

**REQUEST FOR PROPOSALS**  
**FEASIBILITY STUDY FOR THE**  
**TRANSGAZ PIPELINE EXPANSION PROJECT**

Submission Deadline: **12:00 PM**  
**LOCAL TIME**  
**OCTOBER 31, 2015**

Submission Place: **Mr. Petru Vaduva**  
**Director General**  
**Transgaz S.A.**  
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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\$956,000 to Transgaz S.A. (the “Grantee”) in accordance with a grant agreement dated September 24<sup>th</sup>, 2015 (the “Grant Agreement”). This feasibility study (“FS”) will evaluate the technical, financial and economic viability of implementing the Transgaz Pipeline Expansion Project (“Project”) in Romania (“Host Country”). The Grant Agreement is attached at Annex 4 for reference. The Grantee is soliciting technical proposals from qualified U.S. firms to provide expert consulting services to perform a feasibility study that will include evaluation, validation and improvement of existing feasibility studies and will evaluate the technical design and feasibility, and the economic and financial viability of the Grantee’s Pipeline Expansion Project in Romania. The Project consists of the proposed Transgaz Bulgaria-Romania-Hungary-Austria (BRHA Phase I and Phase II) covering the Romanian sections of the BRHA pipeline project and the Black Sea Shore-Podisor Pipeline Project.

### **1.1 BACKGROUND SUMMARY**

Romania is located at the crossroads between the well-developed gas markets of Central Europe and Eurasia and the major gas reserves of the Middle East. Historically, Romania has been self-sufficient in supplying its domestic natural gas demand; however, due to declining production, Romania has become a net importer of natural gas. In 2015, as much as 25% to 40% of Romania’s natural gas supplies will be provided by Russia via Ukrainian pipelines.

Due to its location, Romania could be a lucrative and strategic bridge for the increasing energy flow within Southeast Europe, as the countries within the region continue to develop strategies for reducing dependence on gas from Russia. Recent exploration of Romanian conventional offshore and unconventional onshore gas resources indicate that Romania could supplement its own as well as regional energy trading partners’ natural gas needs.

Transgaz, the National Gas Transmission Company, was established by Romanian Law no. 334/28 in April 2000, which restructured the Romanian gas sector by unbundling the Natural Gas National Company, Romgaz S.A. Mediaş into five separate entities: Transgaz, Exprogaz, Depogaz, Distrigaz Sud and Distrigaz Nord. Shortly thereafter in 2001, Exprogaz and Depogaz merged to recreate Romgaz S.A. Mediaş, now the largest natural gas producer in Romania, responsible for approximately 40% of national consumption. Transgaz is the technical operator of the national gas transmission system (NTN) and is responsible for the national strategy on transmission, natural gas dispatching, international transit, and natural gas transmission research and design.

The NTN was developed to facilitate the shipment of gas to domestic consumers. While the NTN has interconnections with Bulgaria and Hungary, the system operates at pressures below that of the pipelines in these neighboring countries, which is a significant impediment to cross-border flows. This limitation currently prevents Romania from importing or exporting gas, except under rare circumstances, from/to either Bulgaria or Hungary. Another limitation to the NTN’s functionality is that it has limited capacity to ship natural gas from recently discovered Black Sea offshore resources, where significant reserves likely exist, to western Romania and neighboring European countries. Increasing the NTN’s capacity to transport gas within Romania

and with its neighbors is a high priority of the Romanian Government and the European Union, for the purposes of increasing energy security and benefitting consumers.

Accordingly, Transgaz has been considering a variety of options for modernizing and expanding the NTN. The company has conducted pre-feasibility studies on four pipeline projects: the BRHA, Black Sea Region-Podisor, Central Corridor, and the Moldova Pipeline Expansion. Through investing in these projects, Transgaz aims to improve the NTN through increasing the maximum allowable operating pressure and building new pipelines to distribute anticipated new gas resources, particularly from the Black Sea and the eastern region of the country. Additionally, these investments would allow Romania to conduct bi-directional gas trade with nearby countries such as Bulgaria, Hungary, Moldova, Serbia and Turkey.

The subject of this feasibility study is the BRHA and Black Sea Shore-Podisor pipelines. With the BRHA pipeline, Transgaz S.A. will develop the capacity to transport natural gas from the existing interconnection with the Bulgarian pipeline network near Giurgiu, Romania in fulfillment of Romania's obligations to the EU interconnected natural gas network. With the Black Sea Shore – Podisor pipeline (and using some capacity of BRHA), Transgaz S.A. will be able to transport gas production from recent Black Sea natural gas discoveries in the Romanian sector of the sea. In addition by the nature of this expanded Transgaz transport capacity, it is anticipated that other potential natural gas production in the Black Sea and from unconventional natural gas resources onshore in southeastern Romania will be possible should such resources prove to be economically viable.

#### **BRHA (Bulgaria-Romania-Hungary-Austria Connector):**

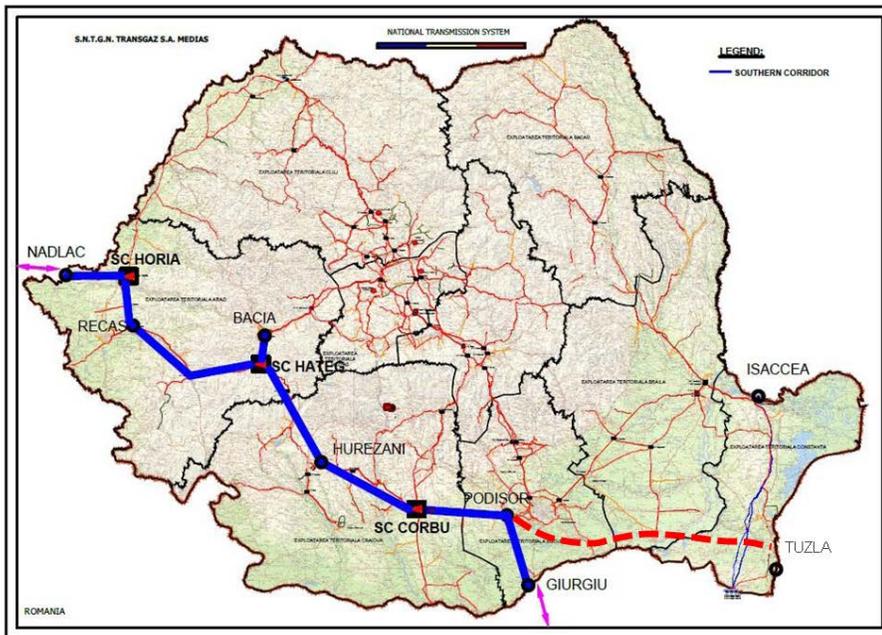
The BRHA Connector project, which includes existing pipelines in some locations, as well as greenfield pipeline development in other sections, would increase pipeline capacity and upgrade the operating pressure, which would both increase the amount of gas that could be transported within Romania and ensure that gas can flow freely with Romania's neighboring countries. The BRHA investments are planned to include the construction of new gas transmission pipeline sections, the installation of three compressor stations, a connecting terminal node in Podisor, and a gas metering station in Horia (near the Hungarian border).

The BRHA is currently designed to proceed in two phases. BRHA Phase I, which is scheduled to be in service by early 2017, would improve the initial capacity through the installation of two compressor stations, a gas metering station at Horia, and the construction of 154 miles of additional pipeline. BRHA Phase II, which is expected to be in service by 2021, would include the installation of one compressor station, a connecting terminal node at Podisor, and the construction of 185 miles of pipeline. Phase II would allow gas to flow from the planned Black Sea Region-Podisor Project, which would transport gas from anticipated eastern Romania unconventional onshore and Black Sea offshore production.

BRHA Phase I is driven both by Romania's commitments to the European Union to liberalize its gas market as well as by Romania's need to improve its capacity to trade gas with Eastern Europe. BRHA Phase II is driven by the need to establish the necessary capacity to ship gas from anticipated production in Eastern Romania and the Black Sea.

### **Black Sea Region-Podisor:**

Transgaz requires new pipeline to accommodate the transmission of gas from several anticipated sources of gas in Eastern Romania. Specifically, Transgaz is planning to construct a connector between the Black Sea region, and Podisor, where it would link with the BRHA project, to accommodate: 1) potentially significant offshore gas reserves in the Romanian section of the Black Sea (where ExxonMobil is conducting exploratory drilling); and 2) the undeveloped significant unconventional gas reserves located onshore in Southeastern Romania. A pre-feasibility study conducted by Transgaz and reviewed by USTDA’s Definitional Mission Contractor, Skipping Stone, projects that the Black Sea Region-Podisor project would require 177 miles of gas transmission pipeline and require investments in metering and supervisory control and data acquisition (SCADA) systems, among other technologies.



Portions of a background Romania Oil and Gas Definitional Mission report are provided for reference in Annex 2.

### **1.2 OBJECTIVE**

The objective of the FS is to support Transgaz as it proceeds to modernize existing pipelines and construct new pipelines that would allow trade with Eastern European countries and distribute anticipated Romanian conventional offshore and unconventional onshore gas resources. The Terms of Reference (TOR) for this Feasibility Study are attached as Annex 5.

### **1.3 PROPOSALS TO BE SUBMITTED**

Technical proposals are solicited from interested and qualified U.S. firms. The administrative and technical requirements as detailed throughout the Request for Proposals (RFP) will apply. Specific proposal format and content requirements are detailed in Section 3.

The amount for the contract has been established by a USTDA grant of US\$956,000. **The USTDA grant of \$US956,000 is a fixed amount. Accordingly, COST will not be a factor in the evaluation and therefore, cost proposals should not be submitted.** Upon detailed evaluation of technical proposals, the Grantee shall select one firm for contract negotiations.

### **1.4 CONTRACT FUNDED BY USTDA**

In accordance with the terms and conditions of the Grant Agreement, USTDA has provided a grant in the amount of US\$956,000 to the Grantee. The funding provided under the Grant Agreement shall be used to fund the costs of the contract between the Grantee and the U.S. firm selected by the Grantee to perform the TOR. The contract must include certain USTDA Mandatory Contract Clauses relating to nationality, taxes, payment, reporting, and other matters. The USTDA nationality requirements and the USTDA Mandatory Contract Clauses are attached at Annexes 3 and 4, respectively, for reference.

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

### **2.1 PROJECT TITLE**

The project is called the Transgaz Pipeline Expansion.

### **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 PORTIONS OF THE DEFINITIONAL MISSION REPORT**

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

### **2.4 EXAMINATION OF DOCUMENTS**

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

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

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

## **2.5 PROJECT FUNDING SOURCE**

The Feasibility Study will be funded under a grant from USTDA. The total amount of the grant is not to exceed US\$956,000.

## **2.6 RESPONSIBILITY FOR COSTS**

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

## **2.7 TAXES**

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

## **2.8 CONFIDENTIALITY**

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

## **2.9 ECONOMY OF PROPOSALS**

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

## **2.10 OFFEROR CERTIFICATIONS**

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

## **2.11 CONDITIONS REQUIRED FOR PARTICIPATION**

Only U.S. firms are eligible to participate in this tender. However, U.S. firms may utilize subcontractors from the Host Country for up to 20 percent of the amount of the USTDA grant for

specific services from the TOR identified in the subcontract. USTDA's nationality requirements, including definitions, are detailed in Annex 3.

In accordance with Romanian Public Procurement Law (Articles 66-68 of the Romanian Procurement Law <http://www.oecd.org/countries/romania/39646004.pdf>), entities or persons involved in tender document preparation (which may apply to feasibility study reports) are generally precluded from competing for the implementation of the project.

## **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:

Mr. Petru Vaduva  
Director General  
Transgaz S.A.  
Piata C. I. Motas, Nr. 1  
551130 Medias Jud.  
Sibiu, Romania

Phone: +40 26 980 33 33  
Fax: +40 26 980 90 29  
E-Mail: [petru.vaduva@transgaz.ro](mailto:petru.vaduva@transgaz.ro)

**An Original and 5 (five) copies of your proposal must be received at the above address no later than 12:00 PM, on OCTOBER 31, 2015.**

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 5 (five) 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 SIXTY (60) days after the proposal due date, and Offeror may withdraw or modify this proposal at any time prior to the due date upon written request, signed in the same manner and by the same person who signed the original proposal.

## **2.18 EXCEPTIONS**

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

## **2.19 OFFEROR QUALIFICATIONS**

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

## **2.20 RIGHT TO REJECT PROPOSALS**

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

## **2.21 PRIME CONTRACTOR RESPONSIBILITY**

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

shall cause appropriate provisions of its contract, including all of the applicable USTDA Mandatory Contract Clauses, to be inserted in any subcontract funded or partially funded by USTDA grant funds.

## **2.22 AWARD**

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

## **2.23 COMPLETE SERVICES**

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

## **2.24 INVOICING AND PAYMENT**

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

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

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

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

The proposal shall consist of a technical proposal only. A cost proposal is NOT required because the amount for the contract has been established by a USTDA grant of US\$956,000, which is a fixed amount.

Offerors shall submit one (1) original and five (5) 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.

Offerors are recommended to include the following positions and experience levels in their bids. The list below does not preclude Offerors from recommending individuals that have the expertise to fulfill multiple roles.

FEASIBILITY STUDY EXPERIENCE LEVELS		
Position	Experience (Years)	Experience
Project Manager	15+	Demonstrated experience in leading a minimum of 3 multi-disciplined infrastructure Feasibility Studies.
Pipeline Project Engineer	15+	Demonstrated experience in leading a minimum of 3 large diameter pipeline design and construction projects.
Rotating Equipment Engineer	10+	Demonstrated experience in the design and specifications for gas turbine driven centrifugal gas compressor stations.
Instrumentation Engineer	10+	Demonstrated experience in the design and specifications for the instrumentation, measurement, and control systems for large diameter gas pipelines and compressor stations.
Mechanical Engineer	10+	Demonstrated experience in the design and specifications for compressor station piping, tanks and vessels and related equipment necessary for the installation of a large diameter gas pipeline.
Electrical Engineer	10+	Demonstrated experience in the design and specifications for the electric supply and protection for the pipeline compressor stations, instrumentation, controls, measurement, and SCADA systems.
Environmental Engineer	15+	Demonstrated experience in the evaluation of pipeline construction and operation environmental impacts and recommending acceptable mitigation measures and support for Operating Permits.

Archeologist	15+	Demonstrated experience in the evaluation of pipeline construction routes and identification of artifacts.
Survey Engineer	10+	Demonstrated experience in the evaluation of pipeline construction routes and the documentation of such routes.
Right of Way Land Man	10+	Demonstrated experience in the evaluation of pipeline construction routes and Right of Way contracting.
Procurement Manager	15+	Demonstrated experience in the procurement of large diameter pipeline equipment, compressors and compressor station equipment, and pre-fabricated systems
Administrator	10+	Demonstrated experience in assembling Engineering EPC and O&M Tender Documents and Feasibility Studies.
Drafting Manager	15+	Demonstrated experience in developing Engineering Documents in support of EPC and O&M Tender Documents and Feasibility Studies.
Draftsman	10+	Demonstrated experience in developing Engineering Documents in support of EPC and O&M Tender Documents and Feasibility Studies.

Offerors are hereby notified that some documents that will need to be reviewed during the course of the feasibility study are only available in the Romanian language, so Offerors will need to have Romanian language capability among team members or access to translation services.

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

<b>Criterion</b>	<b>Percent Weight</b>
Expertise and skills of proposed personnel and Offeror's experience performing similar projects	45%
Proposed approach to the FS and to the individual tasks	30%
Proposed schedule and demonstrated ability to complete projects quickly	15%
Experience of the proposed personnel and Offeror in Central and Southeast Europe, particularly in Romania	10%
<b>Total</b>	<b>100%</b>

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

Price will not be a factor in contractor selection.

## **ANNEX 1**

Mr. Petru Vaduva  
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Sibiu, Romania

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Transgaz Pipeline Expansion Project (USTDA Activity No. 2015-21014A)

POC: Jennifer Van Renterghem, USTDA, 1000 Wilson Boulevard, Suite 1600, Arlington, VA 22209-3901, Tel: (703) 875-4357, Fax: (703) 875-4009, Email: RFPQuestions@ustda.gov. Transgaz Pipeline Expansion Project. The Grantee, Transgaz S.A., 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 ("FS") that will include evaluation, validation and improvement of existing feasibility studies and will evaluate the technical design and feasibility, and the economic and financial viability of the Grantee's pipeline expansion project ("Project") in Romania ("Host Country"). The Project consists of the proposed Transgaz Bulgaria-Romania-Hungary-Austria (BRHA Phase I and Phase II) covering the Romanian sections of the BRHA pipeline project and the Black Sea Shore-Podisor Pipeline Project.

Transgaz S.A. (Transgaz), a majority Romanian state-owned company, is the technical operator of the national gas transmission system (NTN) and is responsible for the national strategy on transmission, natural gas dispatching, international gas transmission, and natural gas transmission research and design.

Transgaz has been considering a variety of options for modernizing and expanding the NTN. Transgaz aims to improve the NTN through increasing the maximum allowable operating pressure and building new pipelines to distribute anticipated new gas resources, particularly from the Black Sea and the eastern region of the country. Additionally, these investments would allow Romania to conduct bi-directional gas trade with nearby countries.

The U.S. firm selected will be paid in U.S. dollars from a \$956,000 grant to the Grantee from the U.S. Trade and Development Agency (USTDA).

A detailed Request for Proposals (RFP), which includes requirements for the Proposal, the Terms of Reference, and portions of a background definitional mission report are available from USTDA, at 1000 Wilson Boulevard, Suite 1600, Arlington, VA 22209-3901. To request the RFP in PDF format, please go to: <https://www.ustda.gov/businessopps/rfpform.asp>. Requests for a mailed hardcopy version of the RFP may also be faxed to the IRC, USTDA at 703-875-4009. In the fax,

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

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

Interested U.S. firms should submit their Proposal in English directly to the Grantee by 12:00 PM local time, October 31, 2015 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**

**PUBLIC VERSION**

**FINAL REPORT**

**Definitional Mission:**

**Romania: Oil and Gas Sector**

**Contract USTDA CO201421221**

*Prepared by:*



**200 Ashford Center North, Suite 175**

**Atlanta, GA 30338**

**August 26, 2015**



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.

## **EXECUTIVE SUMMARY**

Romania is integrating its natural gas industry with the European Union (EU). USTDA retained Skipping Stone LLC (Contractor) to perform a Definitional Mission of the Romanian Oil and Gas Sector pursuant to USTDA Contract Number CO201421221. The Contractor traveled to Romania from September 8, 2014 to September 24, 2014 and met with Romanian Government officials, regulators, law firms, oil and natural gas producers, equipment suppliers, and the operator of the National Transportation Network (NTN). As a result of these meetings, the Contractor identified and evaluated natural gas pipeline projects intended to expand and upgrade the NTN during the next 5 to 7 years.

Romania has a rich history in the oil and gas industry and is centrally located between the natural gas reserves in the Caspian Region, the Middle East and Eastern Europe. The EU and Romania both have major goals of strengthening energy security and energy supply diversity. Romania has historically been self-sufficient in its natural gas requirements but declining production has resulted in Romania becoming a net importer of natural gas. This year as much as 25% to 40% of Romania's requirements will be supplied from Russia via pipelines which traverse Ukraine. The energy industry in Romania has historically been State owned. Over the past 20 years, Romania has strived to privatize both the exploration and production of its oil and gas industry and the oil and natural gas transportation and distribution networks. Romania privatized the transportation and distribution networks by granting long-term concessions to privately owned operating companies. The NTN, while still owned by the State is operated by Transgaz S.A. Medias ("Transgaz") pursuant to a 30 year operating concession granted by the Romanian Government on April 28, 2000. Transgaz is a public joint stock company with the Romanian State currently controlling 58.5% of the company. An independently elected Board of Directors governs Transgaz vs. historical governance by the State.

The NTN was developed over time to facilitate the shipment of gas from the centrally located natural gas production fields to consumers and operates at pressures below that of the pipelines of neighboring countries pipelines. This limitation prevents Romania from physically exporting gas, except under rare circumstances, to either Bulgaria or Hungary, even though the NTN has interconnections with both countries. In addition to low operating pressure constraints, the NTN has limited capacity to ship natural gas from the Black Sea Region to western Romania.

Transgaz is developing a series of projects ("Projects") to: i) support Romania's commitment to create a pathway for natural gas to flow from Bulgaria across Romania to Hungary (Bulgaria-Romania-Hungary-Austria Connector – ("BRHA Phase I")); ii) ship newly discovered natural gas reserves in the Black Sea and future Shale Gas Reserves in eastern Romania to eastern Europe via Hungary (Black Sea Shore-Podisor Connector – "Black Sea Shore-Podisor" and BRHA Phase II); iii) create an alternate route from the Black Sea and eastern Romania natural gas should new production exceed capacities made available by the BRHA by expanding the northern part of the NTN ("Central Corridor Upgrade"); and expand capacity supplying the new Moldova interconnection pipeline ("Moldova Capacity"). The Projects are to be constructed between late 2016 and 2021 to 2022.

- In the case of BRHA Phase I, a pipeline capacity and operating pressure upgrade is expected to be in service by late 2016 or early 2017. The BRHA Phase II capacity is slated to become available at the time the Black Sea Shore-Podisor Project goes in service in early 2019 to allow production to flow from the new Black Sea offshore production. The BRHA Phase I Project is driven by Romania's commitments to the EU to support energy supply goals. Phase II, in conjunction with the Black Sea Shore-Podisor Project, is driven by the need to ship gas from the new production both on and offshore eastern Romania.
- The Central Corridor Upgrade and the Moldova Capacity are not nearly as firm in their respective requirements. The Central Corridor Upgrade is driven by potential import of natural gas made possible by i) a proposed LNG Import Terminal near Constanta on the Black Sea Coast and/or greater than planned volumes from new production in eastern Romania (either on or off-shore). The LNG to be liquefied would be supplied from gas pipelines crossing Georgia and then converted to LNG for transport by ship to Constanta. The Moldova Capacity Project is driven by Moldova's desire to diversify its dependence on gas supplied by Russia via pipelines that cross the Ukraine. The Romanian Energy Ministry is very supportive of this Project given the cultural ties between the two countries and this Project may be accomplished in the normal course of Transgaz' business rather than through a new project.

Transgaz developed Pre-Feasibility Studies using internal resources for the BRHA, Black Sea Shore-Podisor, and the Central Corridor Upgrade Projects. (Note: Due to construction needs, the Contractor subdivided the BRHA Project into Phase I Capacity (Capacity and Pressure Upgrades at Borders of Bulgaria and Hungary) and Phase II Capacity (New Pipeline between the Black Sea Region and BRHA Phase I, which includes an increase in Capacity on the BRHA to accommodate new Black Sea Region quantities). The Studies provided Project construction cost estimates and were based upon the operational requirements of each Project and involved the planning level design of facilities; pipeline routing and compressor and other above ground facilities locations; environmental considerations, and construction timing. In order to test these costs, the Contractor compared the Transgaz estimates to similar pipeline projects constructed in the U.S. during the past 5 years in terms of \$/constructed pipeline mile and \$/compressor horsepower. These costs were then used to develop a comparative cost estimate for each Project. The Projects individually and combined represent a significant investment by Transgaz.

Transgaz is compensated for capital investments in the operation, maintenance, improvement, and expansion of the NTN. This is accomplished in the Transportation Tariff Rates ("Tariff Rates") that Transgaz charges to shippers for transporting natural gas on the NTN. Transgaz stated that major consideration in constructing the Projects is that the cost of a Project should not cause its tariff rates to increase above current levels while permitting Transgaz to earn its compensation for making the project investments ("Financial Viability"). A cash flow analysis was conducted for the BRHA Phase I and Black Sea Shore-Podisor/BRHA Phase II Projects to test the financial viability of each Project.

The Contractor determined that both Projects are within an acceptable range of financial viability, considering the range of uncertainty in construction cost estimates; financing (interest

rate) costs, and recurring operating and maintenance costs. Due to the uncertainty in need, operating/design requirements and construction timing of the Central Corridor Upgrade the financial viability of this Project was not tested. Likewise, the Moldova Capacity Expansion Project was not tested for financial viability due to the lack of clarity in transportation quantities that would form the basis for the financial analysis.

The BRHA Phase I and Black Sea Shore-Podisor/BHRA Phase II Projects would i) have a significant impact on Romanian: infrastructure and technology transfer; ii) create approximately 1,700 man-years of construction jobs during the period 2016 through 2020, with a peak work force of approximately 1,600, and iii) have a minimal impact on the environment. Romania has no trade restrictions with the U.S. that would prevent Transgaz from retaining a U.S. Engineering, Procurement, and Construction Contractor (EPC Contractor) or maintenance contractors from participating in the Projects. In addition, U.S. suppliers and manufacturers would have the opportunity to supply design services, compression equipment, large ball and block valves and equipment maintenance over the next 20 years. The supply of this equipment would have a positive impact on U.S. manufacturing jobs. Indirectly, the construction of the Projects would promote the exploration and production of oil and natural gas by U.S. based companies. ExxonMobil, Chevron, Hunt Oil and other U.S. based exploration and production companies are actively working in Romania. The U.S. produces large amounts of equipment and services to support the exploration and production industry.

The table below provides an estimate of the construction and permanent jobs created by the Projects.

<b>Estimated Job Creation during Construction of Pipeline Projects</b>				
<b>Projects</b>	<b>Construction Period</b>	<b>Peak Labor (Personnel)</b>	<b>Labor (Man- Years)</b>	<b>Local Labor (Personnel)</b>
BRHA	2016 - 2019	1,070	1,125	645
Black Sea Shore-Podisor	2017 - 2019	500	450	300
Central Corridor	2019 - 2021	1,265	1,325	760

U.S. service and equipment suppliers were contacted to determine interest in the proposed Projects. All companies contacted expressed interest; however, several companies raised concern regarding the timeliness of payment by Transgaz. The privatization and new management team at Transgaz is expected to eliminate this concern.

It is recommended that USTDA fund a Feasibility Study of a combined BRHA Phase I and Black Sea Shore-Podisor/BHRA Phase II Project pursuant to the TERMS OF REFERENCE found in Appendix I. This recommendation to combine the Projects is based upon the co-dependence of the BRHA Phase II and Black Sea Shore-Podisor Projects whereby each Project depends upon the other for a completed transportation path for natural gas from eastern Romania to reach Hungary and Eastern Europe. In addition, should either the BRHA Phase II or Black Sea Shore-Podisor Projects prove to not be financially viable in the Feasibility Study, the recommendations from the Feasibility Study can be applied in the design of BRHA Phase I.

It is estimated a Feasibility Study, performed in accordance with the TERMS OF REFERENCE, is estimated to take six to seven months to complete. Feasibility Studies performed separately by different Contractors are estimated to cost significantly more. By combining the Projects the total cost of the Feasibility Studies is reduced. In addition to the cost savings and the co-dependence of the Projects, a combined Project Feasibility Study will make better use of the limited resources Transgaz has available to support the Studies. Transgaz has reviewed and is agreement with the requirements of the TERMS OF REFERENCE.

## **PROJECT DESCRIPTION**

**Background:** – The natural gas pipeline transmission system in Romania, known as the National Transportation Network ("NTN"), is owned by the Romanian Government and is considered public property. Natural gas transportation and delivery activities represent a service of national public interest and are considered as a strategic activity. The operation of the NTN is conducted by The National Gas Transmission Company "Transgaz" S.A. Medias ("Transgaz") ([www.transgaz.ro](http://www.transgaz.ro)) which was granted a 30 year license (concession) on April 28, 2000 to be the sole operator of the NTN. Transgaz is a joint stock company with the Romanian State currently controlling 58.5% of the company. Transgaz is compensated for its costs i) to operate and maintain the NTN and ii) investments it makes to improve and expand the NTN by means of the natural gas transportation rates it charges shippers of natural gas on the NTN. These transportation rates are regulated by law and are established (determined by) the Romanian Autoritatea Nationala De Reglementare In Domeniul Energiei ("ANRE"). The ANRE sets rates based upon a framework established by law where the NTN operator is reimbursed for its reasonable costs to operate and maintain the NTN and a return on investments (as approved by the ANRE) the operator makes to improve and expand the NTN. The return on new investments by Transgaz after 2014 is currently established at a rate of 9.12%. This rate remains in effect until 2018. Transgaz, in addition to operating the NTN, also operates the Romanian segment of the West Pipeline which transports natural gas from Russia to the EU (Russia-Ukraine-Moldova-Romania-Bulgaria-Turkey). The West Pipeline is not currently interconnected with the NTN.

Romania has a long history of oil and natural gas production. The NTN system was developed to connect Romania's natural gas fields to its regional distribution networks. The NTN design pressure and resulting maximum allowable operating pressure ("MAOP") is below the pipeline systems of its neighboring countries. The NTN low MAOP currently limits Romania's physical ability to export gas to either Bulgaria or Hungary.

Romania is located at the crossroads between i) the well-developed gas markets of Central Europe, ii) the major gas reserves of the Middle East, and iii) the emergence of new Romanian natural gas reserves from unconventional onshore and deep-water offshore discoveries. Due to its location, Romania is a potential bridge for the ever-increasing energy flow from East to West.

In 2013, Romania relied on Russia for 25% of its natural gas, with imports projected to grow to over 40% by 2015. In order to improve energy security, integrate into European gas networks, and provide natural gas transport for new natural gas production, Romania intends to invest in pipeline upgrades to strengthen its internal pipeline system. Its system currently operates on a lower pressure than international standards. By increasing pressures in Romania's internal system, it will facilitate natural gas trade with neighboring countries, including potentially

"reverse flows" from west to east (as opposed to the typical flow direction of imported Russian gas from east to west and north to south). This will eventually allow substantial gas exports to Hungary, Moldova (through the Moldova Capacity Expansion Project), Serbia and Turkey (via Bulgaria). Romania further intends to extend the NTN to the Black Sea Region for the transport of i) recently discovered supplies of natural gas in the Romanian section of the Black Sea, ii) potential development of its onshore shale gas reserves (delayed at the time of this report due to local Romanian environmental resistance), and iii) potential import of natural gas from Georgia (highly unlikely at the time of this report Azerbaijan has already chosen the TANAP pipeline transport its natural gas).

As operator of the NTN, Transgaz is planning on investing in 4 pipeline projects: The Transgaz Capacity Corridor Projects (BRHA Connector Phases I and II), the Black Sea Shore-Podisor Connector, the Central Corridor, and the Moldova Pipeline Capacity Expansion Project.

## **Proposed Projects**

### **1. BRHA Phase I Connector**

- A. Background – Romania first began producing natural gas in 1913. As additional natural gas was produced across central and western Romania a series of interconnected pipelines were constructed to transport the natural gas from the production fields to the Romanian population centers, industrial complexes, and power generating stations. The NTN was developed much earlier and designed to operate at much lower pressures than the pipeline systems of its neighboring countries. Because the NTN operates at a lower pressure than its neighbors, it is not able to physically export natural gas to them. Romania has committed to the EU to enable bi-directional flows of natural gas between the pipeline systems of Bulgaria and Hungary.

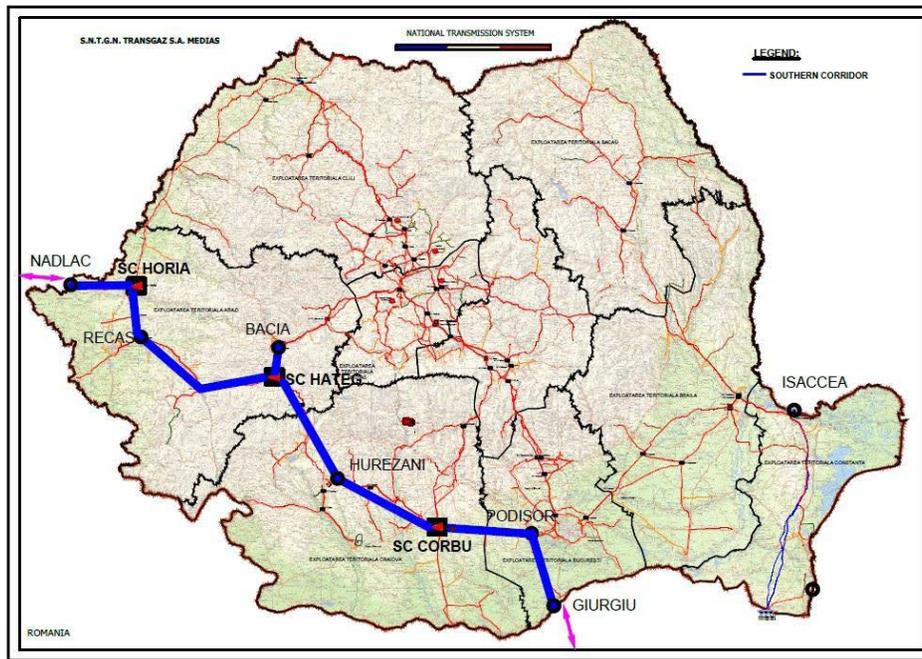
The BRHA Phase I Project is designed to permit increased bi-directional natural gas flow across the NTN between Bulgaria at Giurgiu, Romania and Hungary at Nadlac, Romania. The northeastern terminus of the BRHA Connector at Nadlac, Romania, is already operational with a design capacity of 4.5 BCMA. The interconnector line with Bulgaria at Giurgiu, in southeastern Romania, is currently under construction and is limited by Bulgarian facilities at only 1.5 BCMA. The enhancement of the NTN (BRHA Phase I) by the addition of larger sized pipeline, natural gas compressor stations, and increasing the MAOP between the interconnection points with Bulgaria and Hungary sets the premises for greater flows of natural gas

Transgaz intends a phased approach to the capacity additions:

- 1) Phase I, to be completed by the end of 2016, will provide for (i) the bidirectional flow of gas between Romania – Bulgaria (1.5 BCMA) and Romania – Hungary (1.75 BCMA), and (ii) pipeline capacity to transport 1.5 BCM annually from Bulgaria to Hungary.
- 2) Phase II, to be completed by mid-2019) will (i) increase the export capacity at the Hungarian Border to 4.5 BCMA, and (ii) increase the capacity of the NTN to between

a point on the NTN near Podisor, Romania and Nadlac to provide for the addition of gas volumes from the Black Sea Region (The capacity will increase from 1.5 BCM to 4.5BCM annually.)

The Phase I and Phase II NTN enhancements proposed include the construction of a new gas transmission pipeline, including several new compressor stations, connecting the terminal node at Podisor and the gas metering station at Horia. The approximate route of the BRHA Connector is shown in Figure 1, below.



**Figure 1: BRHA Corridor (Blue Line)**

A Pre-Feasibility Study, found in Appendix 2 conducted internally by Transgaz indicates the following additional facilities will be required:

- (a) New pipeline segments extending between:
  - Podisor – Corbu (32” x 55bar x 81 km)
  - Corbu – Hurezani – Hateg (32” x 55bar x 250 km), and
  - Racas - Horia (32” x 55bar x 46 km)
- (b) New Compressor Stations with a total net installed Power of 49.5 MW (~66,400 HP) located at:
  - Corbu
  - Hateg, and
  - Horia.
- (c) Associated Facilities
  - Metering
  - SCADA and Controls Systems

B. Schedule – According to typical schedules, construction of the Phase I and Phase II BRHA segments in the Implement Phase would last 18-24 months. Construction of the

three new compressor stations: Corbu, Hateg, Horia, would coincide with construction of the pipeline portion of the proposed Project. The BRHA Connector would be placed into service by between 2017 and 2019. The initial pipeline component completing the new gas path would be installed approximately 12 months after the schedule proposed by Transgaz to coincide with projected new gas production in the region. The compression equipment would be placed in service at Horia and Corbu first to enable exports and then Hateg would follow later to support the Black Sea Shore-Podisor gas quantities. The schedule found below is very much dependent on the EIS Permit approval timing.

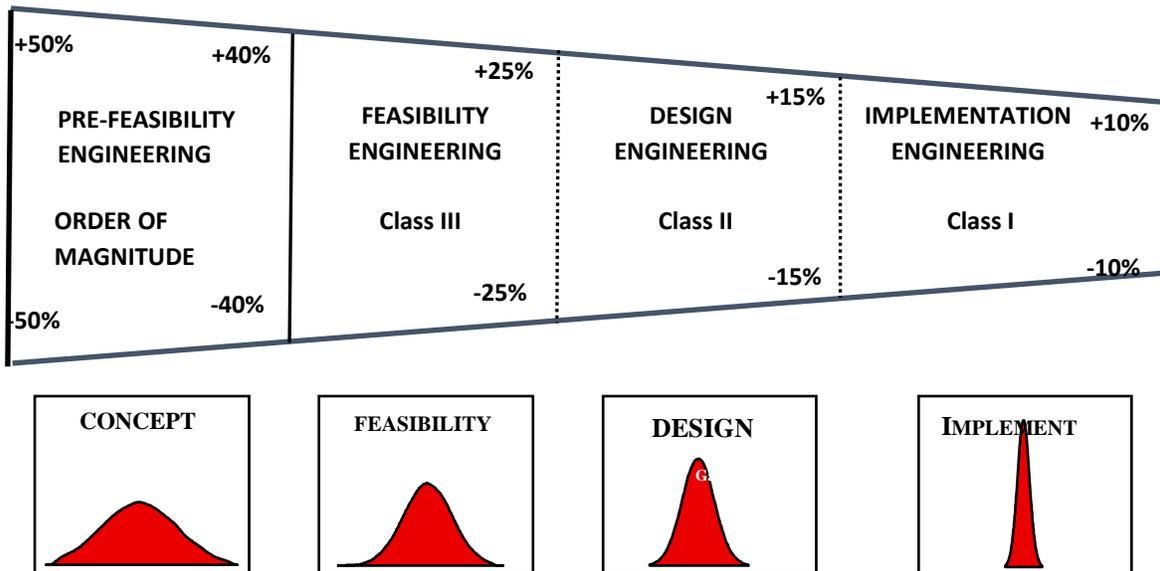
Romania Gas Pipeline Projects - Transgaz							
by REM Pipeline Consultants							
	2013	2014	2015	2016	2017	2018	2019
Pre-Conceptual	■						
Conceptual	■	■		Conceptual Schedule			
Feasibility			■				
Design			■				
EIS-Permitting				■			
Implement						■	
Operate							

- C. Pipeline Construction – The schedule above is premised on pipeline construction accomplished by means of 2 pipeline construction spreads and 2 man camps. Both spreads for the BRHA project will be constructing simultaneously and will construct two different pipeline segments approximately 85 miles in length.

A peak workforce of approximately 1070 personnel would be required to construct the entire project. These construction personnel would consist of Transgaz employees, contractor employees, construction inspection staff and environmental inspection staff. Transgaz would attempt to hire temporary construction staff from the local population through its construction contractors and subcontractors. Assuming that qualified personnel are available in Romania, approximately 60 percent could be hired from the local work force for each spread, although this may not be possible in rural areas. All workers would be well trained by the contractor and certified for their specific field of work (i.e., welding).

It should be noted that areas within Romania lack adequate temporary housing in the proposed Project vicinity. Additional temporary housing would be installed in these remote locations to provide accommodations for workers during the construction phase of the Project. It is anticipated that two (2) temporary construction camps would be needed and these camps would be located near the construction spreads. These locations would be permitted, constructed, and operated in compliance with applicable Romanian county and federal regulations.

D. Cost Estimate – Transgaz developed a Pre-Feasibility Engineering Cost Estimate of the BRHA Connector Project, found in Appendix 2. At the typical Pre-Feasibility Engineering Stage of a Project the level of uncertainty is such that cost estimates can range from +/- 40% to +/- 50%. During the Feasibility Engineering Phase (Class II Estimate) the cost estimate range reduces to a range of +/- 25%. Once a Project is designed and ready for construction this range reduces to +/- 15% to +/- 10%. It should be noted that even after a Project is fully designed, certain changes may occur during construction which will impact the final cost. The chart below depicts what is generally recognized as the range of cost uncertainty for Projects progressing from concept (Pre-Feasibility Engineering) to construction (Implementation Engineering)



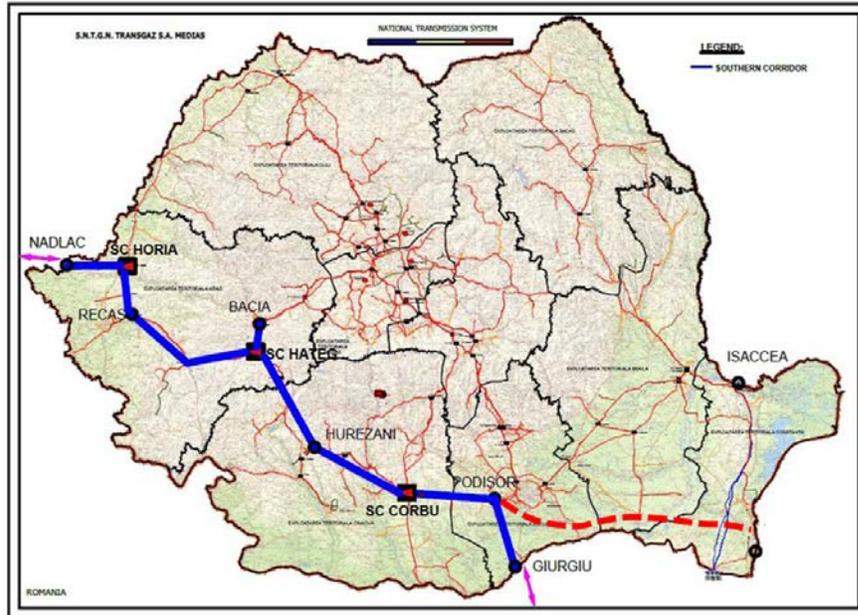
**Uncertainty of Project Construction Cost as a function of Detailed Engineering Performed**

Transgaz estimated the constructed cost of the BRHA The Contractor compared these costs with the cost of 7 similar natural gas pipeline projects constructed in the U.S. between 2008 and 2014). The costs of these 7 pipelines were normalized in terms of size (tons of steel) and the number and the size of the compressor stations. Contractor estimates the BRHA Connector will higher than the Transgaz estimate. Part of this difference may be explained by the cost of materials (steel), Right-of-Way, differences in estimate design standards (i.e. pipeline pressures and # of block valves), labor rates, maintenance equipment, and facilities included in the estimate.

2. **Black Sea Shore – Podisor Connector –**

A. Background - The recent discovery of 1) potentially significant gas reserves offshore in the Romanian section of the Black Sea; 2) undeveloped significant unconventional gas reserves located onshore in southeastern Romania, 3) the potential for a LNG Import Terminal on the Black Sea near Constanta, requires Transgaz to seek a solution for the potential transport of

this gas to markets in Eastern Europe. To meet this challenge Transgaz is proposing to construct a new transmission line extending from the area around the Black Sea shore to a point of interconnection with the BRHA pipeline on the 20 inch Podisor – Giurgiu interconnection pipeline in Vlasin locality area as shown in Figure 2, below.

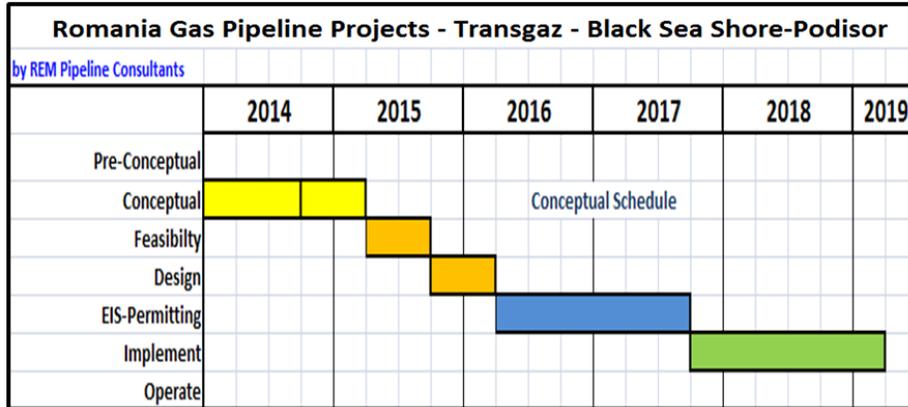


*Figure 2: Black Sea Shore - Podisor Connector (Red Line)*

A Pre-Feasibility Study found in Appendix 3 conducted internally by Transgaz to permit the transportation of gas from the Black Sea Shore area by mid – 2019, indicates the following new facilities will be required:

- i. New Pipeline Segments
  - Segment 1 (48 in x 55bar x 33 km)
  - Segment 2 (40 in x 55 bar x 252 km)
- ii. New Compressor Stations – None
- iii. Associated Facilities
  - Metering
  - SCADA and Control Systems

B. Schedule – According to typical overall schedules, construction of the Black Sea Shore Podisor segment in the Implement Phase would last 18 months. According to the schedule below, Black Sea Shore-Podisor Connector would be placed into service by early 2019 to coincide with the initial deliveries of gas from the offshore Black Sea.



C. Construction - The Black Sea Shore-Podisor pipeline would be a combination of 48-inch and 40-inch diameter pipe and approximately 177 miles (285 km) in length. The pipeline would be constructed in less than 1.5 years with one full time mainline pipeline spread constructing two (2) pipeline segments approximately 90 miles in length.

Pipeline construction would generally proceed as a moving assembly line composed of specific activities including surveying and staking of the ROW, clearing and grading, pipe stringing, bending, trenching, welding, installing, backfilling, hydrostatic testing, and cleanup. In addition, special construction techniques would be used for specific site conditions such as rugged terrain, water bodies, wetlands, paved roads, highways, and railroads. Construction is planned to continue into the winter months for as long as the weather permits. The pipeline generally follows the Danube River which provides a fairly flat and gently sloping ROW with minimum rock.

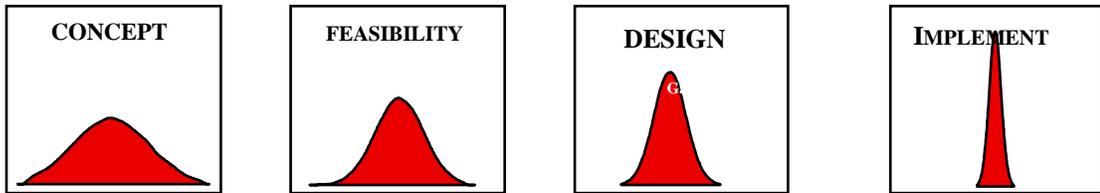
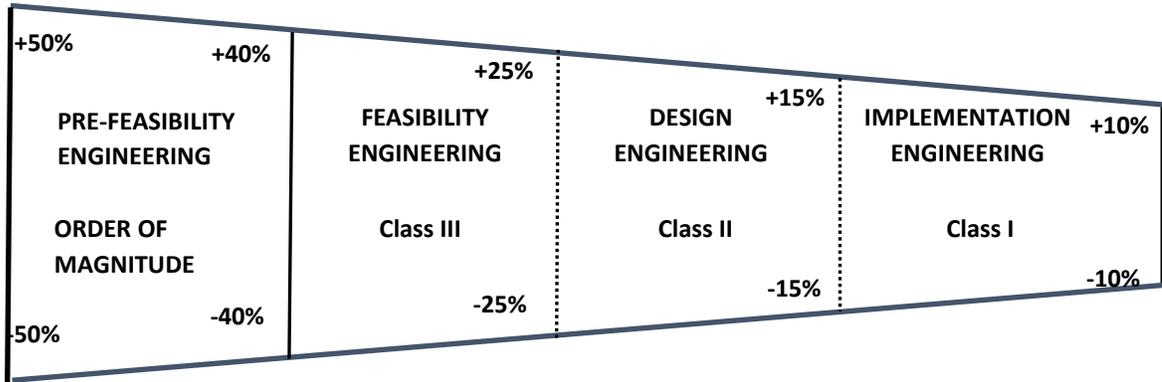
The Project would be constructed with one pipeline construction spread and one main camp. The one pipeline spread will be constructing continuously and will construct two different pipeline segments approximately 90 miles in length.

A peak workforce of approximately 500 personnel would be required to construct the entire project. These construction personnel would consist of Transgaz employees, contractor employees, construction inspection staff and environmental inspection staff. Transgaz would attempt to hire temporary construction staff from the local population through its construction contractors and subcontractors. Assuming that qualified personnel are available in Romania, approximately 60 percent could be hired from the local work force for each spread, although this may not be possible in rural areas. All workers would be well trained by the contractor and certified for their specific field of work (i.e., welding).

Areas within Romania lack adequate temporary housing in the proposed Project vicinity. Additional temporary housing would be installed in these remote locations to provide accommodations for workers during the construction phase of the Project. It is anticipated that one temporary construction camp would be needed and this camp would be located near the center of the overall pipeline length next to the town of Calarasi. This location would be permitted, constructed, and operated in compliance with applicable Romanian county and federal regulations.

See Appendix 6 for a detailed report prepared on the construction of the Black Sea Shore-Podisor Connector. The report provides a more detailed discussion of the pipeline construction schedule, typical personnel, and equipment requirements for a project of this scope.

D. Cost Estimate – Transgaz developed a Pre-Feasibility Engineering Cost Estimate of the Black Sea Shore-Podisor Connector Project At the Pre-Feasibility Stage of a Project, the level of uncertainty is such that cost estimates can range from +/- 40% to +/- 50%. During the Feasibility Engineering Phase (Class II Estimate) the cost estimate range reduces to a range of +/- 25%. Once a Project is designed and ready for construction this range reduces to +/- 15% to +/- 10%. It should be noted that even after a Project is fully designed, certain changes may occur during construction which will impact the final cost. The chart below



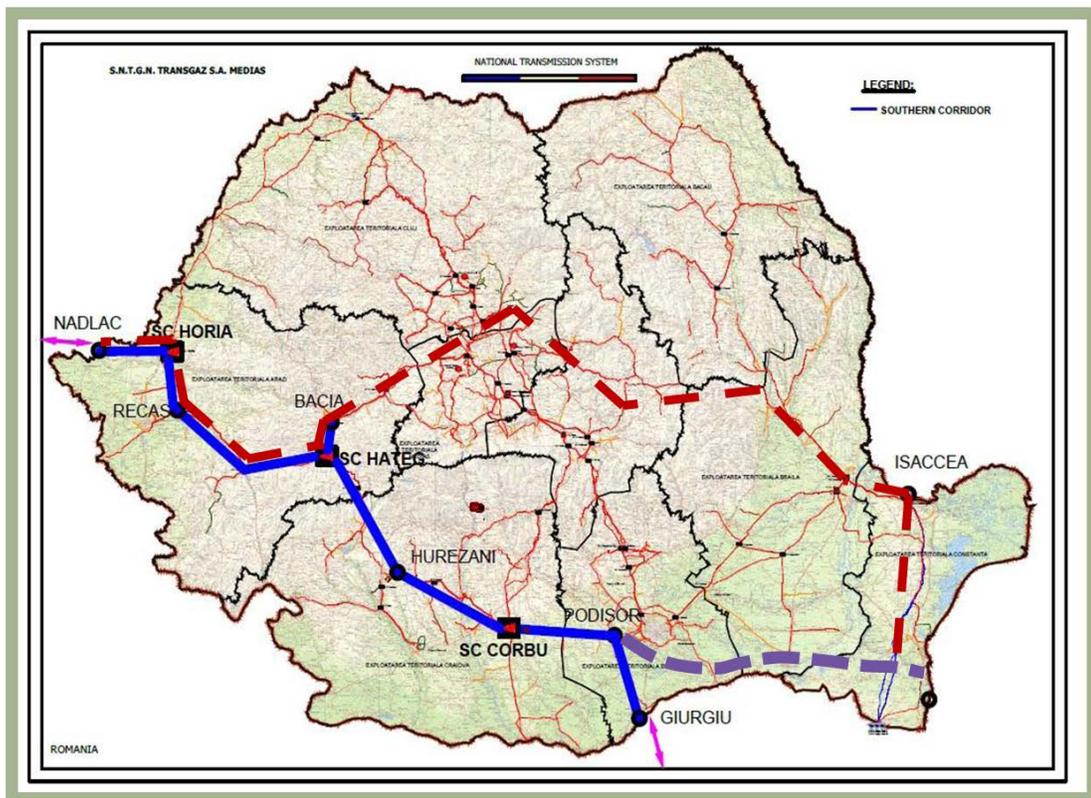
**Uncertainty of Project Construction Cost as a function of Detailed Engineering Performed**

depicts what is generally recognized as the range of cost uncertainty for Projects progressing from Concept (Pre-Feasibility Engineering) to Construction (Implementation Engineering).

Transgaz has estimated the constructed cost of the Black Sea Shore-Podisor Connector. The Contractor compared these costs with the cost of 7 similar natural gas pipeline projects constructed in the U.S. between 2008 and 2011. The costs of these 7 pipelines were normalized in terms of size (tons of steel) and the number and the size of the compressor stations .

### 3. Central Corridor Project

A. Background - Transgaz is developing a second route (“Central Corridor” Project) to transport additional offshore Black Sea quantities and unconventional gas reserves located onshore near the Black Sea to the Hungarian export point than can be transported by the BRHA Interconnector. Strategically, the construction of the Central Corridor will improve the operating security of the NTN by providing a high-pressure looped system in conjunction with the BRHA Connector and the Black Sea Shore-Podisor Connector. Upon completion of the project, should a problem occur anywhere on the proposed high-pressure system, loads downstream of the problem would be able to be served. The Central Corridor Project increases the capacity of northern portion of the NTN system by increasing the MAOP and eliminating pipeline bottlenecks. The Project requires replacement of approximately 400 km of pipeline, construction of approximately 430 km of new pipeline, and the addition of 4 new compressor stations. Timing of the proposed Project will be determined based upon the quantities of natural gas to be shipped from the Black Sea Region



*Figure 3: Central Corridor Project (Red Dashed Line)*

A Transgaz Pre-Feasibility Study, prepared internally, estimates the facilities required in the 2021 to 2022 time frame, will be:

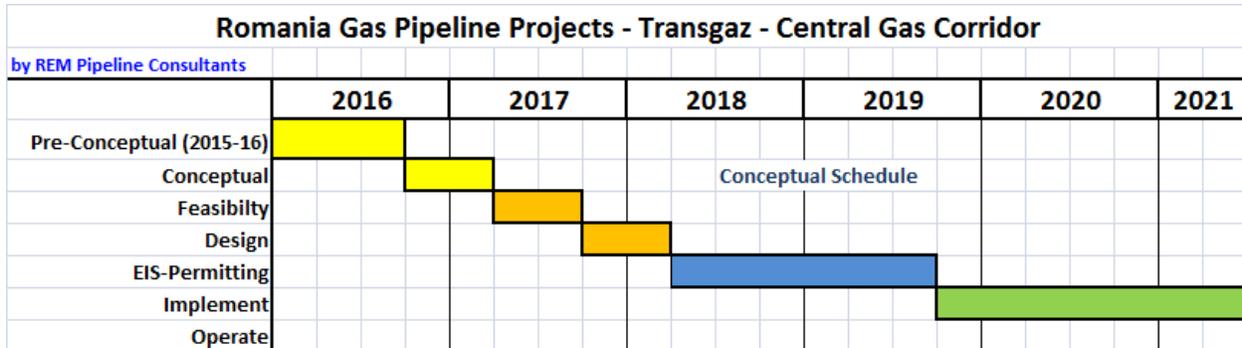
- i. Pipeline Segments
  - a. Rehabilitation/Replacement of existing pipeline ~ 400 km (size not specified)
  - b. New Pipeline – 430 km

- ii. Compressor Stations
  - a. 5 new with an installed capacity of 115,500 bhp
- iii. Associated Facilities
  - a. Metering
  - b. SCADA and Control Systems

A copy of the Study is found in Appendix 4. The economic justification for these facilities will be determined once quantities to be transported through the capacity made available by the new facilities are determined.

- B. Schedule - The Project would be constructed in a 24-month timeframe with 2-500 personnel pipeline construction spreads and 2 man camps. Both spreads for the project will be constructing simultaneously and will construct two different pipeline segments approximately 62 miles in length. Another spread of 125 personnel will be used to recondition and rerate existing pipeline. Two 70 personnel compressor construction crews will construct the 5 new compressor stations.

On the mountainous segments, construction is planned to continue into the winter months for as long as the weather permits. On the coastal plain and Danube River watershed segment construction is planned for the winter months and the prevailing climate should not require the use of winter construction techniques. Construction of the five (5) new compressor stations, Onesti, Batani, Coroi, Hateg, and Horia, would coincide with construction of the pipeline portion of the proposed Project.



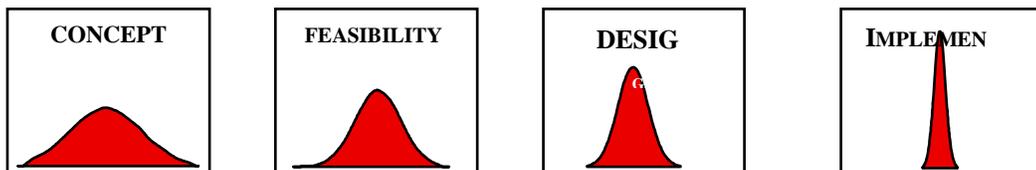
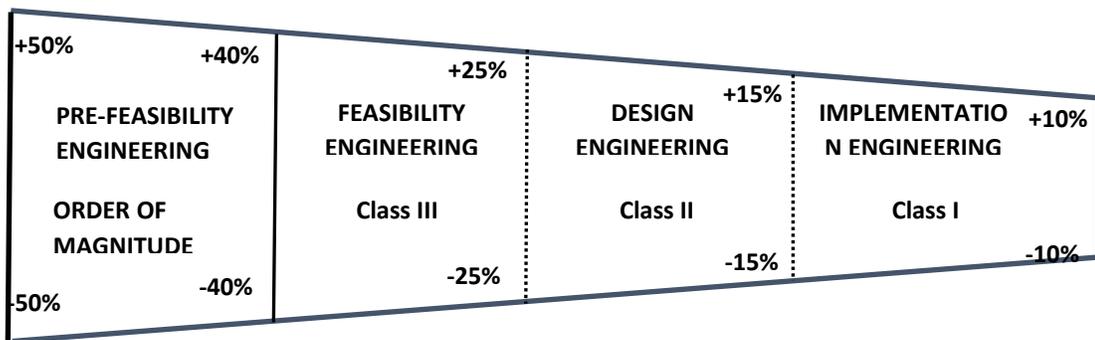
- C. Construction of the Central Gas Corridor Pipeline - The Central Gas Corridor pipeline effort as previously reported will consist of four efforts (1) recondition/rerate existing pipeline (2) reuse existing pipeline (3) replace 20 & 24 inch pipeline with 32-inch pipe, (4) add in new 32 inch diameter pipeline, and (5) construct 5 new compressor stations with an installed capacity of 115,500 bhp. Each compressor station will consist of 3-7700 bhp gas turbine compressor units for a total of 15 units. Out of approximately 582 miles in total length, 244 miles will be reconditioned pipeline and 247 miles will be new 32 inch 55 barg pipeline. The pipeline would be constructed in less than 2 years with two (2) mainline pipeline spreads constructing four (4) pipeline segments approximately 62 miles in length. An additional pipeline spread will be used to recondition and rerate the 244 miles of existing pipeline.

A peak workforce of approximately 1265 personnel would be required to construct the entire project. These construction personnel would consist of Transgaz employees, contractor employees, construction inspection staff and environmental inspection staff. Transgaz would attempt to hire temporary construction staff from the local population through its construction contractors and subcontractors. Assuming that qualified personnel are available in Romania, approximately 60 percent could be hired from the local work force for each spread, although this may not be possible in rural areas. All workers would be well trained by the contractor and certified for their specific field of work (i.e., welding).

Areas within Romania lack adequate temporary housing in the proposed Project vicinity. Additional temporary housing would be installed in these remote locations to provide accommodations for workers during the construction phase of the Project. It is anticipated that two (2) temporary construction camps would be needed and these camps would be located near the construction spreads. These locations would be permitted, constructed, and operated in compliance with applicable Romanian county and federal regulations.

See Appendix 7 for a detailed report prepared on the construction of the Central Corridor. The report provides a more detailed discussion of the pipeline and compressor station construction schedule, typical personnel, and equipment requirements for a project of this scope.

- D. Cost Estimate – Transgaz developed a Pre-Feasibility Engineering Cost Estimate of the Central Corridor Project. A copy of the Study can be found in Appendix 3. At the typical Pre-Feasibility Stage of a Project the level of uncertainty is such that cost estimates can range from +/- 40% to +/- 50%. During the Feasibility Engineering Phase (Class II Estimate) the cost estimate range reduces to a range of +/- 25%. Once a Project is designed and ready for construction this range reduces to +/- 15% to +/- 10%. It should be noted that even after a Project is fully designed, certain changes may occur during construction which will impact the final cost. The chart below depicts what is generally



**Uncertainty of Project Construction Cost as a function of Detailed Engineering**

recognized as the range of cost uncertainty for Projects progressing from Concept (Pre-Feasibility Engineering) to Construction (Implementation Engineering).

Transgaz provided an estimate of the constructed cost of the Central Corridor Project. Given the high degree of uncertainty in estimating the cost of reconditioning and replacement of transmission pipeline, Contractor used the cost of a new pipeline as the basis for its cost estimate. Contractor compared the costs with the cost of 7 similar natural gas pipeline projects constructed in the U.S. between 2008 and 2011. The costs of these 7 pipelines were normalized in terms of size (tons of steel) and the number and the size of the compressor stations. While at this stage of Project definition this amount differs from the cost estimated by Transgaz, the two estimates might fall within the bounds of Pre-Feasibility Estimate variance.

#### 4. Moldova Capacity Expansion

A. Background- Romania and the Republic of Moldova (“ROM”) are working towards an expansion of the export capacity from Romania to ROM which will require additional pipeline facilities on the NTN by the end of 2016. In order to supply up to 2BCMA to the new Moldova Connector, Transgaz will need to install 2 new compressor stations near Gheraestii and Onesti and install 163 km of 24-inch pipeline along its existing pipeline system extending from the new compressor station near Onesti to the new Moldova Connector. The construction of the pipeline along exiting Transgaz Pipeline rights of way is not anticipated to have any un-mitigated environmental impacts. The installation of the new compressor stations will impact the environment; primarily as a result of air emissions. Transgaz will be able to control these emissions within permitting levels.

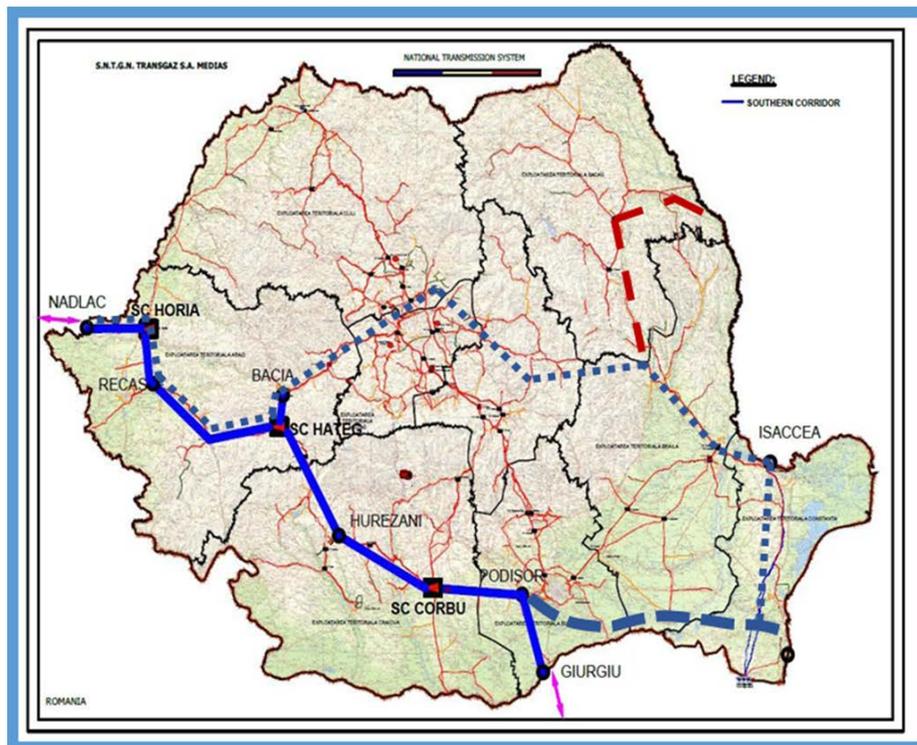


Figure 4: Moldova Expansion Project (Dashed Red Line)

A Transgaz Scoping Study estimates the following facilities will be required:

- i. Pipeline Segment
  - New Pipeline along the existing NTN system (24 inch x 55 bar x ~ 160km)
- ii. Compressor Stations
  - 2 new stations not sized
- iii. Associated Facilities
  - Metering
  - SCADA and Control Systems

Moldova would like these facilities to be constructed by 2016 but economic justification has not been determined at this time. The lack of information concerning this Project prevents a further analysis of the Project.

## **PROJECT SPONSOR'S CAPABILITIES AND COMMITMENT**

**Management Team-** In 2013, Transgaz installed a new management team (President and CEO) to address the historical poor performance of the NTN. The management team operating the NTN is no longer managed by the political party in power but rather is subject to oversight by an independent Board of Directors consisting of Investor Directors and Government Directors/Representatives.

The Chief Executive Officer Mr. Petru Vaduva serves as a Member of the Board of Administration at TRANSGAZ S.A. and has been its Chief Executive Officer since June 4, 2013. He served as Deputy Head of Equity Brokerage at URALSIB Capital, Research Division. He was an Equity Analyst of Caspian Securities, Research Division and Bear Stearns Companies Inc., Research Division. Mr. Vaduva is very experienced with U.S. construction practices and has not indicated a preference for U.S. or EU based contractors.

The President, Mr. Ion Sterian, President, is a graduate of Romania's University of Oil and Gas and worked from 1992 to 2004 as a director of Area to Constanta, the company for the transport of petroleum products by the state. Prior to becoming President of Transgaz, Mr. Sterian was Chief Executive Officer of the Technical Department of the Autonomous Center for the Management of State Assets (RAAPPS). Has was elected by the shareholders of Transgaz to the office of President of the Board of Directors.

## **EXECUTIVE MANAGEMENT**

Director General – Petru Ion Vaduva  
Deputy Director General - Gheorghe Hategan  
Economic Division– Marius Vasile Lupean  
Strategy & Corporate Management Division– Elisabeta Ghidiu  
Operating Division – Marius Stroia  
Development Division – Ion Tataru  
HSSEQ Divison– Ciprian Viorel Achim

Research and Design Division – Mihai Leontin Leahu  
Maintenance Division – Florin Cosma  
European Funds Accessing and International Relations Division – Ciprian Octavian Alic  
Legal Direction – Olga Idu  
Human Resources – Angela Mates  
Public Procurement Direction – Adela Pinzar

Authority to Receive Grant from USTDA - The activities of natural gas transportation and storage activities represent services of national public interest and are considered strategic activities. Therefore natural gas transportation pipelines and facilities are public property. Romanian law provides that the activity of natural gas transportation using the NTN may be subject to concession by the Romanian State. At this time, the only entity holding a natural gas transportation license (concession) is Transgaz SA, a joint –stock company, where the Romanian State is the owner of a 58.5 per cent of its share capital. This State ownership requires that public procurement processes must be followed. The Transgaz license to operate the NTN extends to 2030. There is no reason to expect that the concession would not be extended at that time. Transgaz, as the NTN operator, is authorized to improve the operations of the NTN subject to recovery of costs approval by the ANRE.

In order for Transgaz to proceed with the construction, rehabilitation, or modernization of the NTN, it must receive authorization by the Romanian Energy Regulatory Authority (RERA) for the recovery of investments it intends to make. Prior to receiving such authorization, Transgaz must perform a Feasibility Study of the proposed projects. The CEO of Transgaz, after internal legal review, represented Transgaz has no restriction in the receipt of Grants to perform studies on the NTN from third parties given that no Transgaz funds will be expended in the procurement of the services of a Feasibility Study Contractor.

## **IMPLEMENTATION FINANCING**

1. Financing Philosophy –The proposed Projects (BRHA Connector, Podisor-Black Sea Shore Connector, Central Corridor Expansion, and the Moldova Capacity Expansion) require the integration of new facilities with the existing NTN (sharing of existing infrastructure). This integration and interdependency of new and existing facilities will prevent Transgaz from financing the projects on a stand-alone basis. Transgaz intends to balance sheet finance the proposed projects rather than on a stand-alone Project Specific Basis.

Transgaz intends to file with the ANRE to include the costs related to the construction and operation of the Projects into the Transgaz Rate Base to determine the Transgaz gas Transportation Tariff by the ANRE. Prior to constructing the Projects, Transgaz will execute long term gas transportation contracts with gas shippers that will utilize the new gas transportation capacity made available by the new Project facilities.

Transgaz plans to use a combination of Corporate Debt and Bonds to fund the Projects. Contractor met with representatives from the U.S. Export Import Bank (Ex-Im Bank) and The European Bank for Reconstruction and Development (EBRD) to ascertain their interest in providing loans to finance the Projects. The Ex-Im Bank and EBRD were both very supportive of the proposed Projects. Transgaz intends for Bank Loans and Bonds to be secured by the revenue base of Transgaz. Transgaz has filed the BHRA Phase I Project with the EU as a Project

of Common Interest of the EU due to its contribution to EU energy diversity and increased security. Transgaz believes that the EU will provide a Grant to cover a portion of the costs of this Project such that the Project will not impact Transgaz' existing customers. The BRHA Phase II Project will be solely reliant upon revenues received from the shipment of gas through the new capacity. Depending on the revenues and the actual construction, operating, and maintenance costs of the BRHA Phase II and the Black Sea Shore-Podisor Projects the Tariff for shipping gas on the NTN may change. Transgaz believes it can construct the Projects at costs such that the Tariff Rate will not increase.

2. Financial Analysis Methodology - The BRHA Project consists of two Phases. Phase I is designed to satisfy Romania's obligation to the EU's energy security by enabling bi-directional flow of 1.5 BCMA between Bulgaria to Hungary. The Phase II component provides additional capacity (3.0 BCMA) to support natural gas volumes from the Black Sea Region to be connected with the BRHA Phase I project near Podisor. The transport of approximately 3.0 BCMA from the Black Sea Region to the proposed BRHA pipeline will be made possible by a proposed Black Sea Shore-Podisor Project.

The BRHA Phase I can be considered a "Stand Alone Project" as it is not dependent on other Projects to either "deliver to" or "take away" gas quantities from it. Contrary to Phase I, BRHA Phase II and the Black Sea Shore-Podisor Projects are "co-dependent" as the Projects are dependent on each other to complete the transport path for gas quantities from the Black Sea Region.

To examine the financial viability of the Projects, the BRHA Phase I Project is analyzed as a Stand Alone Project and the BRHA Phase II and Black Sea Shore-Podisor Projects are combined for analysis purposes. For comparison purposes, the Transgaz estimates were then compared to pipeline projects, of similar size and capacities, constructed in the U.S. during the past 5 years. U.S. Gas Transmission Pipeline Projects in large diameters with compression have ranged from \$2.7 million/mile to \$4.3 million/mile. This compares to the Transgaz estimation of approximately \$2.5 million/mile. The Podisor-Black Sea Shore Project does not include compression (the required compression is installed in the BRHA Phase II Project costs). The U.S. Projects reviewed are shown in the table below.

Project Name	Location	Length (Miles)	Diameter (Inches)	Cost (US\$ Millions)	\$/Diameter (Inch-Mile)	\$/Mile	Capacity	In-Service (Year)
Flanagan South PL-Illinois to Oklahoma	Midwest	600	36	\$2,600	\$120,370	\$4.33	880 k Bpd	2014
Ruby Pipeline Project	WY, UT, NV	673	42	\$2,960	\$104,719	\$4.40	1500 MMscfd	2011
Mid-continent Express PL	OK TO AL	507	42	\$1,832	\$86,034	\$3.61	1533 MMscfd	2009
KM Rockies Express (REX-West)	CO, KE, KS, MO	713	42	\$1,930	\$64,449	\$2.71	1500 MMscfd	2008
KM Rockies Express (REX-East Leg1)	MO, IN, OH	639	42	\$2,150	\$80,110	\$3.36	1600 MMscfd	2009
Sierrita Gas PL	AZ	60	36	\$200	\$92,593	\$3.33	200 MMscfd	2014E
Gulf Crossing	TX, OK, LA	353	42	\$1,250	\$84,311	\$3.54	1730 MMscfd	2009

The Project Costs were then analyzed in a Cash Flow Model to determine the Net Present Value (NPV) of the cash available to service the Debt used to finance the Project, the cost of the Project's operations and maintenance, taxes, royalties, and the Transgaz ANRE approved Rate of Return. Gross Project Revenues were developed using the Transgaz Tariff Rates and the design capacities of the Project. Operations and maintenance expenses were developed based upon the miles of new pipeline and the new compression horsepower required. Lending institutions (EBRD, US-Ex-Im Bank, and Commercial Banks) would lend up to 45% of the cost of the Projects and the remaining amount would be funded through a combination of EU Grants and Transgaz Bonds for the BRHA Phase I Project and lending institutions and Bonds for the combined BRHA Phase II and Black Sea Shore-Podisor Project. (The Transgaz Tariff Rates are set to recover the NTN's annual i) Operating and maintenance costs, ii) depreciation, iii) Financing Costs (Debt), iv) Royalties to the Romanian Government, v) Taxes, and vi) Financing Costs (Rate of Return on Equity Employed by Transgaz). Two Primary Cases were run for each Project: i) Case A used the Transgaz Project Cost Estimate; and Case B used a Comparative Project Cost Estimate based upon average cost of 7 Projects constructed in the U.S. in the past 5 years.

The Financial Analysis was performed using a Microsoft Excel based financial model developed by Contractor for this Definitional Mission.

3. Financial Analysis Results – A Cash Flow analysis was performed to determine the financial viability of the BRHA Phase I Project and the combined BRHA Phase II and Black Sea Shore-Podisor Project. A Project would be determined Financially Viable if the Project is i) Revenue neutral to Transgaz; ii) existing Tariff Rates are sufficient to pay the financing costs and the operating and maintenance costs of shipping gas through the new capacity, and iii) Transgaz is able to receive its ANA approved Rate of Return on its Project investments. Because the BRHA Phase I Project is a Common Project to support the energy security of the EU, Transgaz will apply for a Grant from the EU to provide for any shortfall in Projected Project Revenues to offset any shortfall in BRHA Project Revenues.

The method employed to test Project Financial Viability is to calculate the Net Present Value of Projects Operating Cash Flow after Financing and projected Operating and Maintenance Costs using the required Rate of Return as the discount Factor. In the case of Transgaz the required Rate of Return is its ANRE allowed Rate of Return of 9.12%. When evaluating a Project, using costs developed in a Feasibility Study, if the NPV is equal to or greater than zero then the Project is assumed financially viable. Should the NPV be negative then either the Project is not assumed financially viable or the Project Investor (Transgaz) would not earn its allowed Rate of Return of 9.12%.

The Analysis of the BRHA Phase I Project shows that given the assumptions, the Project will require a EU Grant to supplement the Project in order for the BRHA Phase I Project to have no impact on other Transgaz customers (the Project pays for itself from the incremental Revenues generated). An Interest Rate Sensitivity was also performed to determine how Commercial Interest Rates and Bond Rates impact the analysis.

The Analysis of the BRHA Phase II and Black Sea Shore-Podisor Project shows that given the base assumptions listed the Project would yield a negative NPV. To mitigate the shortfall in operating margin, Transgaz will need to either increase the cost of shipping gas through the new capacity or

increase the Tariffs it charges all customers to ship gas on the NTN. However, as previously mentioned, the uncertainty in costs at this stage in the Projects development suggests that the negative NPV is within the band of uncertainty and should not outright disqualify the Projects. An Interest Rate Sensitivity was performed to determine how Commercial Interest Rates and Bond Rates impact the analysis.

## **U.S. EXPORT POTENTIAL**

**Procurement Process** - Romania has a government mandated public procurement process that Transgaz will follow which is based on EU norms. (GEO no.34 from 2006 on the award of public procurement contracts, public works and services concession contracts, as approved through the Law no.279/07.12.2011, published in the Official Gazette, Part I no. 872 from the 9th of December, 2011.) The procedures for the award of public procurement contracts are:

Open bid, restricted bid, competitive dialogue, negotiation with or without prior publication of a contract notice, request for tenders and design contest. Frequently used procedures are the open bid/request for tenders.

Tenders can reach thousands of pages of certificates, notices, declarations, tables and forms, which might need to be submitted in three to seven copies, signed and stamped on every page. Competition is fierce. Procedures, which used to attract 2 -3 bidders two years ago now have 8-9 bidders. This has turned challenges into a common practice, and there are few procedures that are not challenged before CNSC. Consequently, the winners of a bid may have to wait for up to five to six months for the signing of the contract and the start-up of the project. Companies dealing with the state historically have seen persistent delays in paying bills. (The reorganization of Transgaz and the installation of a new Management Team should alleviate the payment issues.)

To better manage project costs and the tender process, Transgaz intends to issue Tenders for an Engineering Design, Procurement, and Construction Contractor (“EPC Contractor”). The EPC Contractor with assistance by Transgaz in the areas of Rights of Way and Environmental Permitting will provide Transgaz a Fixed Cost and Schedule for each Project. The Project EPC Contractor Tender will specify materials, design, and operating parameters (including operation of the proposed compressor stations). The EPC contractor will be responsible for purchasing all materials. There are no current Regulatory or Legal Obstacles to U.S. Companies from providing goods or services to Transgaz or its EPC Contractor for the construction of the Projects.

Categories of U.S. supply would most likely be:

- EPC project management services
- Technical pipeline design and engineering
- Gas compression equipment; gas turbine driven compressors
- Large Diameter Ball and Gate Valves

Applying a probability estimate to each cost component in the Project Cost Estimates developed the categories and value of U.S. supply. If a cost component had a probability of 50% or greater it was deemed to be supplied by a US supplier.

Below is a list of US Companies with the potential to provide US based goods and services to support the construction of the proposed Projects.

EPC Contractor Project Management Services (including Technical Pipeline Design and Engineering)

- Universal Pegasus Intl.
- Bechtel
- Acergy
- Ausclad Group
- Chicago Bridge & Iron
- Fluor
- JP Kenny
- KBR
- Foster Wheeler AG
- Entec
- Drik Tech Turboline
- Willbros
- Shaw Group
- Jacobs
- Wood Group
- Mustang
- Gulf Interstate
- Weatherford Intl
- Worley Parsons
- McDermott
- US & Gulf Energy Group

U.S. Suppliers of Gas Compression Equipment

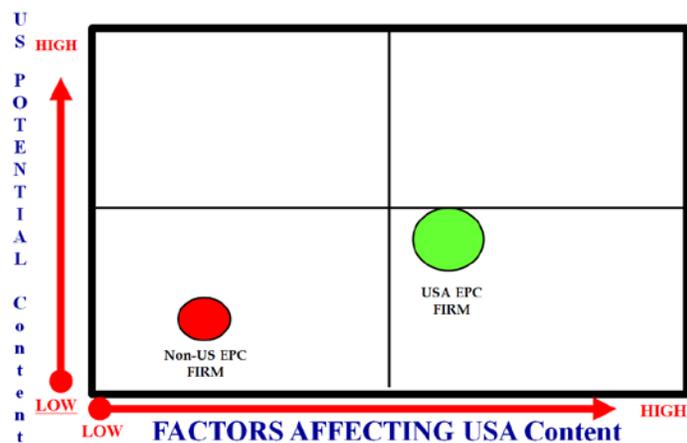
- Solar,
- GE Oil & Gas

U.S. Suppliers of Large Diameter Ball and Gate Valves

- Cameron,
- M&J Valve

U.S. Suppliers Opinions on Romania Competitiveness to supply gas pipeline projects:

All companies feel that they can be competitive with Romanian and EU companies to supply their goods and/or services if all else is equal. Logistics of shipping to Romania from the USA can make some goods not price competitive (i.e. line pipe). All companies indicated that existing relationship factors will weigh heavily on companies to be hired and significant advocacy for USA companies would need to be undertaken. Appendix 9 provides a list of U.S. companies contacted and their comments regarding supplying goods and services for the design, construction, and maintenance of the Projects. The EPC Contractor selected will be the major influence in the procurement of materials meeting the design specifications. The Chart Below graphically demonstrates how the use of US goods and services is impacted by the selection the EPC Contractor. Working abroad the number one concern is who is financing the project and how the funds will be handled.



## **FOREIGN COMPETITION AND MARKET ENTRY ISSUES**

International competition for providing goods and services to international pipeline projects is quite high. The proposed Transgaz Projects are not particularly challenging in terms of design requirements or the construction environment. Below is a list of companies which might provide competition to US based companies.

1. Non – US EPC Contractor Project Management Services (including Technical Pipeline Design and Engineering)
  - a. ENI (Snamprogetti-Italy),
  - b. Wood Group Kenny (UK),
  - c. ILF (Germany,Austria),
  - d. IMV Projects Inc.,
  - e. Petrofac(UK),
  - f. Amec (London),
  - g. (Kazakhstan/Russia),
  - h. Saipem America(Italy),
  - i. Technip(France,Houston),
  - j. Sofregaz(France),
  - k. Punj Lloyd Group
  
2. Non - U.S. Suppliers of Gas Compression Equipment
  - a. Nuovo Pignone (EU)
  - b. Man Turbomachinery (EU)
  - c. Rolls Royce (UK)
  - d. Siemens (EU)

## **EVALUATION STRATEGY**

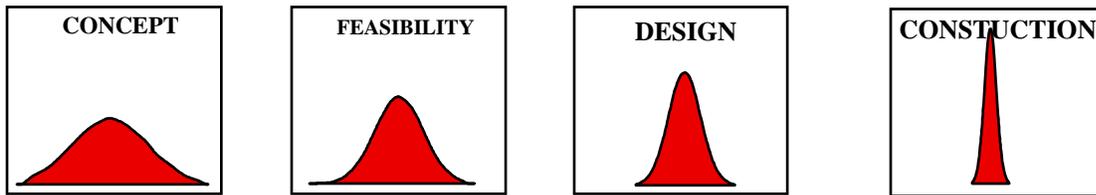
The measurement of the effectiveness of a USTDA Grant for the performance of Feasibility Studies on the Proposed Projects will be straight forward with respect to potential export of U.S. Services and Manufactured Equipment.

The BRHA Connector and the Black Sea Shore- Podisor Connector (while separate Projects) are both projected to commence by mid- 2016 (Tenders for EPC Contractors) and scheduled to be constructed by early 2019. The initial 18 to 24 months will involve the selection of an EPC Contractor, the specification and purchasing of long lead time items, Right of Way Surveys, Environmental Permitting, and design of the pipeline and compressor stations. USTDA will be able track the purchase of U.S. manufactured goods and services during the construction phase of the Projects. The selected EPC will be responsible for purchase of the primary components and materials for the Projects and will be able to provide manufacturer names and FOB shipping points. The Central Corridor Project while projected to commence later than the BRHA Connector its construction will be similar to the BRHA Connector and the USTDA should easily be able to track the purchase of goods and services in support of the construction of the Project.

The Tenders for the EPC Contractors will be heavily dependent upon the Feasibility Studies to be funded by the recommended USTDA grants. Physical construction of the Projects (BRHA and Black

Sea Shore-Podisor) is scheduled to commence in early 2017 and be completed by early to mid-2019 (the Central Corridor is scheduled for 1 to 2 years later). Transgaz has stated that in selecting an EPC Contractor for each Project it will seek a Fixed Price and Schedule for Project Completion with Financial Guarantees. The EPC Contractor will be “at risk” for cost overruns resulting from permitting delays, design changes and construction in sensitive environmental areas such as river and road crossings. The transference of this risk to the EPC Contractor by Transgaz is an attempt to resolve historic problems the NTN has had with cost overruns and missed schedules. This transference of risk though comes with a price. The EPC Contractors responding to the Project’s Transgaz Tender will price this risk into their fixed price. The chart below provides how the expected cost uncertainty is reduced as the level of detailed design of a project increases. At the Project Conceptual Stage (far left) significant uncertainty exists in the project scope, equipment size, and construction requirements. As a Project becomes more defined the quality of the construction estimate increases (and cost uncertainty decreases). However, cost risk is never completely eliminated as during the actual construction of a Project design changes may occur. As mentioned previously Transgaz in an effort to minimize the occurrence of Project cost overruns will require the EPC Contractor to design and construct the Project for a fixed price. While the EPC Contractor will bear the uncertainty risk after the Feasibility Engineering Stage, the EPC Contractor is better able to manage this risk than Transgaz, as the EPC Contractor is much more experienced in the design and construction of major Projects such as those under discussion.

**Project Construction Cost Uncertainty from Concept to Construction**



**DEVELOPMENTAL and ENVIRONMENTAL IMPACTS**

**Technology Transfer and Market Oriented Reforms:** Romania as part of the EU is reforming its natural gas markets. It is in the process of adjusting the regulated price for natural gas to residential, commercial and industrial customers to market based rates. Romania has been hindered from developing a thriving free market for natural gas by the inability of the NTN to export physical quantities of natural gas due to a lack of capacity at the export points and the low operating pressure of the NTN. The BRHA Connector by increasing the capacity and operating pressure of the NTN will permit such physical exports and enable a free market for natural gas. The Black Sea Shore – Podisor Connector is designed to deliver large quantities of natural gas to the BRHA Connector for export. These additional quantities of natural gas will support a free market for natural gas.

The Project Feasibility Studies will incorporate “Best Engineering Design Practices” and the incorporate the “lowest Life Cycle Cost Principles” in equipment selection and operation. Transgaz will benefit from this experience as it transfers this knowledge to other work performed by Transgaz in upgrading and maintain the NTN in the future. The application of this knowledge should lead to a lower cost of NTN operations and result in lower delivered natural gas prices to Romanian consumers.

**Impact on Infrastructure:** When constructed, the proposed BRHA Connector will provide a high pressure natural gas transmission pipeline across Romania enabling the physical shipment of natural gas from Bulgaria across Romania to Hungary and then to the rest of Europe. The Black Sea Shore-Podisor Connector will permit the access by Romanian consumers to new sources of natural gas from the Black Sea and eastern Romania and natural gas producers in the Black Sea Region an ability to ship natural gas to Western Europe. The ability to ship gas to Western Europe will result in an expansion of the natural gas and oil E&P support industry in Romania further expanding the Romanian Tax Base.

**Human Capacity Building:** During the construction of the BRHA Connector, the Black Sea Shore-Podisor Connector, and the Central Corridor Expansion Project new jobs in planning, technical and environmental services, engineering, procurement, and construction will be created by Transgaz and its EPC Contractor. When the all of the compressor stations are operational an estimated 75 to 100 full-time operations and maintenance personnel will have long term jobs.

Transgaz would attempt to hire temporary construction staff from the local population through its construction contractors and subcontractors. Assuming that qualified personnel are available in Romania, approximately 60 percent could be hired from the local work force, although this may not be possible in rural areas. All workers would be well trained by the contractor and certified for their specific field of work (i.e., welding). Below is a chart of the estimated workforce required to construct the Projects.

<b>Estimated Job Creation during Construction of Pipeline Projects</b>				
<b>Projects</b>	<b>Construction Period</b>	<b>Peak Labor (Personnel)</b>	<b>Labor (Man- Years)</b>	<b>Local Labor (Personnel)</b>
BRHA	2016 - 2019	1,070	1,125	645
Black Sea Shore-Podisor	2017 - 2019	500	450	300
Central Corridor	2019 - 2021	1,265	1,325	760

The EPC Contractor will rely on Romanian Construction Subcontractors for much of the work to be performed. The civil and environmental work performed by these Subcontractors is similar in nature as that required for other large infrastructure projects. The construction methods and techniques learned during the construction of the Projects will be transferred to the Subcontractors and the workforce in general. The labor force which receives skill based training will strengthen the Romanian work force in general.

## **IMPACT ON THE ENVIRONMENT**

The proposed Projects will consist of i) underground pipe line and foundations, ii) above ground facilities (i.e. valve stations, metering and compressor stations, access roads, and multiple road and stream crossing). The proposed Projects will survey and identify all environmentally sensitive areas and submit plans to disturb the area to the national and local authorities for construction permits. Other impacts on the environment will result from the actual construction of the Projects. All disturbed areas will be returned to preconstruction conditions in accordance with Romanian Environmental Regulations. Approximately 60,000 square meters will be required permanently for compressor stations and other above ground facilities. During the construction period, for each

proposed Project, between 150 and 400 construction vehicles will be employed for each spread. Two-thirds of these vehicles will be pickup trucks with the remainder consisting of heavy equipment and service vehicles. Once in operation, emission releases will be limited to compressor station engine operations (exhaust gases from combusting natural gas as fuel) and emergency natural gas releases. The Project compressor station emissions will be controlled to Permit Levels by Transgaz.

## **IMPACT ON U.S. LABOR**

The Projects will have a positive impact on US labor as follows:

- A. BRHA Phase I Connector – The construction of this Project will have a positive impact on U.S. labor. The construction of the Project will provide the opportunity to supply U.S. supplied goods and services depending on the selection by Transgaz of non-US Company or a U.S. Company as the EPC Contractor. The Project while building the Human Capital of Romania will not create competition for U.S. jobs.
- B. BRHA Phase II and Black Sea Shore-Podisor Connector - the supply of US goods and services to the Project will have a positive impact on U.S. labor. The connection of recent Romanian offshore natural gas discoveries and the development of Romanian unconventional gas reserves will support efforts by U.S. E&P companies in developing these natural gas reserves. The construction of this approximately Project will provide the opportunity to supply U.S. supplied goods and services depending on the selection by Transgaz of non-U.S. Company or a U.S. Company as the EPC Contractor. The Project will building the Human Capital of Romania will not create completion for U.S. jobs.

## **Development Impact Measures**

The Construction of the BHRA Phase I and BHRA Phase II and Black Sea Shore-Podisor Projects will: i) Improve Romanian and EU Energy Security by enabling the shipment of gas from Bulgaria to the Eastern EU Countries by way of Hungary; ii) Reduce Romania's and the EU's dependence on Russian Gas Supply; iii) Enable the delivery of gas to Bulgaria and Hungary on a consistent basis; iv) Enable the development of Natural Gas Reserves in the Black Sea Region; and v) Create both Temporary and Permanent Romanian Jobs.

The Table below lists the Sectors and Categories that the proposed Projects will positively impact and their suggested measurements.

Sector	Category	Indicator	Description	Baseline	Anticipated Outcome
Natural Resource Development and Mining	Infrastructure Development and Efficiency Gains	Improved Natural Gas Transport and Export Capability	New NTN pipeline capacity and the ability to delivery gas to Bulgaria and Hungary	0	1.5 BCMA
Natural Resource Development and Mining	Infrastructure Development and Efficiency Gains	Increased Natural Gas Production	New Natural Gas Production from Offshore Romania	0	3 BCMA
Natural Resource Development and Mining	Infrastructure Development and Efficiency Gains	Improved Energy Security (Supporting Infrastructure to Utilize Natural Resources)	Lower Dependence on Natural Gas Imports from Russia	>40% of Romania's natural gas requirements	<40%
All	Infrastructure Development and Efficiency Gains	Temporary Jobs Created	Romanian Temporary Construction Jobs Created by construction of Project	0 Temporary Jobs	750 Temporary Jobs
All	Infrastructure Development and Efficiency Gains	Permanent Jobs Created	Romanian Permanent Jobs Created by construction of Project	0 Permanent Jobs	75 Operating, and Maintenance Jobs

## QUALIFICATIONS

The selected Contractor to provide the Project Feasibility Studies for the BRHA Phase I and Phase II Projects will have as a minimum the following personnel and experience levels.

FEASIBILITY STUDY EXPERIENCE LEVELS		
Position	Experience (Years)	Experience
Project Manager	15+	Demonstrated experience in leading a minimum of 3 multi-disciplined infrastructure Feasibility Studies.
Pipeline Project Engineer	15+	Demonstrated experience in leading a minimum of 3 large diameter pipeline design and construction projects.
Rotating Equipment Engineer	10+	Demonstrated experience in the design and specifications for gas turbine driven centrifugal gas compressor stations.
Instrumentation Engineer	10+	Demonstrated experience in the design and specifications for the instrumentation, measurement, and control systems for large diameter gas pipelines and compressor stations.
Mechanical Engineer	10+	Demonstrated experience in the design and specifications for compressor station piping, tanks and vessels and related equipment necessary for the installation of a large diameter gas pipeline.
Electrical Engineer	10+	Demonstrated experience in the design and specifications for the electric supply and protection for the pipeline compressor stations, instrumentation, controls, measurement, and SCADA systems.
Environmental Engineer	15+	Demonstrated experience in the evaluation of pipeline construction and operation environmental impacts and recommending acceptable mitigation measures and support for Operating Permits.
Archeologist	15+	Demonstrated experience in the evaluation of pipeline construction routes and identification of artifacts.
Survey Engineer	10+	Demonstrated experience in the evaluation of pipeline construction routes and the documentation of such routes.
Right of Way Land Man	10+	Demonstrated experience in the evaluation of pipeline construction routes and Right of Way contracting.
Procurement Manager	15+	Demonstrated experience in the procurement of large diameter pipeline equipment, compressors and compressor station equipment, and pre-fabricated systems
Administrator	10+	Demonstrated experience in assembling Engineering EPC and O&M Tender Documents and Feasibility Studies.
Drafting Manager	15+	Demonstrated experience in developing

		Engineering Documents in support of EPC and O&M Tender Documents and Feasibility Studies.
Draftsman	10+	Demonstrated experience in developing Engineering Documents in support of EPC and O&M Tender Documents and Feasibility Studies.

## JUSTIFICATION AND RECOMMENDATION

A strategic goal of the EU is to strengthen its energy security by diversifying its supply of natural gas. Romania is proposing two (2) pipeline projects that will assist the EU in achieving this goal. The proposed Romanian Bulgaria-Romania-Hungary-Austria Connector Pipeline and the Black Sea Shore-Podisor Pipeline (Projects) strongly support this objective. These Projects provide Eastern European access to natural gas production from i) the Caspian Region, ii) the Middle East, and iii) the developing natural gas reserve from a) recently discovered deep water reserves in the Romanian region of the Black Sea and b) the potential shale gas reserves in eastern Romania which have been projected to have the capability of supplying Romania's need for natural gas for the next 100 years. The Bulgaria-Romania-Hungary-Austria Connector Pipeline has been listed by the EU as a Project of Common Interest qualifying the Project for a Grant to promote construction of the pipeline. The combined Projects provide a significant opportunity for the supply of goods and services from U.S. based suppliers. In addition to the construction of the pipelines, there will also be the supply of US goods and services that would be produced to support U.S. natural gas Exploration and Production Companies such as Chevron and ExxonMobil that are actively exploring for natural gas both on and off-shore Romania.

### A. Proposed Projects meet USTDA's funding criteria

- a. The proposed Projects will have a positive impact on U.S. Labor with the potential for U.S. Companies to supply goods and services to construct and operate the pipelines and the associated compressor stations.
- b. The construction and operation of the pipeline will minimize negative impacts on the environment.
  - i. Archeological and environmentally sensitive areas will be identified and measures taken to either avoid or minimize/mitigate impacts;
  - ii. Construction soil disturbances will be restored to pre-construction conditions per EU and Romanian requirements;
  - iii. Water impacts will be minimized during construction and operation by the installation of preventive erosion measures;
  - iv. Air emission impacts will be minimized by:
    1. Installation of a pipeline natural gas leak detection system;
    2. Use of natural gas as the fuel for the combustion turbine driven compressors;
    3. Incorporation of emission control equipment to control exhaust gas emissions from the operation of the combustion turbine driven compressors;
    4. Stringent Operating and Maintenance procedures to minimize natural gas venting and fugitive releases.
  - v. Noise emission impacts will be managed by locating facilities away from noise sensitive areas.

- c. Romania's efforts to reform its natural gas markets has been hampered by i) the NTN's inability of bi-directional flow at its interconnections with Hungary and Bulgaria and ii) limitation of indigenous supply and capacity on the NTN. The proposed Projects will resolve these issues and thus promote Romania's gas market reforms.
  - d. The design, construction, operation and maintenance of the proposed Projects will provide Transgaz and Romania's infrastructure contractors (and workforce) state of the art practices and procedures in large diameter/high pressure pipeline design, construction, operations, and maintenance.
  - e. The ability to ship natural gas from Romania's onshore and offshore production areas will promote support industries for the E&P industry.
  - f. Construction of the proposed Projects will have a significant impact on Romania's construction work force. At the peak of construction activity approximately 1,600 workers of which 60% are estimated to be local labor.
  - g. Operation and Maintenance of the proposed Projects is estimated to create 50 to 75 full time skilled, 75% of which will be skilled positions.
- B. The Financial Viability Screening Analysis tested the assumption that Transgaz could fund the proposed Projects by charging shippers of gas through capacity (made possible by the Projects) the existing ANRE approved Tariff. The analysis results were not conclusive given the screening level financing, construction, operating, and maintenance costs used in the Analysis.
- C. It is recommended that a Feasibility Study of a combined Romanian Bulgaria-Romania-Hungary-Austria Connector Pipeline and the Black Sea Shore-Podisor Pipeline Project be funded by the USTDA and conducted by a qualified U.S. contractor.

## **ANNEX 3**



**U.S. TRADE AND DEVELOPMENT AGENCY**  
**Arlington, VA 22209-3901**

**NATIONALITY, SOURCE, AND ORIGIN REQUIREMENTS**

The purpose of USTDA's nationality, source, and origin requirements is to ensure 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, the following provisions shall govern the delivery of goods and professional services funded by USTDA under the Grant Agreement:

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

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

**NATIONALITY:**

1) Application

A U.S. firm that submits a proposal must meet USTDA's nationality requirements as of the date of submission of the proposal and, if selected, must continue to meet such requirements throughout the duration of the USTDA-funded activity. These nationality provisions apply to all portions of the Terms of Reference that are funded with the USTDA grant.

2) Definitions

A "U.S. firm" is a privately owned firm that 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. citizens and/or non-U.S. citizens lawfully admitted for permanent residence in the United States, 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 that is organized in the U.S., has its principal place of business in the U.S., and is more than 50% owned by U.S. citizens and/or permanent residents, qualifies as a "U.S. firm".

A nonprofit organization, such as an educational institution, foundation, or association, also qualifies as a "U.S. firm" if it is incorporated in the U.S. and managed by a governing body, a majority of whose members are U.S. citizens and/or permanent residents.

**SOURCE AND ORIGIN:**

Definitions

"Source" means the country from which shipment is made.

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

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

## **ANNEX 4**

## **GRANT AGREEMENT**

This Grant Agreement is entered into between the Government of the United States of America, acting through the U.S. Trade and Development Agency (“USTDA”) and Transgaz S.A. (“Grantee”). USTDA agrees to provide the Grantee under the terms of this Grant Agreement US\$956,000 (“USTDA Grant”) to fund the cost of goods and services required for a feasibility study (“Study”) on the proposed Transgaz Pipeline Expansion project (“Project”) in Romania (“Host Country”).

### **1. USTDA Funding**

The USTDA Grant 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 incorporated by reference into this Grant Agreement. The Study will examine the technical, financial, environmental, and other critical aspects of the proposed Project. The Terms of Reference for the Study shall also be included in the Contract.

### **3. Standards of Conduct**

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

### **4. Grantee Responsibilities**

The Grantee shall undertake its best efforts to provide reasonable support for the Contractor, such as office space and secretarial support. The Grantee shall also provide all currently available information and data regarding the Project as specified in Task 1 of Annex I (Terms of Reference).

## **5. Contract Matters and USTDA's Rights as Financier**

### **(A) Grantee Competitive Selection Procedures**

Selection of the U.S. Contractor shall meet the USTDA requirements for grant financing 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)). The selection will be carried out by the Grantee according to its established internal procedures. Upon request, the Grantee will submit these contracting procedures and related documents to USTDA for information and/or approval.

### **(B) USTDA's Right to Approve Contractor Selection**

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

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

#### **(1) Contract**

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

#### **(2) Amendments and Assignments**

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

### **(D) USTDA Not a Party to the Contract**

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

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

**(E) Grant Agreement Controlling**

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

**6. Disbursement Procedures**

**(A) USTDA Approval of Contract Required**

USTDA will make disbursements of USTDA 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 Contract Clauses in Annex II.

**7. Effective Date**

The effective date of this Grant Agreement ("Effective Date") shall be the date of signature by both parties or, if the parties sign on different dates, the date of the last signature. In the event that only one signature is dated, such date shall constitute the Effective Date.

**8. Study Schedule**

**(A) Study Completion Date**

The completion date for the Study, which is April 30, 2016, is the date by which the parties estimate that the Study will have been completed.

**(B) Time Limitation on Disbursement of USTDA Grant Funds**

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

**9. USTDA Mandatory Contract Clauses**

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

**10. Use of U.S. Carriers**

**(A) Air**

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

**(B) Marine**

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

**11. Nationality, Source and Origin**

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

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

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

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

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

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

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

## **12. Taxes**

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

## **13. USTDA Project Evaluation**

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

## **14. Recordkeeping and Audit**

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

## 15. Representation of Parties

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

## 16. Addresses of Record for Parties

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

To: Mr. Petru Vaduva  
Address: Piata C. I. Motas, Nr. 1  
551130  
Medias Jud.  
Sibiu, Romania  
Phone: +40 26 980 33 33  
Fax: +40 26 980 90 29  
E-Mail: petru.vaduva@transgaz.ro

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

Phone: (703) 875-4357  
Fax: (703) 875-4009  
E-Mail: MENA\_Europe@ustda.gov

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

Any communication relating to this Grant Agreement shall include the following fiscal data (below and on the following page):

Appropriation No.: 11 14/15 1001  
Activity No.: 2015-21014A  
Reservation No.: 2015227  
Grant No.: GH201521227

Appropriation No.: 11 15/16 1001  
Activity No.: 2015-21014A  
Reservation No.: 2015227  
Grant No.: GH201521227

### **17. Implementation Letters**

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

### **18. Grant Agreement Amendments**

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

### **19. Termination Clause**

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

### **20. Non-waiver of Rights and Remedies**

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

### **21. U.S. Technology and Equipment**

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

### **22. Governing Law**

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

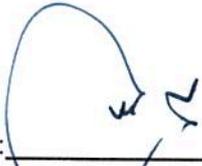
### **23. Counterparts**

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

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

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

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

By:   
\_\_\_\_\_  
Mr. Hans Klemm  
U.S. Ambassador to Romania

Date: 24 Sep 2015

**For Transgaz S.A.**

By:   
\_\_\_\_\_  
Mr. Petru Ion Vaduva  
Director General

Date: 24-09-2015

**Annex I -- Terms of Reference**

**Annex II -- USTDA Mandatory Contract Clauses**

## Annex II

### USTDA Mandatory Contract Clauses

#### A. USTDA Mandatory Clauses Controlling

The parties to this Contract acknowledge that this Contract is funded in whole 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 Transgaz S.A. (“Client”), dated \_\_\_\_\_ (“Grant Agreement”). The Client has selected \_\_\_\_\_ (“Contractor”) to perform the feasibility study (“Study”) for the Transgaz Pipeline Expansion project (“Project”) in Romania (“Host Country”). The Client and the Contractor are the parties to this Contract, and they hereinafter are referred to collectively as the “Contract Parties.” Notwithstanding any other provisions of this Contract, the following USTDA Mandatory Contract Clauses shall govern. All subcontracts entered into by Contractor funded or partially funded with USTDA Grant funds shall include these USTDA Mandatory Contract Clauses, except for Clauses B(1), G, H, I, and S. In addition, in the event of any inconsistency between the Grant Agreement and the Contract or any subcontract thereunder, the Grant Agreement shall be controlling.

#### B. USTDA as Financier

##### (1) USTDA Approval of Contract

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

##### (2) USTDA Not a Party to the Contract

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

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

### **C. Nationality, Source and Origin**

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

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

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

#### **D. Recordkeeping and Audit**

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

#### **E. U.S. Carriers**

##### **(1) Air**

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

##### **(2) Marine**

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

#### **F. Workman's Compensation Insurance**

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

#### **G. Disbursement Procedures**

##### **(1) USTDA Approval of Contract**

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

## **(2) Payment Schedule Requirements**

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

## **(3) Contractor Invoice Requirements**

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

### **(a) Contractor's Invoice**

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

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

“As a condition for this mobilization payment, the Contractor certifies that it will perform all work in accordance with the terms of its Contract with the Client. To the extent that the Contractor does not comply with the terms and conditions of the Contract, including the USTDA Mandatory Contract Clauses contained therein, it will, upon USTDA’s request, make an appropriate refund to USTDA.”

#### **(ii) For Contract performance milestone payments:**

“The Contractor has performed the work described in this invoice in accordance with the terms of its Contract with the Client and is entitled to payment thereunder. To the extent the Contractor has not complied with the terms and conditions of the Contract, including the USTDA Mandatory Contract Clauses contained therein, it will, upon USTDA's request, make an appropriate refund to USTDA.”

#### **(iii) For final payment:**

“The Contractor has performed the work described in this invoice in accordance with the terms of its Contract with the Client and is entitled to payment thereunder. Specifically, the Contractor has submitted the Final Report to the Client, as required by the Contract, and received the Client’s approval of the Final Report. To the extent the Contractor has not complied with the terms and conditions of the Contract, including the USTDA Mandatory Contract Clauses contained therein, it will, upon USTDA’s request, make an appropriate refund to USTDA.”

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

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

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

“The services for which disbursement is requested by the Contractor have been performed satisfactorily, in accordance with applicable Contract provisions and the terms and conditions of the USTDA Grant Agreement.”

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

“The services for which disbursement is requested by the Contractor have been performed satisfactorily, in accordance with applicable Contract provisions and the terms and conditions of the USTDA Grant Agreement. The Final Report submitted by the Contractor has been reviewed and approved by the Client.”

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

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

**H. Termination**

**(1) Method of Termination**

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

**(2) Ramifications of Termination**

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

**(3) Survivability**

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

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

and

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

and

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

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

### **(3) Final Report Presentation**

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

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

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

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

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

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

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

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

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

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

#### **J. Modifications**

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

#### **K. Study Schedule**

##### **(1) Study Completion Date**

The completion date for the Study, which is April 30, 2016, is the date by which the Contract Parties estimate that the Study will have been completed.

##### **(2) Time Limitation on Disbursement of USTDA Grant Funds**

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

#### **L. Business Practices**

The Contract Parties recognize the existence of standards of conduct for public officials and commercial entities in their respective countries. Therefore, the Contract Parties shall fully comply with all United States and Host Country laws relating to corruption or bribery. For example, the Contractor and its subcontractors shall fully comply with the

requirements of the Foreign Corrupt Practices Act, as amended (15 U.S.C. §§ 78dd-1 et seq.). Each Contract Party agrees that it shall require that any agent or representative hired to represent it in connection with the Study will comply with this paragraph and all laws which apply to activities and obligations of that Contract Party, including, but not limited to, those laws and obligations referenced above.

#### **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 14/15 1001  
Activity No.: 2015-21014A  
Reservation No.: 2015227  
Grant No.: GH201521227

Appropriation No.: 11 15/16 1001  
Activity No.: 2015-21014A  
Reservation No.: 2015227  
Grant No.: GH201521227

#### **N. Taxes**

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

#### **O. Export Licensing**

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

## **P. Contact Persons**

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

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

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

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

If anyone designated by a Contract Party as a contact person ceases service as a contact person at any point during the ten-year period following the date of signing of this Contract, the Contract Party that had designated that contact person shall provide USTDA and the other Contract Party with the name and contact information of a replacement contact person.

## **Q. Liability**

This Contract may include a clause that limits the liability of the Contract Parties, provided that such a clause does not (i) disclaim liability for damages that are natural, probable, and reasonably foreseeable as a result of a breach of this Contract, or (ii) limit the total amount of damages recoverable to an amount less than the total amount disbursed to the Contractor pursuant to this Contract. If any clause included by the Contract Parties is inconsistent with either or both of these limitations, it shall be invalid and unenforceable to the extent of the inconsistency.

## **R. Arbitration**

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

## **S. Reporting Requirements**

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

## **ANNEX 5**

## Annex I

### **Terms of Reference**

Transgaz Pipeline Expansion Project -- BRHA Corridor Pipeline and the Black Sea Shore-Podisor Pipeline

#### Objective

The objective is to perform a feasibility study that will include evaluation, validation and improvement of existing feasibility studies and will evaluate the technical design and feasibility (Technical Viability), economic viability, and financeability of the Grantee's pipeline expansion project, which consists of the proposed Transgaz Bulgaria-Romania-Hungary-Austria (BRHA Phase I and Phase II) covering the Romanian sections of the BRHA pipeline project and the Black Sea Shore-Podisor Pipeline Project. The Grantee is developing the Project to develop capacity for transport of:

- i) natural gas from the existing interconnection with the Bulgarian pipeline network near Giurgiu, Romania in fulfillment of Romania's obligations to the EU interconnected natural gas network; and
- ii) gas production from the recent Black Sea natural gas discoveries in the Romanian sector of the sea. By the nature of this expanded Transgaz transport capacity, it is anticipated that other potential natural gas production in the Black Sea and from unconventional natural gas resources onshore in southeastern Romania will be possible should such resources prove to be economically viable.

General considerations for deliverables and documents:

In all steps of the FS, the Contractor will work closely with the Grantee to advance the Project to the implementation phase. In carrying out the FS, the Contractor must be detail-oriented in reviewing and analyzing all critical issues related to technology and equipment selection, economic viability, negative environmental impacts, regulatory issues, and financing options regarding the Project. The deliverables specified in this Terms of Reference shall serve to keep the Grantee informed about the Contractor's work and to ensure that the Contractor's findings (both preliminary and final) are acceptable to the Grantee before critical decisions are made based on the FS findings. The Contractor shall undertake a quality control review process, including a technical and editorial review, of all deliverables and documents submitted to the Grantee to ensure accuracy, consistency, and readability. The Contractor shall produce all work in the English language, use the International System ("SI") of Units as the system of measurement for the FS, and propose specifications for the tender documents which may be customary to U.S. Engineering, Procurement, and Construction Contractors without thereby restricting the access of other contractors to the tender.

## **Task 1: Project Inception, Site Assessment and Technical Review**

### ***Subtask 1(a): Project Inception***

Within one month after the Contract signing, the Contractor shall travel to the Transgaz Headquarters located in Medias, Romania for kick-off meetings with the Grantee to:

- (a) review, discuss, and refine overall strategy, scope, objectives, communications plan, and deliverables of the FS;
- (b) define and clarify the Grantee's and Contractor's roles and responsibilities with respect to the FS; and
- (c) discuss the Grantee's short-and long-term objectives for the Project.

During the meetings, the Grantee shall provide the Contractor with all currently available information and data regarding the Project including all existing Transgaz prefeasibility reports, feasibility studies, analysis, and design information. The information and documentation provided by the Grantee to the Contractor shall include, but is not limited to, the following:

1. Grantee's pre-feasibility studies, including all pertinent documents used in their preparation;
2. Grantee's pre-feasibility studies, including the technical specifications (pipeline route, hydraulic calculations, location of above ground installation, cost estimate, etc.);
3. Topographical contour surveys of the Project pipeline route;
4. Geotechnical and hydrological studies;
5. The relevant documentation prepared in connection with Grantee's development of the Project Preliminary Environmental Impact Assessment (including initial assessment notices and decisions as issued by the Romanian County Environment Protection Agencies – AJPM);
6. Financial model for the Project;
7. Grantee's financing plan for the Project; and,
8. The Authority Manual containing the legal and regulatory authorizations required by the Project.

NOTE: All pre-feasibility studies will be available to the Contractor in English. All other documents will be available to the Contractor in Romanian.

The Contractor shall, in conjunction with the Grantee, review and assess the Project implementation milestones. The Contractor shall review and analyze all information and documentation provided by the Grantee and determine if any additional information/documentation is needed in order for the Contractor to effectively complete this Terms of Reference. The Contractor shall work with the Grantee to ensure that the Contractor has all information and documentation needed to proceed with the tasks listed in this Terms of Reference.

The Contractor and the Grantee shall also review the following aspects of the FS:

1. The Contractor's complete work plan for the FS. The Contractor's complete work plan shall include all FS activities, milestones, deliverables, schedule, and Contractor Payment Schedule consistent with the Terms of Reference;
2. The Contractor's approach and methodology for specific tasks under this Terms of Reference; and,
3. The Contractor's communications strategy, FS documentation, and project management reporting requirements under this Terms of Reference.

The Contractor's detailed work plan for the FS shall be reviewed with the Grantee in a kickoff meeting and the Contractor shall obtain the Grantee's concurrence on timelines and the work plan for the FS. This work plan shall be used by the Contractor to assess the FS's progress and accomplishments on a monthly basis and report to the Grantee any deviation or delays from the timeline.

***Subtask 1(b): Project Site Assessment***

The Contractor shall research (using maps, existing aerial surveys and photos and other available information) in a desktop study the entire route and will determine the areas requiring a field survey in consultation with the Grantee. After completion of the desktop study, the Contractor and the Grantee shall travel along the proposed Project pipeline routing, in the mutually agreed areas and compressor station sites for a field inspection to confirm the Project sites and to identify possible issues related to construction and costs. The Contractor shall identify and assess any site-specific problems or irregularities related to pipeline route and associated facilities that could potentially preclude the Project from progressing per the Grantee's intent. The Contractor shall provide the Grantee with options on how to avoid or mitigate any such potential problems or irregularities.

The Grantee and Contractor shall be solely responsible for their own respective travel costs to the proposed Project sites.

***Subtask 1(c): Technical Review and Verification of the Project Design***

The Contractor shall conduct a technical review, analysis, and verification of Grantee's Project pre-feasibility study and other studies developed so far. Such verification shall include at least the following: facilities' sizing, rights of way, the construction, operating, and maintenance costs, work and design plans for the Grantee's proposed pipeline and compressor stations. Based on its technical review of the Project, the Contractor shall: (a) identify and describe any areas in the Project that may have higher risks for cost increases or schedule delays; and (b) use value engineering methodology to prepare an optimization report that recommends potential Project cost savings in the design, Project construction and operation.

The Contractor's technical review and verification of the Project design shall address, but is not limited to, the following:

1. The data resources, methodology, design assumptions and conditions, hydraulic modeling and conclusions of the pre-feasibility study report;
2. The geotechnical and surface conditions of the pipeline routing and compressor station sites and proposed infrastructure, the proposed compressor stations layouts and related structures, and the operating parameters of the pipeline and compressor stations;
3. The proposed methodology of the proposed capital costs, construction program, and operating and maintenance costing.

**Task 1 Deliverables:** The Contractor shall deliver to the Grantee a report that contains all findings and detailed account of work performed under Task 1, including, but not limited to: i) detailed meeting minutes covering the Grantee's future plans and Grantee's short- and long-term objectives for the Project; ii) a report on the Contractor's field inspection of the Project routing and sites; iii) a finalized work plan that details how the Contractor shall proceed with fulfilling this Terms of Reference; iv) a finalized schedule for the FS; and v) a technical review of the Project. This report will also be included in the Final Report.

### **Task 2: Preliminary Environmental Impact Assessment and Development Impact Assessment**

#### ***Subtask 2(a): Preliminary Environmental Impact Assessment ("Pre-EIA")***

The Contractor shall develop the Pre-EIA taking into consideration the standards of the Export-Import Bank of the United States (EX-IM) and that of the European Bank for Reconstruction and Development (EBRD). The Contractor shall review any other pre-EIAs or other similar documents that have been developed on the Project. The Contractor shall make any necessary recommendations for subsequent development of the Environmental Impact Assessment to facilitate potential EBRD and EX-IM Bank financing. In developing the Pre-EIA, the Contractor will adhere to the EBRD and EX-IM Bank guidelines, covering at minimum the following environmental aspects: Long-term site specific environmental impacts on land use, landscape, soils and geology, irrigation, visual impacts and impacts on neighboring flora, fauna and human populations archaeological impacts; and, environmental impacts across the design, construction, operation; and decommissioning phase.

#### ***Task 2(b): Development Impact Assessment ("DIA")***

The Contractor shall report on the potential development impact in the Host Country if the Project is implemented according to the FS recommendations.

While there may be immediate impacts resulting from the completion of the Project, the Contractor's development impact report shall focus on the long-term outcomes that would result from the implementation of the Project.

The Contractor's analysis of potential impacts (negative and positive) shall be as concrete and detailed as possible and shall be based on the data and information collected during the performance of the FS. The development impact factors are intended to provide decision makers and relevant parties with a broader view of the potential effects of the Project on the Host Country. The Contractor shall report on the indicators listed below for the Project:

1. **Infrastructure Development and Efficiency Gains:** An itemized summary listing the physical infrastructure created or improved and an estimate of the new domestic pipeline capacity and the ability to deliver gas to Bulgaria and Hungary (in billion cubic meters per annum). The summary shall indicate the anticipated timeline for implementation of the infrastructure. The estimated new natural gas production from Romanian offshore resources allowed by the Project shall be estimated and an estimate of the resulting reduced dependence on imports.
2. **Human Capacity Building:** An itemized statement listing jobs created and other human capacity building impacts:
3. **Job creation:** a description of the number and type of temporary and permanent new jobs by number and type that would be created to implement and operate the proposed Project.
4. **Training and human capacity building:** a description of the number and type of individuals that would receive training, skills development or other human capacity building in implementation of the Project, as well as a description of the training program.
5. **Environmental Impacts:** An itemized statement, backed-up by measureable data and analysis from the pre-EIA of subtask 4(a), summarizing how the Project will impact the Host Country environment, and the expected timeline during which such impacts may occur. Emission will be determined as follows:
  - a. Carbon emissions in CO<sub>2</sub> equivalent units (increase and/or reduction, for example based on replacement of coal usage with natural gas);
  - b. For SO<sub>x</sub>, NO<sub>x</sub>, acidic and particulate matter emissions in absolute weight units, if the Project is implemented.
  - c. The Contractor shall calculate GHG emissions using publically available tools from the United Nations Framework Convention on Climate Change or an equivalent approved by the Grantee and USTDA.
6. **Market Oriented Reforms:** A description of any regulations, laws or institutional changes that are recommended and the effect they would have if implemented.
7. **Socio-Economic Impact Study:** The Contractor shall develop a preliminary and brief socio-economic impact study of the Project focusing on the communities along the pipeline sections.

**Task 2 Deliverables:** The Contractor shall deliver to the Grantee a report that contains all findings and detailed account of working performed under Task 2, including, but not limited to the Pre-Environmental Impact Assessment Review and Development Impact Assessment for the Project. This report will also be included in the Final Report.

### **Task 3: Development of Technical Viability Study and Risk Analysis**

Based on Tasks 1-2, the Contractor shall work closely with the Grantee to prepare a Technical Viability Study. The final contents of the Technical Viability Study will be agreed with the Grantee. The Format of the Technical Viability Study shall be as follows:

#### **Format of the Technical Viability Study**

##### Contents

1. Investment Background information:
  - a. Name of the investment objective
  - b. Pipeline usage
  - c. Importance category
  - d. The pipeline system
  - e. Location (pipeline route benchmarks)
  - f. Investment Incumbent
  - g. Investment Beneficiary
  - h. Study Developer
2. Background information related to the project
  - a. Current situation and information related to the entity responsible for the implementation of the project;
  - b. Description of the investment;
  - c. The conclusions of the prefeasibility study or of the detailed plan for long term investments (if they have been drawn up in advance) on the current situation, on the need and opportunity to promote the investment as well as the selected technical-economic scenario;
  - d. The technical-economic scenario underlying the achievement of the investment scope (unless a prefeasibility study or a long term investment plan was conducted before the feasibility study);
  - e. Alternate scenarios (minimum of two), for example with varying pipeline routing or options on pipeline sizing or level of compression;
  - f. The scenario recommended by the developer;
  - g. The advantages of the recommended scenario;
  - h. The technological, functional and constructive description of the investment objective, as appropriate;
  - i. Technical data related to the investment;
  - j. Area and location;
  - k. The legal status of the land to be used;
  - l. The status of the permanent ownership of the land for the pipeline right of way (ROW): overall area, within/outside the built up areas;
  - m. Land studies;
  - n. Topographical studies comprising topographical plans of the landmarks location and the lists of the markers in the national reference system;
  - o. Geotechnical study including the drilling location plans, the comprehensive reports on the lab results, the analysis of the underground

- waters, the geotechnical recommendations for foundation and consolidations;
- p. Other relevant reference studies, if appropriate;
  - q. The main features of the buildings located within the investment objective, and the constructive options to accomplish the investment based on the recommendation of the optimum option to be approved and of the applied optimization criterion/criteria (minimum route length, minimum execution cost, minimum exploitation costs, etc.);
  - r. The current situation of the utilities and the consumption analysis;
  - s. The necessary utilities for the option proposed to be promoted;
  - t. Technical solutions to provide utilities;
  - u. The conclusions of the preliminary environmental impact assessment;
  - v. The implementation period and the main steps (primary phases of the project and the principal activities in each phase which are to be accomplished); investment implementation schedule.
3. Estimated investment cost:
    - a. Total costs itemized within the estimate;
    - b. Cost phasing in conjunction with the investment implementation schedule.
  4. Cost–benefit analysis:
    - a. Identification of the investment and definition of the objectives, including the specification of the reference period;
    - b. Analysis of the options, including the zero option (option excluding the investment, for the current situation), the maximum option (option including the maximum investment) and the medium option (the option including the medium investment) and the selected option shall be mentioned;
    - c. The financial analysis, including the calculation of the financial performance indicators: the aggregated cash flow, the net present value, the internal rate of return and the cost-benefit analysis;
    - d. The economic analysis, including the calculation of the economic performance indicators: the net present value, the internal rate of return and the cost-benefit analysis;
    - e. The sensitivity analysis; and
    - f. The risk assessment.
  5. Investment financing sources: The investment financing sources are established according to the applicable laws, comprising the Grantee’s own funds, bank loans, local/state budget funds, state secured or contracted external loans, grants and other lawfully established funds.
  6. Estimation of the labor force involved in the achievement of the investment
    - a. Number of jobs generated at the execution stage
    - b. Number of jobs generated at the operation stage
  7. The main technical-economic indicators related to the investment
    - a. Total amount (Investment), VAT included (thousand lei)
    - b. Investment phasing (INV/C+M):
    - c. Year I (Investment/Month – euro/lei)
    - d. Year II (Investment/Month – euro/lei)

- e. Investment Type
  - i. Design
  - ii. Construction
  - iii. Overhead
- f. Implementation period (months);
- g. Capacity (expressed in physical units and value);
- h. Other indicators related to the investment scope, if appropriate.
  - i. Drawings:
    - 1. Building site plan (1:25000 – 1:5000);
    - 2. General plan (1:200 – 1:500);
    - 3. Plans and global architecture, resilience, installation sections, including the plans for the coordination of all specialties involved in the achievement of the project;
  - ii. Special plans, sheer profile, cross-sectional profile, as appropriate.

The cost estimate shall include a detailed breakdown for all major components of the Project, including, but not limited to, major equipment, balance of plant, instrumentation and controls, and mechanical and electrical systems. The Contractor shall estimate operation and maintenance (“O&M”) costs. The Contractor shall also provide an O&M optimization strategy that recommends how to optimize the annual energy and maintenance costs of the Project.

The Contractor shall review the economic or financial analyses that have been previously prepared by the Grantee. Based on this review and work performed in Tasks 1 and 2, the Contractor shall perform a base case economic evaluation as well as sensitivity analyses related to possible changes in all major external factors such as, variations in Grantee transport quantities, changes in Regulated Transport Tariffs, equipment and material costs, fuel costs, electricity costs, interest rates, investment costs, and any other factors that may impact the financial viability of the Project. The Contractor shall include in its evaluation a cash flow analysis, life cycle cost analysis (“LCCA”), construction market conditions, material availability, costs of owner’s engineer services, and land and rights of way acquisition for the Project.

The Contractor’s LCCA shall consider all initial capital costs (plan, design, develop, and build) and long-term operational and maintenance costs. The Contractor shall also complete a net present value analysis.

The Contractor shall also prepare a detailed implementation schedule for the Project. The Project implementation plan shall include a comprehensive Project execution plan, schedule, and timeline required for Project implementation. The Contractor shall include a critical path analysis and detailed implementation milestone descriptions.

### **Sub-task 3(b): Risk assessment**

The Contractor shall develop a risk assessment based on the industry best practice to include at least the following:

- Risk identification and risk register;

- Quality risk assessment;
- Quantity risk assessment; and,
- Proposed risk mitigation actions.

**Task 3 Deliverables:** The Contractor shall deliver to the Grantee:

- A Technical Viability Study
- The risk assessment report
- A report that contains all information collected and detailed account of work performed under Task 3, including, but not limited to an Engineering Procurement and Construction (EPC) cost estimate and implementation schedule for the Project. Such report will be included in the Final Report to the Terms of Reference.

**Task 4: Preliminary Front End Engineering and Design**

As a critical Tender and EPC input, the Contractor in consultation with the Grantee shall propose a Preliminary Front End Engineering and Design (“Pre-FEED”) package for the Project. The Pre-FEED package shall include, but not be limited to preliminary Project design requirements, pipeline routing, compressor station design conditions including emission limits, and design standards to be used by the EPC contractor to design and construct facilities impacting sensitive environmental areas. This Pre-FEED package shall be done at the level of Class III feasibility study level design at cost estimation of plus or minus 25% to 30% (Class III is based on American Association of Cost Engineering International recommended practice). In designing the Pre-FEED package and to ensure that the Project has a high level of constructability, the Contractor shall take into account factors such as the requirements of Romania’s laws and regulations, requirements of prospective lenders, risks related to the construction of the Project, critical design requirements for the Project, and access during Project construction.

The Pre-FEED package for the Project shall provide the Grantee all necessary information required to size the pipeline and compressor station equipment and accurately determine the pipeline and compressor station performance as Tender input. The Pre-FEED package shall also provide critical engineering and procurement input and information for the EPC phase.

The Pre-FEED package shall include but is not limited to the following activities:

1. Pipeline and associated facilities
  - a. preliminary design and sizing
  - b. future expansion capability
  - c. Operation and Maintenance requirements
2. Compressor Station and associated facilities
  - a. preliminary design specifications and sizing
  - b. future expansion capability
  - c. Operation and Maintenance requirements

3. Foundation and sub-surface structure requirements
  - a. preliminary design and specifications
  - b. seismic requirements
4. Specifications for the selection of the Project equipment, including, but not limited to:
  - a. Pipe and coating
  - b. Measurement Stations
  - c. Pigging Facilities
  - d. Compressor Station Equipment including emissions control
  - e. Cathodic Protection Systems
  - f. SCADA Systems
  - g. Leak Detection Systems
5. Preliminary design of the construction phase and permanent access roads;
6. Identification of archeological and environmentally sensitive areas and design and construction specifications the Project in such areas; and,
7. Construction spread specifications, access road preliminary design, and construction site restoration.

In the Pre-FEED package, the Contractor shall adhere to EU, Romanian and the Grantee's accepted design standards. The Contractor shall ensure that the Pre-FEED package is prepared in such way that would allow without being limited to U.S. equipment manufacturers and service providers to readily bid on the implementation of the Project.

**Task 4 Deliverables:** The Contractor shall provide the Grantee with a report that contains all findings and detailed account of work performed under Task 4, including, but not limited to, the Pre-FEED package, inclusive of the design drawings. All drawings prepared shall be submitted both in the source format and pdf format. This report will also be included in the Final Report.

#### **Task 5: Legal, Regulatory, and Institutional Review**

The legal, regulatory, and institutional review shall be sufficient to support the implementation plan (which was developed in Task 3) that details all of the steps that the Grantee will need to take to comply with all relevant Host Country and European Union legal, regulatory, and institutional requirements for the implementation of the Project. This review shall include, but not be limited to, permitting requirements, local building requirements, constraints that include right-of-way and zoning ordinances, and other legal, regulatory, and institutional requirements that the Grantee will need to comply with for the implementation of the Project. The Contractor shall also analyze the anticipated impacts of relevant Host Country legal, regulatory, and institutional requirements on the cost estimates and economic analysis (which were developed in Task 3) and provide recommendations for mitigating any anticipated negative impacts. If necessary, the Contractor shall revise the cost estimates and economic analysis developed in Task 3 to reflect any anticipated impacts of relevant Host Country legal, regulatory, and institutional requirements. In addition, the Contractor shall analyze the anticipated

impacts of relevant Host Country legal, regulatory, and institutional requirements on the implementation schedule (which will be developed in Task 3) for the Project, ensure that these anticipated impacts are incorporated into the implementation schedule, and provide recommendations for mitigating any anticipated negative impacts.

The Contractor shall provide a written report that includes: (i) an analysis of the laws, legislation, and regulation reviewed; (ii) recommendations to address the concerns identified; and (iii) next steps needed to implement the Project.

**Task 5 Deliverables:** The Contractor shall prepare and deliver to the Grantee a report that contains all findings and detailed account of work performed under Task 5, including, but not limited to, an analysis of legal, regulatory, and institutional aspects relevant to the Project implementation. This report will also be included in the Final Report.

#### **Task 6: U.S. Sources of Supply and Implementation Financing**

***Subtask 6(a): U.S. Sources of Supply:*** Based on the design the Contractor shall identify the likely U.S. suppliers for equipment procurement and service providers for the Project and prepare a qualified and interested vendors list. The list shall be complete with company names, contact name(s), physical and e-mail addresses and phone numbers. To the greatest extent practicable, for each recommended supplier and service provider, the Contractor shall identify the sourcing location and percentage of U.S.-sourced content so that the Grantee can determine Project equipment eligible to receive EX-IM financing.

***Subtask 6(b): Financing Review:*** The Contractor shall, in conjunction with the Grantee's financial advisors, develop a comprehensive financing plan for the Project, and shall assist the Grantee in finding a source suitable for funding and insuring all components of the Projects from entities including, but not limited to, the EBRD, EX-IM, the World Bank, and commercial banks. In this regard, the Contractor shall meet with potential sources of implementation financing for the Project and evaluate their interest and capability to provide debt financing and/or insurance for the Projects. The Contractor shall also verify current terms and conditions as well as review and analyze any applicable legal requirements for each of the potential sources of implementation financing that are identified pursuant to this subtask 7(b). The Contractor shall provide the Grantee with contact information for each potential source of implementation financing identified, including, but not limited to: name of financier, point of contact, address, telephone number, fax number, and e-mail address. Specifically, the Contractor shall determine EX-IM options for the U.S. manufactured equipment and the terms and conditions of such financing. Using the cost estimate developed in Task 3, the Contractor shall develop a financial model and report that is sufficient to meet the requirements of potential sources of implementation financing for the Project, for example EX-IM. The financial model and report shall include, but not be limited to, net present value, payback period, internal rate of return, cash flow, an LCCA and impact on Grantee's Cost of Service Transport Tariff Rates for the base case and all sensitivities.

**Task 6 Deliverables:** The Contractor shall prepare and submit to the Grantee a report that contains all findings and detailed account of work performed under Task 6, including, but not limited to an identification of U.S. sources of supply and review of financing options for the Project. This report will also be included in the Final Report.

**Task 7 -Final Report and Presentation**

The Contractor shall prepare and deliver to the Grantee a comprehensive Draft Final Report of all work performed under these Terms of Reference (“Final Report”). After the Grantee has reviewed the Draft Final Report, the Contractor shall conduct a Draft Final Report meeting with the Grantee at the Grantee’s headquarters in Medias, Romania or at another appropriate venue agreed upon by the Contractor and the Grantee. The Grantee shall identify appropriate personnel and other relevant stakeholders to participate in the Draft Final Report meeting. During the Draft Final Report meeting, the Contractor shall: review all work performed under this Terms of Reference; present the findings and recommendations from the Draft Final Report; and gather feedback from the Grantee on the Draft Final Report and Grantee requests for changes to the Draft Final Report, if any. The Grantee shall provide written comment to such review. The Contractor shall prepare and deliver to the Grantee and USTDA a substantive and comprehensive Final Report incorporating agreed upon clarifications or modifications to the Draft 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.

## **ANNEX 6**



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

### U.S. Firm Information Form

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

USTDA Activity Number [ <i>To be completed by USTDA</i> ]							
Activity Type [ <i>To be completed by USTDA</i> ]		Feasibility Study		Technical Assistance		Other (specify)	
Activity Title [ <i>To be completed by USTDA</i> ]							
Full Legal Name of U.S. Firm							
Business Address (street address only)							
Telephone		Fax		Website			
Year Established (include any predecessor company(s) and year(s) established, if appropriate). Please attach additional pages as necessary.							
Type of Ownership		Publicly Traded Company					
		Private Company					
		Other (please specify)					
Please provide a list of directors and principal officers as detailed in Attachment A. Attached? (Not Applicable for U.S. Publicly Traded Company)						Yes	
If Private Company or Other (if applicable), provide a list of shareholders and the percentage of their ownership. In addition, for each shareholder that owns 15% or more shares in U.S. Firm, please complete Attachment B.							
Is the U.S. Firm a wholly-owned or partially owned subsidiary?		Yes					
		No					
If so, please provide the name of the U.S. Firm's parent company(ies). In addition, for any parent identified, please complete Attachment B.							
Is the U.S. Firm proposing to subcontract some of the proposed work to another firm?		Yes					
		No					
If yes, U.S. Firm shall complete Attachment C for each subcontractor. Attached?		Yes					
		Not applicable					
<b>Project Manager</b>							
Name		Surname					
		Given Name					
Address							
Telephone							
Fax							
Email							
<b>Negotiation Prerequisites</b>							
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 an 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. **(U.S. publicly traded companies need not include Articles of Incorporation or Good Standing Certificate)**
3. Neither the U.S. Firm nor any of its directors and principal officers have, within the ten-year period preceding the submission of this proposal, been convicted of or had a civil judgment rendered against them for: commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a federal, state or local government contract or subcontract; violation of federal or state antitrust statutes relating to the submission of offers; or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, tax evasion, violating federal or state criminal tax laws, or receiving stolen property.
4. Neither the U.S. Firm, nor any of its directors and 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		Signature	
Title			
Full Legal Name of U.S. Firm		Date	





**ATTACHMENT B**

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

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

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

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

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

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



**ATTACHMENT C**

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

**Subcontractor Information Form**

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

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

Activity Title [*To be completed by USTDA*]

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

Full Legal Name of Subcontractor

Business Address of Subcontractor (street address only)

Telephone Number

Fax Number

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

**Subcontractor Point of Contact**

Name

Surname

Given Name

Address

Telephone

Fax

Email

**Subcontractor's Representations**

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

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

2. 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.
3. Neither the subcontractor nor any of its directors and principal officers have, within the ten-year period preceding the submission of the Offeror's proposal, been convicted of or had a civil judgment rendered against them for: commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a federal, state or local government contract or subcontract; violation of federal or state antitrust statutes relating to the submission of offers; or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, tax evasion, violating federal or state criminal tax laws, or receiving stolen property.
4. Neither the subcontractor, nor any of its directors and principal officers, is presently indicted for, or otherwise criminally or civilly charged with, commission of any of the offenses enumerated in paragraph 2 above.
5. 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.
6. 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.
7. 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	<input type="text"/>	Signature	<input type="text"/>
Title	<input type="text"/>		
Full Legal Name of Subcontractor	<input type="text"/>	Date	<input type="text"/>