPC contractors.

Will have sufficient experience (at least 15 years) to review and criticize Conceptual Designs and FEED studies from multiple sources. He will also need the experience to be able to provide estimates of costs, timetables and technical factors necessary for planning an infrastructure development.

## **2. Energy Economist**

Experience in the analysis of monetization options for natural gas products – industrial and domestic use.

Will have work experience at an energy company, investor / merchant bank, public institutes, or research firms.

Will have sufficient experience (at least 15 years) to review and recommend pricing regimes, strategies and options for the promotion of natural gas relative to other sources of energy in Nigeria. Should understand deregulation / unbundling issues and supply contracts / terms to be able to advise on commercial issues in managing the infrastructure.

## **3. Petroleum Market and Finance Specialist**

Experience in business planning, project financing and commercial operation of similar natural gas facilities. This includes both distribution and transmission businesses.

Will have work experience at an EPC contractor, merchant bank, energy investor, and/or gas company. It is important to have worked at a gas or energy company at some stage, to understand operational issues.

Will have sufficient experience (at least 15 years) to review and criticize Business Plans and Financing Packages from multiple sources. Should also be able to advise on alternative sources of funding or packages; and alternative commercialization strategies. Should understand deregulation / unbundling issues to be able to advise on institutional issues in managing the infrastructure.

## **4. Pipeline Operations Engineer**

Experience in operations at similar facilities. This includes gas distribution and transmission systems.

It is important to have worked at a gas company at some stage, to understand operational issues.

Will have sufficient experience (at least 15 years) to review and develop Commissioning, Start-Up and Operations plans. Should also be able to advise on best practices, including Health, Safety and Environmental.

It is not necessary for the team to consist of exactly four individuals. One individual may cover two roles (Facilities and Operations Engineering, for example). Alternatively, one role may require two individuals (Gas Market Specialist plus a Project Finance Specialist, for example).

## Justification

The project is essentially infrastructure improvement technical assistance, designed to assist the Grantee in bringing natural gas produced in Nigeria and belonging to NGC to domestic and industrial markets. The projects that is recommended will focus upon the technical and economic issues involved with the development of natural gas (transmission and distribution) infrastructure from the NGC Transmission Pipeline at Ogun State, through Ibadan, Oyo State to Ilorin, Kwara State, with extensions to the adjacent states of Osun and Ekiti. The study will consider the various route options for the pipeline, constructability issues, market survey and economic viability of the investment. The study will be a key input into further work, decision on the proposed investment, and in securing financing.

Estimates of the potential cost and financial indicators of this project – based upon benchmarks for similar projects in the U.S. – include:

- The total Oando project might cost in the range of \$762.5 million.
- Operating costs for gas transmission and distribution pipelines in the U.S. average 8% of initial capital expenditure per year (low 3% / high 12%). In this context, the operating costs are likely to be 12% at least per year. They therefore represent a significant source of employment, as well as a significant source of continuing exports.
- The domestic market for piped natural gas in Nigeria is expected to eventually reach a total of 260 million cubic feet per year. At \$2 per cubic foot margin profit, this represents \$520 million per year revenues.

The Nigerian GDP growth rate is currently 8.4%.

These projects will help U.S. service and technology companies that are already in the region and would benefit if Oando will proceed with these developments. At least eight highly qualified multi-national U.S. companies are highly competitive in this sector. All of these companies already have made a commitment to a permanent presence in Nigeria.

We estimate the potential for U.S. exports resulting from these projects at two levels: the likely revenue from a project sourced from a U.S. based EPC company, and revenue from technology supplies only resulting from a non-U.S. EPC contractor. The U.S. suppliers are highly competitive for these orders, and in some technical areas they possess unique skills and technology that obviates any price differential:

Category	Percent Total Project	U.S. EPC	non-U.S. EPC
Materials	21%	\$35.62	
Labor	37%	\$62.76	
Right of way (land)	18%		
Miscellaneous	6%	\$18.32	\$18.32
Gas technology	18%	\$54.96	\$54.96
<b>Total</b>	<b>100%</b>	<b>\$171.66</b>	<b>\$73.28</b>

**Table 1 - Potential for U.S. Exports, \$ millions, average case**

The estimated overall USTDA grant budget is \$445,994. Therefore, the payback for USTDA investment, in terms of return on grant financing to U.S. export potential, is good.

If the overall project construction cost is essentially covered by one year's potential gas sales revenue, then the Grantee is very likely to make the investments. Financing is available from Nigerian domestic and national banking institutions, U.S. sources like the Ex-Im Bank, and most of the U.S. service companies referred to above will themselves provide project financing.

USTDA objectives will also be met by expanding U.S. – Nigerian collaboration in this sector. Apart from the direct benefits to Oando, there are benefits to the NGC in being able to bring their own gas to market within Nigeria. The Ministry of Petroleum has made it clear that they will support any technical and commercial collaboration that will help to meet their national energy goals.

Furthermore, USTDA will be opening new markets for U.S. companies by educating the local industry leaders in a new technology, and demonstrating its applicability and capital efficiency in their own business context. These projects meet USTDA benchmarks in terms of Infrastructure Development, Human Capacity Building, Technology Transfer, Productivity Improvement, Market-Oriented Reform, and Host Country Revenue Improvement, as discussed above.

## Terms of Reference

{Redacted}

## Study Budget and Schedule

{Redacted}

## ANNEX 3



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

**NATIONALITY, SOURCE, AND ORIGIN REQUIREMENTS**

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

**USTDA STANDARD RULE (GRANT AGREEMENT STANDARD LANGUAGE):**

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

**NATIONALITY:**

1) Rule

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

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

## 2) Application

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

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

## 3) Definitions

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

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

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

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

## **SOURCE AND ORIGIN:**

### 1) Rule

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

### 2) Application

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

### 3) Definitions

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

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

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

**ANNEX 4**

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**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 Oando Gas & Power Limited ("Grantee"). USTDA agrees to provide the Grantee under the terms of this Agreement US \$446,000 ("USTDA Grant") to partially fund the cost of goods and services required for a feasibility study ("Study") on the proposed Southwestern Nigeria Gas Pipeline Project ("Project") in Nigeria ("Host Country").

PM LB MB PD  
JM FB KM SU  
AY AO**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. In addition to the USTDA funding provided under this Grant Agreement, the Grantee shall cover at least \$380,000 of costs to complete the full Terms of Reference ("Grantee Cost Share"). The Grantee shall pay the Grantee Cost Share to the Contractor in cash in proportion to the funding being provided by USTDA and the Grantee, respectively (USTDA US \$446,000 : Grantee US \$380,000) and in accordance with the procedures set forth in the Payment Schedule Requirements in Clause H(2) of the USTDA Mandatory Contract Clauses in Annex II to this Agreement.

## **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](http://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 December 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 or results of the Project, and upon receipt by the Grantee of the Final Report, will designate (by both title and organization) a point of contact for any such inquiries.

### **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 Executive Director. 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, e-mail, or facsimile, and will be deemed duly given or sent when delivered to such party at the following:

To: Mr. Mobolaji Osunsanya  
Executive Director  
Oando Gas & Power Limited  
2 Ajose Adeogun Street  
Victoria Island  
Lagos, Nigeria

Phone: +234 1 270 2400  
+234 1 270 2798  
E-mail: bosunsanya@oandopl.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 12/13 1001  
Activity No.: 2012-11003A  
Reservation No.: 2012043  
Grant No.: GH201211043

#### **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.

**[THE REMAINDER OF THIS PAGE IS INTENTIONALLY LEFT BLANK]**

IN WITNESS WHEREOF, the Government of the United States of America and Oando Gas & Power 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

By: Joseph Stafford

Date: November 30, 2011

For Oando Gas &  
Power Limited

By: Sam Sif

Date: 30 NOV 2011

Witnessed:

By: Jamie Munn

Witnessed:

By: [Signature]

Annex I -- Terms of Reference

Annex II -- USTDA Mandatory Clauses

## Annex I

### **Terms of Reference**

The purpose of this feasibility study (Study) is to evaluate the technical and economic issues involved with the development of a natural gas transmission and distribution network originating from the Nigerian Gas Company (NGC) Transmission Pipeline at Ogun State, through Ibadan, Oyo State to Ilorin, Kwara State, with extensions to the adjacent states of Osun and Ekiti. The Study shall make recommendations on route options for the pipeline, construction, market demand, and the overall economic viability of the Project.

The Study shall also contain a preliminary front-end engineering analysis (pre-FEED) which is intended to provide engineering details, schedules and budgets with a degree of detail sufficient to include in proposals for investment, funding and commercial loans. The Study shall be consistent with a front-end loading (FEL) engineering strategy and shall perform analysis of the Project to Level 2 (FEL-2).

The Contractor shall perform the following Tasks:

#### **Task 1: Preliminary Technical Review**

*1.1 Project Kickoff:* The Contractor shall meet with the Grantee and other relevant stakeholders including the Nigerian Gas Company and potential customers of the Grantee to gather information about the Project. The Grantee shall provide the Contractor with all currently available technical, commercial, and economic data related to the Project that is within the Grantee's control, and the Contractor shall prepare an assessment of the extent, suitability, quality and sufficiency of the data. The Contractor shall make note of any critical data which is missing, and shall document any assumptions or estimates which shall be used in this Study.

*1.2: Surface Facilities:* The Contractor shall prepare a basic surface facilities conceptual design that covers the major plant facilities necessary to carry natural gas from the NGC supply terminal to the market areas specified by the Grantee including Ibadan, Oyo State, Ilorin, Kwara State, and extensions to the adjacent states of Osun and Ekiti. The design shall include options for facilities requirements, including physical space, power and environmental waste disposal. The Contractor shall provide engineering drawings, including site layouts, for the options that are identified in this Study. Each drawing shall include a bill of materials and shall include guideline pricing for these materials. The Contractor shall provide typical costs for the services related to construction, installation, and commissioning of these facilities. The Contractor's analysis in Task 1.2 shall be to front-end loading level 1 (FEL-1).

*1.3: Pipeline Routing:* The Contractor shall determine pipeline route options using satellite imagery. The pipeline shall originate from Shagamu, Ogun State, or at another suitable location on the NGC's Escravos-Lagos Pipeline (ELP) and pass through the

cities of Ibadan and Oshogbo with a provision for extension from Oshogbo to Ekiti State. The pipeline shall further continue to Ilorin and terminate at Jebba with provisions for compressed natural gas (CNG) stations and valve tees for future connections. The Contractor shall identify the likely road, track and river crossings to be encountered by the pipeline. The Contractor shall provide an estimate of the land requirements associated with the construction of the pipeline, associated infrastructure and aboveground installations (AGIs), and define any relevant protected geographical and archaeological features that might be encountered by the Project. The Contractor's recommendations shall:

- Provide a reasonable additional capacity for projected long-term growth;
- Establish the most suitable anti-corrosion design (materials and surface coatings, cathodic protection systems, etc.) for the pipeline;
- Establish the locations and sizes of any compressor stations necessary;
- Establish the basic design of the supervisory control and data acquisition (SCADA) and control systems for the Project; and
- Determine the requirements for safety and security systems including leak and rupture detection, facilities surveillance, inventory management, and intrusion alarming.

The Contractor shall explain various options and alternatives for phasing the implementation of individual components of the Project over time. The Contractor's analysis in Task 1.3 shall be to front-end loading level 1 (FEL-1).

*1.4: Cost Estimate:* The Contractor shall perform a cost estimate for the Project and any alternatives recommended in Tasks 1.2 and 1.3 above. The Contractor's cost estimates shall cover the capital and operational costs for the Project including, at least: pipeline; compressor stations; regulating and metering stations; off-take stations; SCADA, control systems, and telecommunications; detailed design and engineering procurement and construction (EPC); and contingency. The Contractor's cost estimate shall be based on budgetary quotations received from contractors and suppliers, prices and costs from comparable projects, and best practices. The Contractor shall seek budget estimates from U.S. suppliers wherever practical. The Contractor's cost estimate shall include the life-cycle costs of the recommended equipment, including anticipated maintenance requirements. The Contractor's analysis in Task 1.4 shall be to front-end loading level 1 (FEL-1).

*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: Operational, Safety, and Security Analysis**

*2.1: Risk Analysis:* The Contractor shall perform a risk analysis of the Project including, at least: commercial; health, safety and environmental (HSE); political; market; legal; and operational risks.

*2.2: Operating Plan:* The Contractor shall establish the basic operating plan for the Project including, at least: control; safety; security; maintenance; remote monitoring; safeguards of technical integrity; and leak detection and emergency shutdown procedures. The Contractor's recommendations shall consider the physical security of the Project including provisions for the early detection of damage or loss through vandalism or theft and appropriate and timely response to these threats. The Contractor shall make recommendations concerning the procedures to be followed in the event of a failure in order to minimize its impact on the public and the environment.

*2.3: Operating Budget:* The Contractor shall develop a preliminary operating budget for the Project that includes expenditures required on a continuing basis to operate the Project according to the Contractor's recommendations in Task 2.2 above.

*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: Commercial Analysis**

The Grantee shall provide the Contractor with information concerning budgetary constraints and economic and commercial objectives and targets of the Project. The Contractor shall inform the Grantee of any assumptions or estimates which will be used to carry out Task 3.

*3.1: Market Survey:* The Contractor shall conduct a market survey to collect data on potential customers and demand for the Project in Ogun, Oyo, Osun, Ekiti and Kwara States. The Contractor shall identify potential customers, establish an estimated baseline demand, and projected demand growth over a period of 20 years.

*3.2: Supply Study:* The Contractor shall establish the minimum gas requirements for the Project over a period of 20 years. The Contractor shall perform an assessment of the availability of natural gas to the Project, including the current availability of natural gas, and the projected availability of natural gas over a period of 20 years. The Contractor shall identify potential sources of natural gas for the Project, including gas supply options presented in the Government of Nigeria's Gas Master Plan. The Contractor shall identify gas gathering systems which will be required for the Project and provide an estimate of the cost of natural gas over a period of 20 years. The Contractor's analysis shall consider any applicable regulations on the price of energy and make recommendations regarding third-party access to the Project's gas on a non-discriminatory basis.

*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: Financial Analysis**

*4.1: Financial Analysis:* The Contractor shall perform financial analysis of the pipeline routing options identified in Task 1.3 above. The Contractor's analysis shall be based on

a discounted cash flow method and shall identify the anticipated internal rate of return (IRR) for the Project based on the pipeline routing options identified in Task 1.3 above. The Contractor shall provide projections of the Project's annual cash flow for a 20 and 30 year period. The Contractor's analysis shall include sensitivity analysis of key economic indicators which could affect the profitability of the Project. The Contractor shall identify appropriate breakeven points (price, time, volume, etc) for the Project. The Contractor's analysis shall consider, at least:

- capital costs;
- operating costs;
- annual and peak day transportation tariffs;
- annual demand volumes and demand growth;
- peak day demand volumes and demand growth;
- inflation;
- taxation and available tax incentives;
- terms of debt; and
- Project construction phasing.

*4.2: Economic Viability:* The Contractor shall make recommendations on the economic viability of the Project and highlight the key sensitivities likely to have significant impact on the Project. The Contractor shall describe the criteria, certification process, regulations, and means of trading carbon credits and other local and global anti-pollution measures.

*4.3: Sources of Financing:* The Contractor shall make recommendations on options for financing the Project including the Grantee's budgetary resources, equity investment, commercial lenders, the U.S. Export-Import Bank, World Bank, and African Development Bank.

*4.4: Ownership and Management Structure:* The Contractor shall make recommendations concerning the structure of the corporate vehicle(s) required for the efficient construction, management and operation of the Project.

*4.5: Presentation of Findings:* The Contractor shall present its findings in Tasks 1-4 above to the Grantee at the Grantee's office in Lagos. The Contractor shall receive the Grantee's approval of its work in Tasks 1-4 above before proceeding to work on Tasks 5-10 below.

*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: Preliminary Design**

**5.1: Project Design:** The Contractor shall build upon work completed in Tasks 1-4 above to produce a preliminary design for the Project to front-end loading level 2 (FEL-2). The Contractor's design shall, at least:

- provide reasonable additional capacity for projected long-term growth;
- specify requirements for safety and security systems including leak and rupture detection, facilities surveillance, inventory management and intrusion alarming;
- undertake reconnaissance surveys of critical areas (e.g. locations for possible compressor stations, pigging stations, intermediate scrapper stations, reduction and metering stations, etc.) A complete site survey is not required at this stage.
- establish the most suitable anti-corrosion coating for the pipeline and establish the cathodic protection design for the pipeline;
- establish the locations and sizes of compressor stations;
- establish the design of the SCADA and control system;
- advise on testing and commissioning the Project;
- provide equipment designs, and bills of materials;
- provide layouts and plans; and
- recommend a Project schedule.

**5.2: Cost Estimate:** The Contractor shall provide a budget estimate for the Project. The Contractor's cost analysis in Task 5.2 shall be to front-end loading level 2 (FEL-2). The Contractor's cost estimate shall cover the capital and operational costs for the Project including, at least: pipeline; compressor stations; regulating and metering stations; off-take stations; SCADA, control systems, and telecommunications; detailed design and engineering procurement and construction (EPC); and contingency. The Contractor's cost estimates shall be based on estimates obtained from at least three suppliers for major cost items (i.e. items which constitute more than 10% of the Project's total cost), and estimates obtained from at least two suppliers for minor cost items (i.e. items which constitute less than 10% of the Project's total cost). The Contractor shall obtain cost estimates from U.S. suppliers. The Contractor's cost estimate shall include the life-cycle costs of the recommended equipment, including anticipated maintenance requirements. The Contractor's analysis in Task 5.2 shall be in spreadsheet format, have an accuracy of +/-30%, and shall assume that Project construction and commissioning takes place between 2012 and 2015.

**5.3: Implementation Timeline:** The Contractor shall produce an implementation timeline for the Project. The Contractor's analysis shall include, at least:

- detailed design (e.g. front-end loading level 3);
- detailed environmental impact assessment (EIA);
- preparation, issue and assessment of construction tenders;
- legal aspects including permitting, land purchase, right-of-way and consent;

- upstream pipeline connection including all mechanical, electrical, control and instrumentation requirements;
- pipeline construction including all mechanical, electrical, control, instrumentation and corrosion protection requirements;
- downstream pressure reduction and above-ground installation construction including all mechanical, electrical, control, and instrumentation requirements;
- commissioning and validation activities; and
- pipeline safety documentation, emergency response, operational and maintenance manuals.

The Contractor shall produce a Project management plan including, at least:

- pipeline contractors;
- health and safety issues;
- environmental issues;
- community and landowner liaison;
- local authorities liaison; and
- public relations.

*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: Potential U.S. Sources of Supply**

The Contractor shall provide a comprehensive list of potential U.S. sources of supply for the Project with reference to the technical specifications developed under Tasks 1 and 5 above. The Contractor shall include any U.S. supplier that was contacted for cost estimates in Tasks 1.4 and 5.2 above. The Contractor shall include the business name, point of contact, address, telephone, e-mail, and fax numbers for each identified source. The list shall be provided in spreadsheet format.

*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: Regulatory and Policy Review**

The Contractor shall review regulations and policies on the local, state, and federal level that may impact the Project's viability or implementation. The Contractor's review shall include, at least:

- Nigeria's Gas Master Plan;
- Nigeria's proposed Petroleum Industry Bill;
- binding engineering standards;
- environmental standards;

- regulations that impact operations;
- health and safety regulations;
- environmental regulations;
- regulations that constrain commerce;
- regulations that constrain labor;
- regulatory constraints on obtaining and servicing commercial loans;
- regulations on land acquisition and right-of-way;
- taxes and other levies; and
- regulations that impact the ability to do business.

The Contractor shall identify potential regulatory obstacles which must be overcome to successfully implement the Project and make recommendations on means of implementing the Project in a manner consistent with Nigeria's regulatory environment. The Contractor shall make recommendations on potential regulatory changes which would be beneficial to the implementation of the Project, if any. The Contractor shall make recommendations on means of promoting long-term cooperation and good relations amongst the institutions, regulatory agencies, and communities which will be affected by the Project.

*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: Preliminary Environmental Impact Assessment**

The Contractor shall prepare a preliminary assessment of the Project's anticipated impact on the environment. The Contractor's assessment shall make reference to local requirements and those of multilateral lending agencies, such as the World Bank. The Contractor shall identify potential negative impacts, discuss the extent to which they can be mitigated, and develop plans for a full environmental impact assessment if and when the Project moves forward to the implementation stage. This includes the identification of steps that will need to be undertaken by the Grantee subsequent to the completion of the Study and prior to Project implementation. The Contractor's assessment shall also include any potential positive impacts, including the reduction of gas flaring, reduction in emissions of greenhouse gases, etc. The Contractor shall not be expected to prepare a complete environmental impact assessment.

*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: Developmental Impact Assessment**

*9.1: Developmental Impact:* 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 Nigeria. 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 such impacts. Potential infrastructure impacts may include the construction of a gas pipeline and associated infrastructure, etc.
- (2) Human Capacity Building: The Contractor shall identify the anticipated number and types of local jobs that will be created 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.
- (3) Technology Transfer and Productivity Enhancement: The Contractor shall identify the anticipated advance in technologies that would be mobilized through this Project, and especially any technologies which would be new to the Nigerian market. The Contractor shall also identify anticipated efficiencies that would be gained as a result of the Project.
- (4) Market Oriented Reform: 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 positive spin-off effects on unrelated economic sectors, increased good governance and transparency, private sector participation, etc.

*9.2: Social Impact*: The Contractor shall perform an assessment of the Project's potential social impacts. The Contractor's assessment shall include improved access to energy, reduced cost of fuel, etc. The Contractor's assessment shall also address potentially negative social impacts of the Project such as relocation of towns and centers of population, expropriation of land, and relocation of people. The Contractor's assessment shall make reference to international best practices, local requirements, and those of multilateral lending agencies, such as the World Bank.

*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: 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 Oando Gas & Power Limited ("Client"), dated \_\_\_\_\_ ("Grant Agreement"). The Client has selected \_\_\_\_\_ ("Contractor") to perform the feasibility study ("Study") for the Southwestern Nigeria Gas Pipeline project ("Project") in Nigeria ("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. The Contractor has received the *pro rata* payment due to the Contractor from the Client under this invoice, in accordance with the applicable Contract provisions and the terms and conditions of the USTDA Grant Agreement. To the extent that the Contractor does not comply with the terms and conditions of the Contract, including the USTDA mandatory 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. The Contractor has received the *pro rata* payment due to the Contractor from the Client under this invoice, in accordance with the applicable Contract provisions and the terms and conditions of the USTDA Grant Agreement. To the extent the Contractor has not complied with the terms and conditions of the Contract, including the USTDA mandatory 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. The Contractor has received the *pro rata* payment due to the Contractor from the Client under this invoice, in accordance with the applicable Contract provisions and the terms and conditions of the USTDA Grant Agreement. To the extent the Contractor has not complied with the terms and conditions of the

Contract, including the USTDA mandatory 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. The Client has disbursed the *pro rata* payment due to the Contractor under this invoice in accordance with the applicable Contract provisions and the terms and conditions of the USTDA Grant Agreement."

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

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

**(c) USTDA Address for Disbursement Requests**

Requests for disbursement shall be submitted 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 December 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 12/13 1001  
Activity No.: 2012-11003A  
Reservation No.: 2012043  
Grant No.: GH201211043

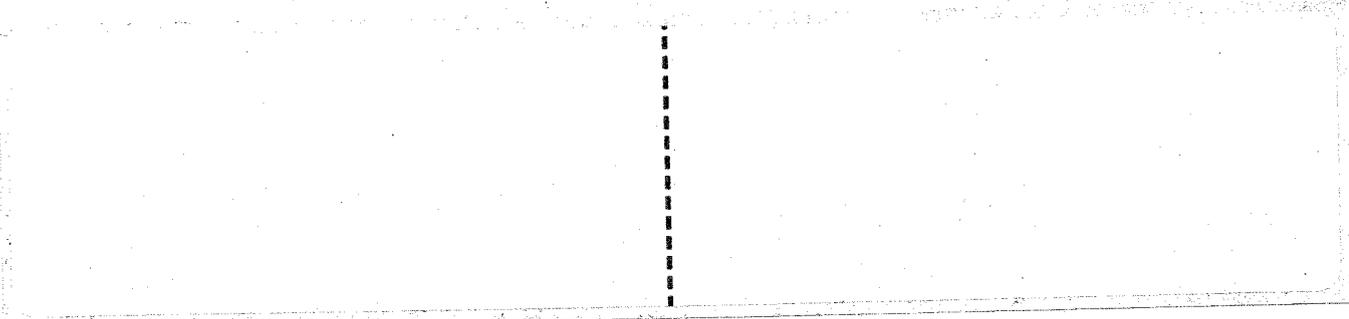
**N. Definitions**

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 feasibility study (Study) is to evaluate the technical and economic issues involved with the development of a natural gas transmission and distribution network originating from the Nigerian Gas Company (NGC) Transmission Pipeline at Ogun State, through Ibadan, Oyo State to Ilorin, Kwara State, with extensions to the adjacent states of Osun and Ekiti. The Study shall make recommendations on route options for the pipeline, construction, market demand, and the overall economic viability of the Project.

The Study shall also contain a preliminary front-end engineering analysis (pre-FEED) which is intended to provide engineering details, schedules and budgets with a degree of detail sufficient to include in proposals for investment, funding and commercial loans. The Study shall be consistent with a front-end loading (FEL) engineering strategy and shall perform analysis of the Project to Level 2 (FEL-2).

The Contractor shall perform the following Tasks:

### **Task 1: Preliminary Technical Review**

*1.1 Project Kickoff:* The Contractor shall meet with the Grantee and other relevant stakeholders including the Nigerian Gas Company and potential customers of the Grantee to gather information about the Project. The Grantee shall provide the Contractor with all currently available technical, commercial, and economic data related to the Project that is within the Grantee's control, and the Contractor shall prepare an assessment of the extent, suitability, quality and sufficiency of the data. The Contractor shall make note of any critical data which is missing, and shall document any assumptions or estimates which shall be used in this Study.

*1.2: Surface Facilities:* The Contractor shall prepare a basic surface facilities conceptual design that covers the major plant facilities necessary to carry natural gas from the NGC supply terminal to the market areas specified by the Grantee including Ibadan, Oyo State, Ilorin, Kwara State, and extensions to the adjacent states of Osun and Ekiti. The design shall include options for facilities requirements, including physical space, power and environmental waste disposal. The Contractor shall provide engineering drawings, including site layouts, for the options that are identified in this Study. Each drawing shall include a bill of materials and shall include guideline pricing for these materials. The Contractor shall provide typical costs for the services related to construction, installation, and commissioning of these facilities. The Contractor's analysis in Task 1.2 shall be to front-end loading level 1 (FEL-1).

*1.3: Pipeline Routing:* The Contractor shall determine pipeline route options using satellite imagery. The pipeline shall originate from Shagamu, Ogun State, or at another suitable location on the NGC's Escravos-Lagos Pipeline (ELP) and pass through the

cities of Ibadan and Oshogbo with a provision for extension from Oshogbo to Ekiti State. The pipeline shall further continue to Ilorin and terminate at Jebba with provisions for compressed natural gas (CNG) stations and valve tees for future connections. The Contractor shall identify the likely road, track and river crossings to be encountered by the pipeline. The Contractor shall provide an estimate of the land requirements associated with the construction of the pipeline, associated infrastructure and aboveground installations (AGIs), and define any relevant protected geographical and archaeological features that might be encountered by the Project. The Contractor's recommendations shall:

- Provide a reasonable additional capacity for projected long-term growth;
- Establish the most suitable anti-corrosion design (materials and surface coatings, cathodic protection systems, etc.) for the pipeline;
- Establish the locations and sizes of any compressor stations necessary;
- Establish the basic design of the supervisory control and data acquisition (SCADA) and control systems for the Project; and
- Determine the requirements for safety and security systems including leak and rupture detection, facilities surveillance, inventory management, and intrusion alarming.

The Contractor shall explain various options and alternatives for phasing the implementation of individual components of the Project over time. The Contractor's analysis in Task 1.3 shall be to front-end loading level 1 (FEL-1).

*1.4: Cost Estimate:* The Contractor shall perform a cost estimate for the Project and any alternatives recommended in Tasks 1.2 and 1.3 above. The Contractor's cost estimates shall cover the capital and operational costs for the Project including, at least: pipeline; compressor stations; regulating and metering stations; off-take stations; SCADA, control systems, and telecommunications; detailed design and engineering procurement and construction (EPC); and contingency. The Contractor's cost estimate shall be based on budgetary quotations received from contractors and suppliers, prices and costs from comparable projects, and best practices. The Contractor shall seek budget estimates from U.S. suppliers wherever practical. The Contractor's cost estimate shall include the life-cycle costs of the recommended equipment, including anticipated maintenance requirements. The Contractor's analysis in Task 1.4 shall be to front-end loading level 1 (FEL-1).

*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:           Operational, Safety, and Security Analysis**

*2.1: Risk Analysis:* The Contractor shall perform a risk analysis of the Project including, at least: commercial; health, safety and environmental (HSE); political; market; legal; and operational risks.

*2.2: Operating Plan:* The Contractor shall establish the basic operating plan for the Project including, at least: control; safety; security; maintenance; remote monitoring; safeguards of technical integrity; and leak detection and emergency shutdown procedures. The Contractor's recommendations shall consider the physical security of the Project including provisions for the early detection of damage or loss through vandalism or theft and appropriate and timely response to these threats. The Contractor shall make recommendations concerning the procedures to be followed in the event of a failure in order to minimize its impact on the public and the environment.

*2.3: Operating Budget:* The Contractor shall develop a preliminary operating budget for the Project that includes expenditures required on a continuing basis to operate the Project according to the Contractor's recommendations in Task 2.2 above.

*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: Commercial Analysis**

The Grantee shall provide the Contractor with information concerning budgetary constraints and economic and commercial objectives and targets of the Project. The Contractor shall inform the Grantee of any assumptions or estimates which will be used to carry out Task 3.

*3.1: Market Survey:* The Contractor shall conduct a market survey to collect data on potential customers and demand for the Project in Ogun, Oyo, Osun, Ekiti and Kwara States. The Contractor shall identify potential customers, establish an estimated baseline demand, and projected demand growth over a period of 20 years.

*3.2: Supply Study:* The Contractor shall establish the minimum gas requirements for the Project over a period of 20 years. The Contractor shall perform an assessment of the availability of natural gas to the Project, including the current availability of natural gas, and the projected availability of natural gas over a period of 20 years. The Contractor shall identify potential sources of natural gas for the Project, including gas supply options presented in the Government of Nigeria's Gas Master Plan. The Contractor shall identify gas gathering systems which will be required for the Project and provide an estimate of the cost of natural gas over a period of 20 years. The Contractor's analysis shall consider any applicable regulations on the price of energy and make recommendations regarding third-party access to the Project's gas on a non-discriminatory basis.

*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: Financial Analysis**

*4.1: Financial Analysis:* The Contractor shall perform financial analysis of the pipeline routing options identified in Task 1.3 above. The Contractor's analysis shall be based on

a discounted cash flow method and shall identify the anticipated internal rate of return (IRR) for the Project based on the pipeline routing options identified in Task 1.3 above. The Contractor shall provide projections of the Project's annual cash flow for a 20 and 30 year period. The Contractor's analysis shall include sensitivity analysis of key economic indicators which could affect the profitability of the Project. The Contractor shall identify appropriate breakeven points (price, time, volume, etc) for the Project. The Contractor's analysis shall consider, at least:

- capital costs;
- operating costs;
- annual and peak day transportation tariffs;
- annual demand volumes and demand growth;
- peak day demand volumes and demand growth;
- inflation;
- taxation and available tax incentives;
- terms of debt; and
- Project construction phasing.

*4.2: Economic Viability:* The Contractor shall make recommendations on the economic viability of the Project and highlight the key sensitivities likely to have significant impact on the Project. The Contractor shall describe the criteria, certification process, regulations, and means of trading carbon credits and other local and global anti-pollution measures.

*4.3: Sources of Financing:* The Contractor shall make recommendations on options for financing the Project including the Grantee's budgetary resources, equity investment, commercial lenders, the U.S. Export-Import Bank, World Bank, and African Development Bank.

*4.4: Ownership and Management Structure:* The Contractor shall make recommendations concerning the structure of the corporate vehicle(s) required for the efficient construction, management and operation of the Project.

*4.5: Presentation of Findings:* The Contractor shall present its findings in Tasks 1-4 above to the Grantee at the Grantee's office in Lagos. The Contractor shall receive the Grantee's approval of its work in Tasks 1-4 above before proceeding to work on Tasks 5-10 below.

*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: Preliminary Design**

**5.1: Project Design:** The Contractor shall build upon work completed in Tasks 1-4 above to produce a preliminary design for the Project to front-end loading level 2 (FEL-2). The Contractor's design shall, at least:

- provide reasonable additional capacity for projected long-term growth;
- specify requirements for safety and security systems including leak and rupture detection, facilities surveillance, inventory management and intrusion alarming;
- undertake reconnaissance surveys of critical areas (e.g. locations for possible compressor stations, pigging stations, intermediate scrapper stations, reduction and metering stations, etc.) A complete site survey is not required at this stage.
- establish the most suitable anti-corrosion coating for the pipeline and establish the cathodic protection design for the pipeline;
- establish the locations and sizes of compressor stations;
- establish the design of the SCADA and control system;
- advise on testing and commissioning the Project;
- provide equipment designs, and bills of materials;
- provide layouts and plans; and
- recommend a Project schedule.

**5.2: Cost Estimate:** The Contractor shall provide a budget estimate for the Project. The Contractor's cost analysis in Task 5.2 shall be to front-end loading level 2 (FEL-2). The Contractor's cost estimate shall cover the capital and operational costs for the Project including, at least: pipeline; compressor stations; regulating and metering stations; off-take stations; SCADA, control systems, and telecommunications; detailed design and engineering procurement and construction (EPC); and contingency. The Contractor's cost estimates shall be based on estimates obtained from at least three suppliers for major cost items (i.e. items which constitute more than 10% of the Project's total cost), and estimates obtained from at least two suppliers for minor cost items (i.e. items which constitute less than 10% of the Project's total cost). The Contractor shall obtain cost estimates from U.S. suppliers. The Contractor's cost estimate shall include the life-cycle costs of the recommended equipment, including anticipated maintenance requirements. The Contractor's analysis in Task 5.2 shall be in spreadsheet format, have an accuracy of +/-30%, and shall assume that Project construction and commissioning takes place between 2012 and 2015.

**5.3: Implementation Timeline:** The Contractor shall produce an implementation timeline for the Project. The Contractor's analysis shall include, at least:

- detailed design (e.g. front-end loading level 3);
- detailed environmental impact assessment (EIA);
- preparation, issue and assessment of construction tenders;
- legal aspects including permitting, land purchase, right-of-way and consent;

- upstream pipeline connection including all mechanical, electrical, control and instrumentation requirements;
- pipeline construction including all mechanical, electrical, control, instrumentation and corrosion protection requirements;
- downstream pressure reduction and above-ground installation construction including all mechanical, electrical, control, and instrumentation requirements;
- commissioning and validation activities; and
- pipeline safety documentation, emergency response, operational and maintenance manuals.

The Contractor shall produce a Project management plan including, at least:

- pipeline contractors;
- health and safety issues;
- environmental issues;
- community and landowner liaison;
- local authorities liaison; and
- public relations.

*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: Potential U.S. Sources of Supply**

The Contractor shall provide a comprehensive list of potential U.S. sources of supply for the Project with reference to the technical specifications developed under Tasks 1 and 5 above. The Contractor shall include any U.S. supplier that was contacted for cost estimates in Tasks 1.4 and 5.2 above. The Contractor shall include the business name, point of contact, address, telephone, e-mail, and fax numbers for each identified source. The list shall be provided in spreadsheet format.

*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: Regulatory and Policy Review**

The Contractor shall review regulations and policies on the local, state, and federal level that may impact the Project's viability or implementation. The Contractor's review shall include, at least:

- Nigeria's Gas Master Plan;
- Nigeria's proposed Petroleum Industry Bill;
- binding engineering standards;
- environmental standards;

- regulations that impact operations;
- health and safety regulations;
- environmental regulations;
- regulations that constrain commerce;
- regulations that constrain labor;
- regulatory constraints on obtaining and servicing commercial loans;
- regulations on land acquisition and right-of-way;
- taxes and other levies; and
- regulations that impact the ability to do business.

The Contractor shall identify potential regulatory obstacles which must be overcome to successfully implement the Project and make recommendations on means of implementing the Project in a manner consistent with Nigeria's regulatory environment. The Contractor shall make recommendations on potential regulatory changes which would be beneficial to the implementation of the Project, if any. The Contractor shall make recommendations on means of promoting long-term cooperation and good relations amongst the institutions, regulatory agencies, and communities which will be affected by the Project.

*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: Preliminary Environmental Impact Assessment**

The Contractor shall prepare a preliminary assessment of the Project's anticipated impact on the environment. The Contractor's assessment shall make reference to local requirements and those of multilateral lending agencies, such as the World Bank. The Contractor shall identify potential negative impacts, discuss the extent to which they can be mitigated, and develop plans for a full environmental impact assessment if and when the Project moves forward to the implementation stage. This includes the identification of steps that will need to be undertaken by the Grantee subsequent to the completion of the Study and prior to Project implementation. The Contractor's assessment shall also include any potential positive impacts, including the reduction of gas flaring, reduction in emissions of greenhouse gases, etc. The Contractor shall not be expected to prepare a complete environmental impact assessment.

*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: Developmental Impact Assessment**

*9.1: Developmental Impact:* 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 Nigeria. 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 such impacts. Potential infrastructure impacts may include the construction of a gas pipeline and associated infrastructure, etc.
- (2) **Human Capacity Building:** The Contractor shall identify the anticipated number and types of local jobs that will be created 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.
- (3) **Technology Transfer and Productivity Enhancement:** The Contractor shall identify the anticipated advance in technologies that would be mobilized through this Project, and especially any technologies which would be new to the Nigerian market. The Contractor shall also identify anticipated efficiencies that would be gained as a result of the Project.
- (4) **Market Oriented Reform:** 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 positive spin-off effects on unrelated economic sectors, increased good governance and transparency, private sector participation, etc.

**9.2: Social Impact:** The Contractor shall perform an assessment of the Project's potential social impacts. The Contractor's assessment shall include improved access to energy, reduced cost of fuel, etc. The Contractor's assessment shall also address potentially negative social impacts of the Project such as relocation of towns and centers of population, expropriation of land, and relocation of people. The Contractor's assessment shall make reference to international best practices, local requirements, and those of multilateral lending agencies, such as the World Bank.

**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: 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.



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

### U.S. Firm Information Form

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

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

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

Full Legal Name of U.S. Firm

Business Address (street address only)

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

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

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

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

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

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

Name	Surname	
	Given Name	
Address		
Telephone		
Fax		
Email		

#### Negotiation Prerequisites

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

*U.S. Firm may attach additional sheets, as necessary.*

**U.S. Firm's Representations**

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

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

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

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

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





**ATTACHMENT B**

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

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

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

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

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

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



**ATTACHMENT C**

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

**Subcontractor Information Form**

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

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

Name	Surname	
	Given Name	

Address	
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Telephone	
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Fax	
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Email	
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**Subcontractor's Representations**

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

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

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

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

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

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

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

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

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

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

Name		Signature	
Title			
Organization		Date	