

**REQUEST FOR PROPOSALS**

**TECHNICAL ASSISTANCE FOR THE**

**CARTAGENA WASTEWATER TREATMENT SYSTEM START-UP**

**Submission Deadline: 5 PM**

**LOCAL TIME (in Cartagena, Colombia)**

**February 13, 2012**

**Submission Place: Aguas de Cartagena S.A. E.S.P.**  
**Gerencia de Proyectos y Obras**  
**Planta de Tratamiento del Acueducto**  
**Barrio Paraguay, Loma del Marión, Transversal 45 No. 26A -160**  
**Cartagena de Indias D. T. y C.**  
**Código postal: 130015**  
**Telephone: (+57) 5 6622727 Ext.: 650**

**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\$513,000 to Aguas de Cartagena S.A. E.S.P. (the "Grantee") in accordance with a grant agreement dated November 23, 2011 (the "Grant Agreement"). This grant funds the cost of goods and services required for a Technical Assistance ("TA") on the proposed Cartagena Wastewater Treatment System ("Project") in Colombia ("Host Country").

The Grant Agreement is attached at Annex 4 for reference. The Grantee is soliciting technical proposals from qualified U.S. firms to provide expert consulting services to perform the TA.

### 1.1 BACKGROUND SUMMARY

ACUACAR has operated as the water public services provider for the city of Cartagena since 1995. With the support of financing from the World Bank and the Inter-American Development Bank (IDB) that entailed the backing of the Colombian government, the Grantee and the City of Cartagena have jointly invested more than \$300 million in the design and implementation of the Master Plan for Water and Sewerage for Cartagena, of which \$85 million has been invested since 2003 in the design and construction of a new wastewater treatment plant in Punta Canoa; a collector system that will bring wastewater to the new plant, including a 19.3 kilometer conveyance pipeline and a pumping station; a 1.6 kilometer terrestrial pipeline connecting the wastewater treatment plant to the marine outfall; and a 4.3 kilometer marine outfall that will discharge treated water into the Caribbean Sea. Many of the primary components of the wastewater system have been completed and the physical installation of the submarine outfall is expected to be completed by the end of calendar year 2011. The remainder of the primary infrastructure was built and installed over two years ago; the overall system can operate once the outfall is in place.

A background Definitional Mission report is provided for reference in Annex 2.

### 1.2 OBJECTIVE

The TA has two main objectives: (i) to provide technical assistance during the critical phase of integrating subsystems and the start-up of the new wastewater system and (ii) the creation of the environmental water quality baseline and design of an ongoing water quality monitoring program, including recommendations for environmental remediation in the *Ciénaga de la Virgen*, a sea inlet surrounded by the city and suburbs. This TA ensures that Cartagena's new wastewater system will start operating in the shortest possible time. Moreover, this TA will also be an input for the expansion of the water and wastewater treatment system in the city of Cartagena. Currently the Grantee also has plans for expansion and construction of a new water supply treatment plant to the immediate south of Cartagena. It is expected that the design and construction of the expansion will also benefit from this TA, especially as it relates to automation and control, monitoring and equipment necessary for operations.

The Terms of Reference (TOR) for this TA 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\$513,000. **The USTDA grant of US\$513,000 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\$513,000 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 Cartagena Wastewater Treatment System Start-Up.

### **2.2 DEFINITIONS**

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

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

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

### **2.3 DEFINITIONAL MISSION REPORT**

USTDA sponsored a Definitional Mission to address technical, financial, socio-political, 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 TA.

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 TA.

## **2.5 PROJECT FUNDING SOURCE**

The TA will be funded under a grant from USTDA. The total amount of the grant is not to exceed US\$513,000.

## **2.6 RESPONSIBILITY FOR COSTS**

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

## **2.7 TAXES**

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

## **2.8 CONFIDENTIALITY**

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

## **2.9 ECONOMY OF PROPOSALS**

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

## **2.10 OFFEROR CERTIFICATIONS**

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

## **2.11 CONDITIONS REQUIRED FOR PARTICIPATION**

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

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

## **2.12 LANGUAGE OF PROPOSAL**

All proposal documents shall be prepared and submitted in English and Spanish, with the exception of the supplementary documents requested in response to Annex 6 below that may be submitted in their original language of issuance (i.e., English or Spanish).

## **2.13 PROPOSAL SUBMISSION REQUIREMENTS**

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

Luis Alfonso Pinzón Corcho  
Gerencia de Proyectos y Obras  
Aguas de Cartagena S.A. E.S.P.  
Planta de Tratamiento del Acueducto  
Barrio Paraguay, Loma del Marión, Transversal 45 No. 26A -160  
Cartagena de Indias D. T. y C.  
Código postal: 130015  
Telephone: (+57) 5 6622727 Ext.: 650

**An original in English, an original in Spanish, and eight (8) copies of your proposal in Spanish must be received at the above address no later than 5 PM, on February 13, 2012.**

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

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

## **2.14 PACKAGING**

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

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

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

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

## **2.16 AUTHORIZED SIGNATURE**

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

## **2.17 EFFECTIVE PERIOD OF PROPOSAL**

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

## **2.18 EXCEPTIONS**

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

## **2.19 OFFEROR QUALIFICATIONS**

As provided in Section 3, Offerors shall submit evidence that they have relevant past experience and have previously delivered advisory, technical assistance, 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\$513,000, which is a fixed amount.

Offerors shall submit one original in English, one original in Spanish and eight (8) copies in Spanish of the proposal. Proposals received by fax or e-mail 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 to 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 TA. 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 TA.

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 TA.

### **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 TA. 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 TA as described in this RFP.

#### Section 4: AWARD CRITERIA

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

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

Criterion	Indicator	Weight
Wastewater commissioning and system	Experience in commissioning wastewater treatment plants and final disposal	50%
Environmental analysis and creation of water quality baselines	Experience in analyzing water quality and creating baselines and monitoring	20%
Experience in Latin American water sector	Experience in designing and executing wastewater or water supply projects in Latin America	10%
Knowledge of the sector in the U.S. in terms of technology and services	Experience in projects involving the use of U.S. technology and services	10%
Language skills	Key personnel speak Spanish at a professional level	10%

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

Price will not be a factor in contractor selection.

**ANNEX 1**

**FEDBIZOPPS ANNOUNCEMENT**

LUIS ALFONSO PINZÓN CORCHO, MANAGER FOR PROJECTS AND CIVIL WORKS, AGUAS DE CARTAGENA, S.A. E.S.P., GERENCIA DE PROYECTOS Y OBRAS, PLANTA DE TRATAMIENTO DEL ACUEDUCTO, BARRIO PARAGUAY, LOMA DEL MARIÓN, TRANSVERSAL 45 NO. 26A -160, CARTAGENA DE INDIAS, COLOMBIA, TELEPHONE: + (+57) 5 6622727, EXT.: 650

#### CARTAGENA WASTEWATER TREATMENT SYSTEM START-UP

POC: Robin Yavuz, USTDA, 1000 Wilson Boulevard, Suite 1600, Arlington, VA 22209-3901, Tel: (703) 875-4357, Fax: (703) 875-4009. CARTAGENA WASTEWATER TREATMENT SYSTEM START-UP. The Grantee invites submission of qualifications and proposal data (collectively referred to as the "Proposal") from interested U.S. firms that are qualified on the basis of experience and capability to conduct technical assistance for the start-up of a comprehensive wastewater treatment system for the city of Cartagena, on Colombia's Caribbean coast.

ACUACAR has operated as the water public services provider for the city of Cartagena since 1995. With the support of financing from the World Bank and the Inter-American Development Bank (IDB) that entailed the backing of the Colombian government, the Grantee and the City of Cartagena have jointly invested more than \$300 million in the design and implementation of the Master Plan for Water and Sewerage for Cartagena, of which \$85 million have been invested since 2003 in the design and construction of a new wastewater treatment plant in Punta Canoa; a collector system that will bring wastewater to the new plant, including a 19.3 kilometer conveyance pipeline and a pumping station; a 1.6 kilometer terrestrial pipeline connecting the wastewater treatment plant to the marine outfall; and a 4.3 kilometer marine outfall that will discharge treated water into the Caribbean Sea. Many of the primary components of the wastewater system have been completed and the physical installation of the submarine outfall is expected to be completed by the end of calendar year 2011. The remainder of the primary infrastructure was built and installed over two years ago; the overall system can operate once the outfall is in place.

The TA has two main objectives: (i) to provide technical assistance during the critical phase of integrating subsystems and the start-up of the new wastewater system and (ii) the creation of the environmental water quality baseline and design of an ongoing water quality monitoring program, including recommendations for environmental remediation in the *Ciénaga de la Virgen*, a sea inlet surrounded by the city and suburbs. This TA ensures that Cartagena's new wastewater system will start operating in the shortest possible time. Moreover, this TA will also be an input for the expansion of the water and wastewater treatment system in the city of Cartagena. Currently the Grantee also has plans for expansion and construction of a new water supply treatment plant to the immediate south of Cartagena. It is expected that the design and construction of the expansion will also benefit from this TA, especially as it relates to automation and control, monitoring and equipment necessary for operations.

The U.S. firm selected will be paid in U.S. dollars from a \$513,000 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 and Spanish directly to the Grantee by 5 pm on February 13, 2012, at the above address. Evaluation criteria for the Proposal are included in the RFP. Price will not be a factor in contractor selection, and therefore, cost proposals should NOT be submitted. The Grantee reserves the right to reject any and/or all Proposals. The Grantee also reserves the right to contract with the selected firm for subsequent work related to the project. The Grantee is not bound to pay for any costs associated with the preparation and submission of Proposals.

**ANNEX 2**

**BACKGROUND DEFINITIONAL MISSION REPORT**

PORTIONS OF THIS DEFINITIONAL MISSION REPORT HAVE BEEN  
INTENTIONALLY REDACTED.

## EXCERPTED DEFINITIONAL MISSION REPORT

### 1) Introduction

USTDA hired DHC Consulting in March 2011 to identify water and wastewater treatment sector opportunities for funding in Brazil and Colombia. The main purpose of our work for USTDA was to visit Brazil and Colombia to: (i) review projects that had been proposed for grant funding to USTDA in the water and wastewater treatment sectors and make a recommendation for funding; and (ii) identify additional projects that might also be of interest to USTDA because they met the selection criteria, especially projects with high development value and high U.S. export potential.

The DHC DM team visited four cities in Colombia from April 10 through April 16, 2011: Bogota, Cartagena, Medellin and Barranquilla. As a consequence of this visit the DHC team is recommending for funding a technical assistance to startup the wastewater system for the city of Cartagena sponsored by ACUACAR.

We conclude that U.S. exporters of water related goods and services have a large opportunity to increase their market share in Brazil and Colombia. Moreover we also conclude that our estimation of U.S. exports presented for each recommended project are likely to materialize if the opportunities offered in these two markets are presented to U.S. firms.

### 2) Note on U.S. competitiveness, export potential, and employment generated by U.S. exports

During the last 25 years the U.S. manufacturing sector has been challenged by lower costs of production in emerging economies. Most notably the emergence of China as a major industrial economy with a significant comparative advantage in production costs has impacted manufacturing investment in the U.S. and the rest of the developed economies. A noticeable trend during the last 25 years is the change in the structure of production with specialization in cutting edge technologies in the U.S. and developed economies, and mass production of relatively inexpensive products in emerging economies, such as China and other Asian countries, and Latin America.

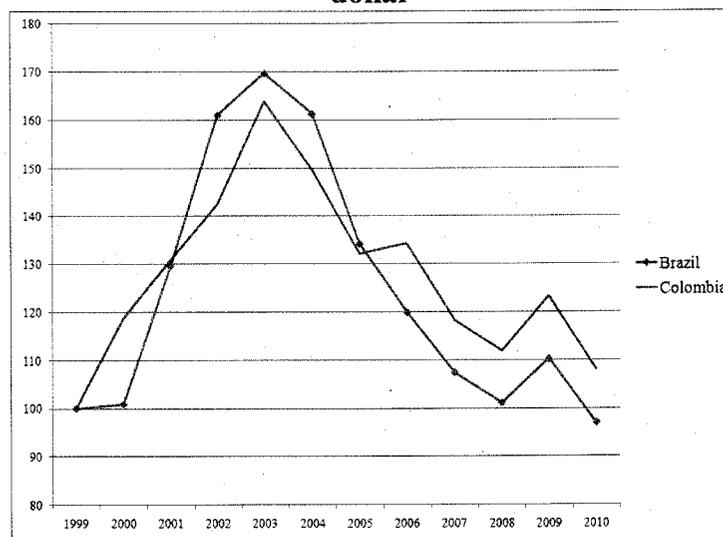
The U.S., however, remains the world leader in productivity and competitiveness. According to the IMD Swiss Business School in 2011, the U.S., along with Hong Kong, is the most competitive country in the world due to its high productivity and focus on production of high tech equipment, research and development.<sup>1</sup> Similarly the World Economic Forum Global Competitiveness Index notes in its 2010-2011 report that in the U.S., which according to them ranks as the fourth most competitive country in the world, "*companies are highly sophisticated and innovative, supported by an excellent university system that collaborates strongly with the business sector in R&D. Combined with the scale opportunities afforded by*

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<sup>1</sup> IMD World Competitiveness Center, 2011. "2011 World Competitiveness Yearbook" IMD, Lausanne, Switzerland.

*the sheer size of its domestic economy—the largest in the world by far—these qualities continues to make the United States very competitive.”<sup>1</sup> An additional factor that is supporting the U.S. economic recovery from the financial crisis of 2007-2008 is the devaluation of the U.S. dollar compared against all major currencies.*

**Figure 1: Index of Brazilian Real and Colombian Peso exchange rates against the U.S. dollar**



**Source:** World Bank: World Development Indicators

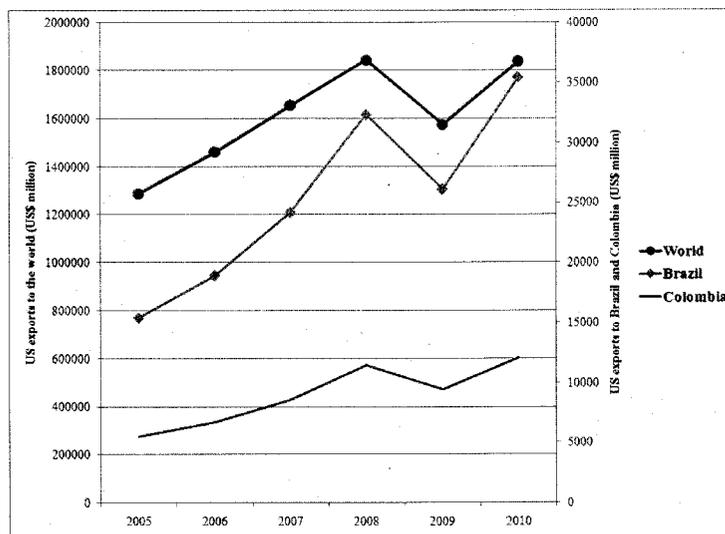
The U.S. comparative advantage has been enhanced since 2003 when the U.S. dollar started to depreciate against all major currencies in the world. Figure 1 shows an index of the exchange rate of the U.S. dollar against the Colombian Peso and the Brazilian Real. As noted in the figure, since 2003 the U.S. dollar has weakened significantly compared to these currencies: 42% against the Brazilian Real and 34% against the Colombian Peso. The depreciation of the U.S. dollar results in large “discounts” on the price of U.S. exports to these two countries, thereby facilitating exports from the U.S. This new development, despite some negative macroeconomic consequences in other areas of the U.S. economy, is extremely beneficial for U.S. exporters to Brazil and Colombia because U.S. goods and services are generally recognized as of the best quality, although in the past they were also considered expensive. This is not the case anymore.

U.S. export data confirms the positive impact of the depreciation of the U.S. dollar on U.S. exports. Figure 2 shows U.S. exports to the world and to Brazil and Colombia since 2005. Total U.S. exports to the world, recorded on the left axis, reached over US\$1.8 trillion in 2010. More importantly total exports grew more than 42% during the same period. The growth of U.S. exports to Brazil and Colombia (recorded on the right axis) follows a similar pattern. U.S. exports to Brazil totaled over US\$35 billion in 2010, growing over 130% since 2005. For Colombia, U.S. exports totaled over US\$10 billion in 2010, growing over 121% since 2005. Clearly U.S. export potential in general has increased significantly as a reaction

<sup>1</sup> World Economic Forum, 2010. “The Global Competitiveness Report 2010-2011” World Economic Forum, Geneva, Switzerland.

to the weakening of the U.S. dollar and also as a consequence of overall productivity gains in the economy.

**Figure 2: Total U.S. exports (left axis) and to Brazil and Colombia (right axis) in US\$**



Source: U.S. Bureau of Economic Analysis

Projects in the water sector offer significant export opportunities to U.S. providers of goods and services. As noted, the large growth of U.S. exports to these two countries is proof of the acceptance and preference for U.S. products, especially when prices are competitive. We conclude that U.S. exporters of water-related goods and services have a large opportunity to increase their market share in Brazil and Colombia. Moreover we also conclude that our estimation of U.S. exports presented for each recommended project are likely to materialize if the opportunities offered in these two markets are presented to U.S. firms. There are over \$5 billion of planned investments in the water sector over the next five years of over US\$5 billion.

In this section we are also the presenting the impact on U.S. employment related to exports that would result from the implementation of the recommended projects. The proper estimation of the impact of a project on U.S. labor is extremely complex, as it depends on the business cycle, the sector, tax and trade regulations, and other factors. As such, the proper estimation of the impact of a project on U.S. labor, more concretely, on the estimation of the number of jobs that would be created in the U.S. as a result of the execution of a project, exceeds the scope of this DM.

**Table 1: Jobs and exports in the U.S. from 2006 to 2009**

	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>
Total jobs (million)	136086	137598	137066	131997
Jobs supported by exports (million)	8950	9540	10293	8500
U.S. exports (US\$ million)	1459823	1654561	1842682	1575037

**Source:** Congressional Research Service, R41660.

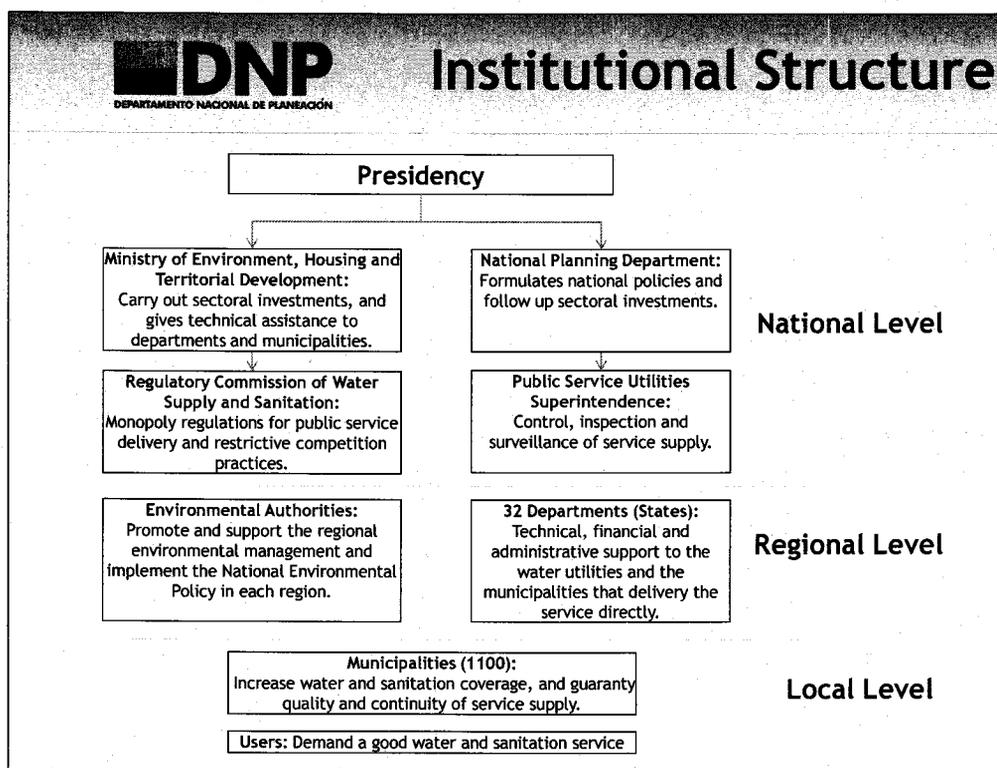
However we have made some simple calculations to provide a general idea of the impact on U.S. jobs of the realization of exports related to the projects recommended in this DM. Table 1 provides information about employment and exports for the U.S. between 2006 and 2009. Note that there is a clear break in data presented in the table. From 2006 to 2008, exports and export-related employment grew, whereas from 2008 to 2009 both figures dropped due to the U.S. recession that started in 2007. Using these data we have estimated the elasticity of jobs created/lost with respect to U.S. exports. As expected, when the economy is growing the elasticity is relatively low, in this case an average of 0.6—i.e. a 1% increase in exports results in a 0.6% increase in jobs created. When the economy is shrinking then this indicator becomes elastic, in this case an average of -1.2—i.e. a 1% decrease in exports results in a 1.2% decrease in the number of jobs. Using these estimates, and assuming that the U.S. continues to recover from the recession, we are using an elasticity of 0.6. In number of jobs, this elasticity implies that for every US\$100 million of new exports the economy creates about 321 jobs. We want to emphasize that this estimate should be considered as a very rough approximation of jobs created as a consequence of new exports, assuming that the economy is growing and that the firms that export are near their production capacity. We use this approach in the document to provide a general idea of the impact of new exports on U.S. jobs.

### 3) **Background information on the water sector in Colombia**

The government of Colombia has been a pioneer in adopting sound water sector policies including decentralization and in establishing a legal framework that separates service provision from policy making, thus allowing private sector participation. A comprehensive sector policy was introduced in 1994 aimed at increasing water and sanitation investments through targeted transfers to municipalities, improving service quality and efficiency by promoting private sector participation in the poorest parts of the country where utilities were not performing well, the establishment of autonomous regulatory agencies at the national level, increased cost recovery, and protecting the poorest through cross-subsidies in the form of area-based tariffs.

Figure 3 shows the complete institutional setup of the water sector in Colombia. There are three well-defined levels of responsibility: the national level, in which the Ministry of Environment, Housing and Territorial Development, through the Vice Ministry of Water and Sanitation, formulates policy and regulations that cover the country and the *Departamento Nacional de Planeacion*, that defines investment plans for the federal institutions in addition to budget support for sub-national institutions. Colombia has a decentralized system in which regional institutions are responsible for the implementation of policy mandates from the federal government and the regulation of municipalities that, at the local level, are fully responsible for the provision of water services to the population. Direct service provision is the responsibility of approximately 1,500 water and sanitation service providers in urban areas and over 12,000 communal organizations providing services in rural and outlying suburban areas. Other features of the sector are some large, well-performing public companies; a strong and stable participation by the local private sector in service provision; and some community-based organizations in the outlying suburban areas.

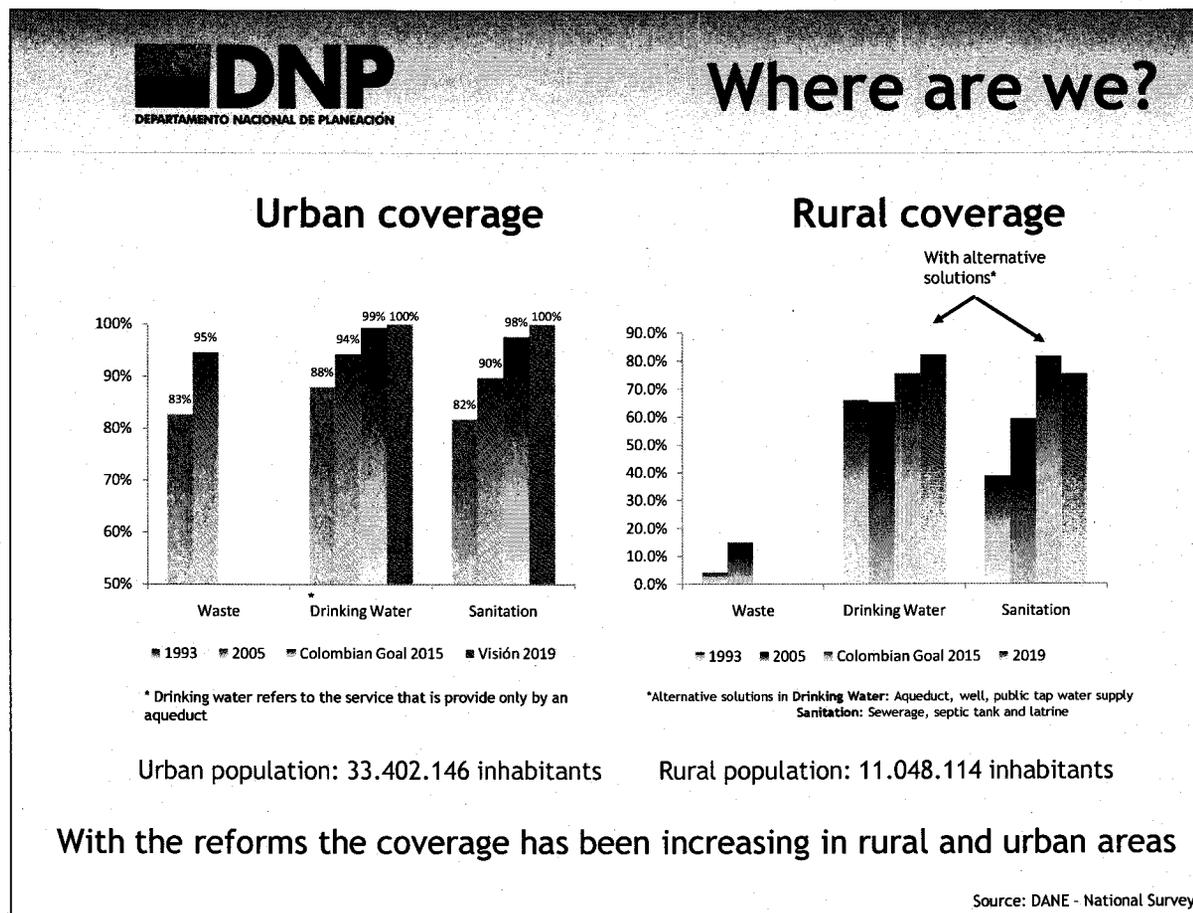
**Figure 3: Colombia institutional structure**



Source: Departamento Nacional de Planeacion (DNP), MS PowerPoint: Colombia 201: Drinking water and sanitation projects.

Recently, the government has initiated a number of complementary policies to accelerate improved access to water and sanitation services, such as: (1) strengthening the regulatory framework; (2) implementing technical assistance programs; (3) providing financial support to promote modernization and efficient management as well as to subsidize the poor; and (4) rationalizing the institutional framework at the national level to improve coordination in the sector. Specific programs include strengthening the role of departments in the governance of the sector, a program for marginal urban neighborhoods and an increase in investments for wastewater treatment. Figure 4 shows Government targets for coverage of water and wastewater service for 2015. These targets are ambitious for the provision of wastewater services, from a coverage rate of 90% and 60% in 2005 for urban and rural dwellers, respectively, to targets of 98% and 80% in 2015, thereby meeting or surpassing the targets of the Millennium Development Goals. To achieve these targets Government plans to invest over US\$5 billion in the next five years, mostly to increase wastewater coverage throughout the country. The efforts to increase investments in wastewater treatment are also described in the discussion of the Technical Assistance for ACUACAR (section 7).

**Figure 4: 2015 coverage targets for water and wastewater services in Colombia**



**Source:** Departamento Nacional de Planeacion (DNP), MS PowerPoint: Colombia 201: Drinking water and sanitation projects.

Government's focus on wastewater treatment is reflected in the program SAVER—*Saneamiento de Vertimientos Municipales*—designed to significantly increase the amount of treated wastewater. This program, administered from the Ministry of Environment, Housing and Territorial Development, is based on four pillars: (i) wastewater treatment master plans; (ii) investment in priority projects; (iii) optimizing wastewater treatment municipal systems; and (iv) use of modern technologies. SAVER has given priority status to ten sub-regions: Rio Bogota in Cundinamarca; Alta del Chicamocha in Boyaca; Rio Medellin in Medellin; Alta del Rio Cauca in Cauca; Tios Ubate and Suares in Cundinamarca and Boyaca; Rio Pasto in Nariño; Rio Chinchina in Caldas; Rios Otun and Consota in Risaralda; Rios Quindio and La Vieja in Quindio; and Rio de Oro in Santander. Table 2 shows the 10 sub regions, the main projects within each region, and the approximate investment for each main project.

**Table 2: Colombia water treatment priority projects**

Sub-region	Projects (WTP)	Investment (US\$ million)	Comments
Rio Bogota	Canoas	1,105	New WTP that treat 14 m <sup>3</sup> /sec, about 80% of the total produced by Bogota (6.8 million)

			people)
	Salitre	487	Improving existing WTP to increase treatment capacity from 4m <sup>3</sup> /sec to 8m <sup>3</sup> /sec
Alta del Chicamocha	Tunja	11.9	WTP 360 liters/sec
	Duitama	30.5	WTP 250 liters/sec
	Sogamoso	8.2	WTP 192 liters/sec
Rio Medellin	Bello	581.5	WTP 5m <sup>3</sup> /sec, 100% of the total produced by Medellin (2.7 million people)
Rio Cauca	Canaveralejo	113	Improving existing WTP to increase treatment capacity from 5.65 m <sup>3</sup> /sec to 7.035 m <sup>3</sup> /sec
Rio Chinchina	Floresta	92	WTP 820 liters/sec and building the wastewater network that would connect the new WTP to Olivares, Villapilar, Galan, and La Francia
Rio Otun-Consota	n.a.	157	WTP 700 liters/sec and connection to the new WTP from Pereira and Dosquebradas
Ubate-Suarez	n.a.	191.8	WTP (US\$50.9 million) plus additional complementary projects: master plan (US\$1.9 million), water resource management (US\$55.3 million), irrigation (US\$43.5 million), education and eco tourism (US\$2.8 million), emergency plans (US\$5 million) and environmental remediation (US\$37.4 million)
	n.a.	18	WTP 63 liters/sec (US\$13.1 million) and connector from San Gil to Puente Gomez Villa

**Source:** Departamento Nacional de Planeación (DNP), MS PowerPoint: Saneamiento de Vertientes Municipales - SAVER

**Service provision.** Public utilities are directly responsible for service provision, except for special cases in which municipalities offer the services directly. Recent years have seen an increase in provision by companies rather than by municipalities. The sector is characterized by a high degree of fragmentation which makes it difficult to realize economies of scale, according to a World Bank study.<sup>1</sup> As already mentioned, there are more than 1,500 water and sanitation service providers of in urban areas, and something along the lines of 12,000 communal organizations providing services in rural areas.

The Colombian tariff system is defined in the 1994 *Ley de Servicios Públicos* (Public Services Law). It applies to all companies whether public, private, or mixed. The tariff system has allowed for increases in water tariffs which, in turn, enhance water and sanitation companies' capacity for self-financing. Similarly, municipalities and companies that provide water and wastewater services receive financial resources for the sector, thereby allowing for increased investment and greater coverage. Figure 5 shows current tax incentives provided to providers of water and wastewater services. Finally, the system protects the poor through tariff differentiation. The basic tariff is calculated on the basis of economic costs and according to a methodology defined at the national level. Therefore, tariffs in different municipalities do not differ due to local government's decisions, but only because of the different costs of the services. The base tariff of each service provider has to be adjusted by law for different geographic areas, according to adjustment factors that are also specified by law. This system of area-based tariff provides cross-subsidies from wealthier to poorer users.

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<sup>1</sup> Fernandez, Diego. Colombia: Desarrollo Económico Reciente en Infraestructura: Balanceando las necesidades sociales y productivas de infraestructura. Washington, DC. 2004

Figure 5: Colombia tax incentives for the water sector

 <span style="float: right; font-size: 24pt; font-weight: bold;">Tax Incentives</span>	
VALUE ADDED TAX	
<b>Value Added Tax exemption</b>	National or import equipments and elements that are used in <b>monitoring systems</b> <b>necessary to achieve environmental standards</b> established in the current regulation
	<b>Recycling machines, wastewater treatment and solid waste management equipments, machinery for the decontamination of the rivers and for sanitation</b> , in order to achieve the recovery of the environment. Are exempt too, all the equipments for environmental monitoring.
	Import machinery and equipments that will be used to developed projects and activities that would <b>export Certificates of Emission Reduction</b> , or to contribute reducing greenhouse gas emissions and at the same time promoting sustainable development.
TAX ON RENTAL INCOME	
<b>Tax Deduction (6.8% of savings in the utilities)</b>	Tax Deduction (up to 20% of the income) in direct investments in <b>control and improvements of the environment</b> , taking into account the direct environmental benefits due to these investments.
<b>Exemption</b>	Exemption on the incomes generated because of the sale of <b>eolic electric energy that sales Certificates of Emission Reduction</b> greenhouse gases in the frame of the Kyoto Protocol.
	Exemption on the income generate because of the <b>eco – tourist services</b> .

**Source:** Departamento Nacional de Planeacion (DNP), MS PowerPoint: Colombia 201: Drinking water and sanitation projects.

4) **Project recommended for grant funding in Colombia**

- a) Technical assistance to startup the wastewater system for the city of Cartagena, Colombia
  - i) Executive summary

The objective of this project is to provide technical assistance to the water company of Cartagena (ACUACAR) to startup the new wastewater system for the city of Cartagena in Colombia. The city of Cartagena currently discharges wastewater into the *Ciénaga de la Virgen*, a sea inlet surrounded by the city and suburbs. The negative impact of the current situation is severe and limits the potential growth and development. In particular, it harms the tourism sector, which is the engine of growth of the city.

The city of Cartagena and ACUACAR are committed to solving this problem. With the support of financing from the World Bank and the Inter-American Development Bank (IDB) that entailed the backing of the Colombian government, the Grantee and the City of

Cartagena have jointly invested more than \$300 million in the design and implementation of the Master Plan for Water and Sewerage for Cartagena, of which \$85 million have been invested since 2003 in the design and construction of a new wastewater treatment plant in Punta Canoa; a collector system that will bring wastewater to the new plant, including a 19.3 kilometer conveyance pipeline and a pumping station; a 1.6 kilometer terrestrial pipeline connecting the wastewater treatment plant to the marine outfall; and a 4.3 kilometer marine outfall that will discharge treated water into the Caribbean Sea. Many of the primary components of the wastewater system have been completed and the physical installation of the submarine outfall is expected to be completed by the end of calendar year 2011. The remainder of the primary infrastructure was built and installed over two years ago; the overall system can operate once the outfall is in place.

This TA will play a key role in facilitating the startup of the wastewater system for the city of Cartagena. The recommended USTDA technical assistant grant has two main objectives: to provide technical assistance during the critical phase of integrating the sub systems and starting up of the new wastewater system; and to create an environmental water quality baseline and design an ongoing water quality monitoring program, which should include recommendations for environmental remediation in the *Ciénaga de la Virgen*.

The prospective Grantee, ACUACAR, is a public- private company and will be capable of overseeing all aspects of the execution of the USTDA funded TA. Moreover ACUACAR's near term investment plan includes financing to finish the installation of the marine outfall, and the startup of the new city-wide wastewater system. Additional complementary investments have also been included in the near-term, guaranteeing that the new wastewater system will be successfully operating by the end of 2012.

The TA has significant developmental impact for the people of the city of Cartagena and neighboring communities, and significantly expands the exposure of U.S. technology and environmental and engineering services in Colombia. The project will have direct benefits affecting thousands of families and businesses in Cartagena. Direct benefits are related to improved wastewater services and the reduction of environmental risk, which will positively impact the overall productivity of the city of Cartagena and neighboring regions. We anticipate that the impact will be highest in the areas of infrastructure, human capacity building, technology transfer and productivity improvement. In addition, the execution of this TA would result in overall potential U.S. exports of US\$70 million. Water issues are very complex and the U.S. has extensive experience in all the areas related to this project, especially in the production of high tech equipment and related highly specialized water quality monitoring services. Similarly we note that the real depreciation of the U.S. dollar with respect to all currencies, including the Colombian Peso, makes U.S. exports significantly less expensive now than in the past. We foresee large opportunities for marketing U.S. goods and services to the water sector of Colombia. The ratio of potential U.S. exports to the proposed USTDA grant funding is 137 for total direct and indirect U.S. export potential, and 35 for direct impact alone.

Finally, the DM visited the *Departamento Nacional de Planeación* (DNP) and confirmed plans for large investments in water and wastewater throughout the country. Preliminary estimates of total investment over the next five years exceed US\$5 billion. The

government's priority is expanding wastewater collection and treatment services, because national coverage is only 30% of households, compared to over 90% of potable water. We suggest that follow up activities, similar to those proposed in Task 4 of the ACUACAR TA TOR, would have a large positive impact in facilitating U.S. exports to Colombia.

ii) Project description

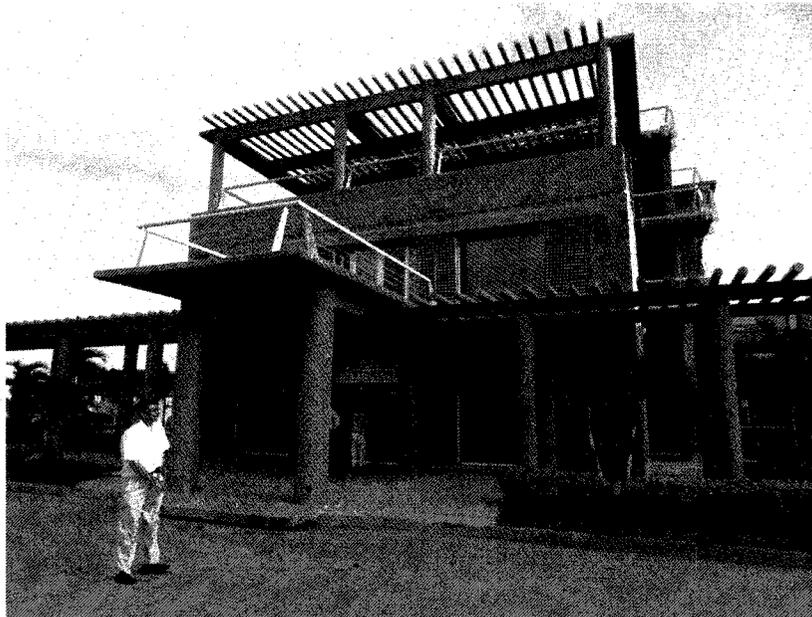
The city of Cartagena wastewater system is in the process of being completely upgraded. According to the World Bank, the upgrade was necessary because there were *“insufficient sewerage services in areas around the Ciénaga (de la Virgen) and in zones adjacent to the Cartagena Bay where open sewage canals on streets was common; inadequate domestic wastewater management system with untreated wastewater discharging to the Cartagena Bay, the Ciénaga (de la Virgen), and the inner-city water courses; and industrial wastewater discharges from the Mamonal zone to the Cartagena Bay with minimum treatment.”*<sup>1</sup> The health and environmental risk is high because water is not treated before it is discharged into areas very close to the city. To fix this problem, ACUACAR and the City of Cartagena have invested more than US\$300 million in the Master Plan for water and sewerage of Cartagena of which 25 percent has been invested in the design and construction of a new preliminary wastewater treatment plant in Punta Canoa, in a collector system that will bring wastewater to the new plant including a 19.3 kilometer conveyance pipeline and a pumping station, a 1.6 kilometer terrestrial pipeline connecting the wastewater treatment plant to the marine outfall, and a 4.3 kilometer marine outfall that will discharge treated water into the Caribbean sea.<sup>2</sup> All the components of the wastewater project have been built with the exception of the marine outfall and the system cannot operate before the outfall is in place—see Figure 6 for a picture of the new wastewater treatment plant.

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<sup>1</sup> This section contains information provided by ACUACAR and by the World Bank “Implementation completion and results report, (ibrd-45070 ibrd-74040).” The ICR (ICR1053) is a public document available at the World Bank website [http://www-wds.worldbank.org/external/default/main?pagePK=64193027&piPK=64187937&theSitePK=523679&menuPK=64187510&searchMenuPK=64187283&theSitePK=523679&entityID=000356161\\_20100805002944&searchMenuPK=64187283&theSitePK=523679](http://www-wds.worldbank.org/external/default/main?pagePK=64193027&piPK=64187937&theSitePK=523679&menuPK=64187510&searchMenuPK=64187283&theSitePK=523679&entityID=000356161_20100805002944&searchMenuPK=64187283&theSitePK=523679).

<sup>2</sup> The World Bank provided a loan to finance investments in water supply and sewerage infrastructure. The Inter-American Development Bank provided a loan to finance the expansion of sewerage system.

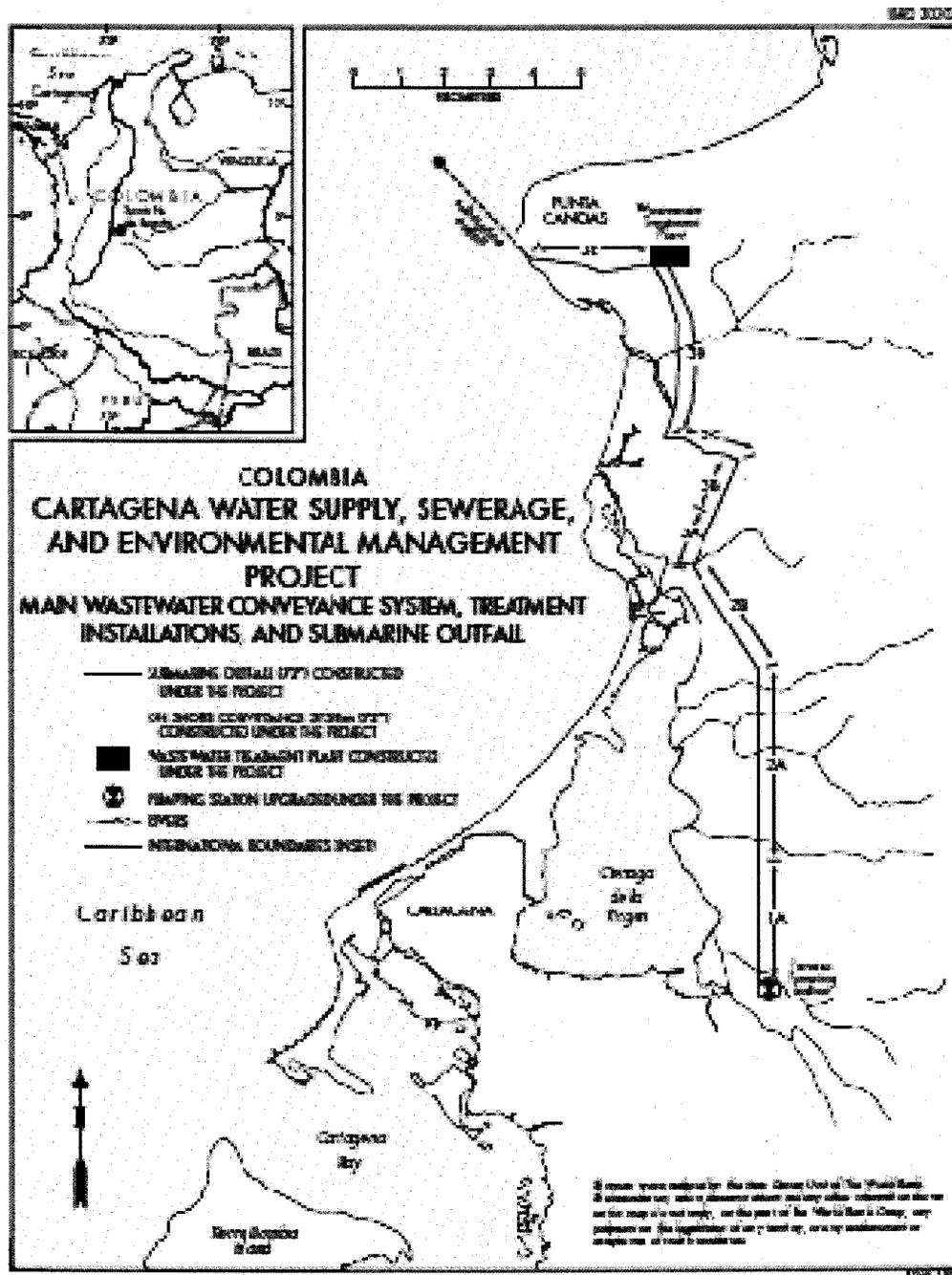
**Figure 6: Entrance to the new wastewater treatment plant in Punta Canoa, Cartagena**



In this context, and to avoid further delays that would accrue large financial, health and environmental costs, ACUACAR is focused on finalizing the wastewater project as soon as possible. ACUACAR intends to proceed with the aforementioned construction of the marine outfall, the startup and testing of the wastewater system, and the creation of an environmental baseline to monitor water quality. ACUACAR recognizes that these activities are technically challenging, and therefore has requested expert support during their execution. USTDA funded TA will provide the expert support the USTDA needs at this critical phase of the startup of the Cartagena wastewater system.

**Schematic description of the new wastewater system for the city of Cartagena.** Figure 7 presents the main components of the wastewater system of the city of Cartagena. Secondary collectors join main wastewater pipelines that discharge wastewater into the *El Paraiso* pumping station. From *El Paraiso* wastewater is pumped up a small hill through a 19.3 kilometer conveyance pipeline to the wastewater treatment plant in Punta Canoa. Water treated in the wastewater plant is then delivered via gravity through a 1.6 kilometer terrestrial pipeline which is connected to the 4.3 kilometer marine outfall.

Figure 7: The new wastewater system of the city of Cartagena



Source: World Bank ICR

### iii) Project sponsor's capability and commitment

ACUACAR is a joint privately-publicly owned company. The owners of the company include the Municipality of Cartagena, with 50% of the company's shares; *Aguas de Barcelona* (AGBAR), a privately owned company, with 45.9% of the company's shares; and a small group of private investors, with 4.1% of the company's shares. In 1998 ACUACAR became the first Latin American water service provider to receive quality management certificate ISO 9002:94, updated to ISO 9001:2008 as well as an environmental management certificate ISO 14001/96 updated in 2004. Recently, ACUACAR receive an occupational health and safety certificate OHSAS 18.001:2007. ACUACAR has more than 190,000 clients and provides potable water services to over 99% of the population in Cartagena. ACUACAR has an excellent reputation in Cartagena and the company is well funded with capable technical departments that can provide sufficient support for the execution of this TA.

An important consideration for this project is the role that AGBAR, partial owner and managing partner, plays during the construction of the marine outfall. AGBAR has extensive experience in the design and construction of marine outfalls throughout the world. The active participation of AGBAR in managing ACUACAR guarantees the appropriate technical focus and experience to fully achieve the goals of this project—AGBAR manages ACUACAR through key management positions including the current general manager, the financial manager, and the logistics manager. In addition AGBAR has seconded three marine outfall experts that are currently in Cartagena working on the technical aspects of the project.

### iv) Implementation financing

The financing for the completion of the marine outfall and the commission of the wastewater treatment system of the city of Cartagena is fully guaranteed by ACUACAR. The process to determine the financial responsibility of the marine outfall company that was selected to install the marine outfall is ongoing. The legal process would likely take several months, and maybe years, to finalize. Anticipating this lengthy process ACUACAR and the municipality of Cartagena have agreed on the priority of finalizing the installation of the marine outfall and commissioning the wastewater treatment system. While the legal issues related to this project are being resolved, ACUACAR has guaranteed funding for the completion of all the works, including the marine outfall construction and the commissioning of the wastewater system. As noted in the previous sub section, AGBAR has already seconded 3 experts in the construction of marine outfalls to work full time in Cartagena until the work has been finished.

In addition to funding for the current system in Cartagena, ACUACAR is developing a new master plan for the City of Cartagena. The master plan is the base from which investments in the system are prioritized, and therefore serve as the main tool to identify future financing. ACUACAR new master plan would consider the expansion of the city system to the northern and eastern zones of the city and also to Baru. The expansion of water and wastewater to these zones of the city would require significant funding, which may be provided by own ACUACAR resources, local financing including contributions by the municipality, additional

inclusion of partners, and financing from the World Bank and the IDB. The excellent experience of ACUACAR with the World Bank and the IDB, from which ACUACAR has received significant funding in the past, makes them ideal future partners for the expansion plans that would result from the new master plan.<sup>1</sup> Both institutions stand ready to provide additional support to ACUACAR.<sup>2</sup>

#### v) U.S. Export Potential

We are providing an estimate of U.S. export potential of goods and services. Our identification of potential U.S. exports is based on two criteria: (i) comparative advantage of U.S. goods and services; and (ii) equal opportunity to compete for contracts in Colombia. Based on these criteria we estimate the export potential of this project to be US\$70 million. Water issues are very complex and the U.S. has extensive experience in all the areas related to this project, especially in the production of high tech equipment and related highly specialized water quality monitoring services. Similarly we note that the real depreciation of the U.S. dollar with respect to all currencies, including the Colombian Peso, makes U.S. exports significantly less expensive now than in the past—Central Bank of Colombia data, presented on their website, shows that in 2010 one U.S. dollar would have been sold for 1,897 Colombian Pesos, while the average for 2000-2009 was 2,327; the U.S. dollar depreciation of 19%, provides a significant boost for U.S. exports. We foresee ample opportunities for the many highly qualified U.S. businesses to provide services to Colombia's water sector. The ratio of potential U.S. exports to the proposed USTDA grant funding is 137 for total direct and indirect U.S. export potential, and 35 for direct impact alone.

Table 3 provides overall estimates of potential U.S. exports. We consider these estimates conservative. The table divides potential U.S. exports into those that result directly from this TA in Cartagena and those that, although related to the execution of the TA, would be realized as a consequence of this TA in other Colombian cities. It is worth noting that to take advantage of current favorable conditions for U.S. exports to Colombia we have included Task 4- Dissemination of technology and project promotion activities, to ensure that Colombian and U.S. stakeholders have the opportunity to identify mutually beneficial exchanges in the water sector.

Exports that are directly related to the Cartagena project include: environmental services necessary for monitoring water quality, and improvements in equipment and upgrades to the system. In all these areas U.S. providers have a clear comparative advantage and should be able to compete against providers of similar services from Europe and Asia. The comparative advantage is determined by the quality of U.S. goods and services, the low transportation costs given the relative proximity of Colombia and the U.S., and the vast experience of U.S. providers of goods and services in the water sector. The comparative advantage will increase further when the U.S. and Colombia sign a free trade bilateral agreement, expected by the end of 2011. Annex II provides a list of U.S. providers of goods and services related to this project.

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<sup>1</sup> The World Bank loan financed the conveyance pipeline, the wastewater treatment plant, and the marine outfall, whereas the IDB loan financed the wastewater network system.

<sup>2</sup> Informal conversations with World Bank and IDB staff indicate their positive view of ACUACAR and their willingness to consider additional funding in the future.

We are including in our estimates of U.S. export potential those related to the design and construction of a new water treatment plant in Albornoz or another location to the immediate south of Cartagena. Preliminary estimates indicate that the total cost of works is in the US\$30-50 million. The reason for including this new water treatment plant in our estimates is based on the fact that water and wastewater systems and networks should be designed jointly as they share some important complementary components. For example monitoring and control of systems, such as SCADA and other modern monitoring technologies that allow for continuous measuring of key parameters, such as volume, pressure, water quality and others, are integrated. In this context when a company, such as ACUACAR, "buys" technology from the U.S. it commits to systems that should "talk to each other." Using the example of monitoring systems, the communication protocols among different sub components of the network should be the same, because if there are differences, then it leads to very expensive adaptations. The same may be said about other components, such as pumps and other equipment, about training to technical staff on maintenance, and about the inventories of interchangeable pieces--i.e. many pieces may be used by different equipment, from simple nuts, bolts, and washers to more complex electrical components such as switches, boards and transformers. It is the policy of many maintenance departments to minimize the variety of technologies and equipment to facilitate maintenance and optimal operation of the system.

The inclusion of the new water treatment plant to the south of Cartagena is also related to the assumption that good consulting companies earn the trust of clients by providing outstanding services. Moreover it is widely recognized that American technology in the water sector is second to none and U.S. technology is the base from which Latin American water companies design and build systems in the region. Most engineers leading Latin American water companies have been trained in the U.S. Most codes used in the region have been significantly informed, and in some cases just translated, from U.S. codes and standards. Tables, performance indicators, quality indicators, energy consumption and many other key issues used by Latin American water companies come from the.

Indirectly this project will also provide significant opportunities for U.S. penetration into the water sector in Colombia. Government has announced the investment of over US\$5 billion in water infrastructure during the next 5 years. The DM visited the *Departamento Nacional de Planeación (DNP)* and confirmed plans for large investments in water and wastewater throughout the country. The priority is expanding wastewater services, because national coverage is only 30% of households, compared to over 90% of potable water. In the table presenting our estimates of export potential we are assuming that only 5 of the many cities that will receive government support for investments will use U.S. technology as a result of the execution of the TA for ACUACAR. If only 5 cities adopt U.S. technology and buy services, it would represent potential exports of over US\$52 million, a conservative assumption given that it represents about 1% of the announced US\$5 billion investment in the sector. We suggest that follow up activities, similar to those proposed in task 4, would have a large impact in facilitating U.S. exports to Colombia.

**Table 3: ACUACAR TA U.S. export potential**

U.S. goods and services				Total expected investment (US\$ million)
<b>Direct potential impact as a consequence of this TA for the city of Cartagena</b>				
Environmental services for monitoring water quality related to the marine outfall, <i>Cienaga de la Virgen</i> and Cartagena Bay, Environmental Assessment of the Marine Outfall				4.5
Equipment	Quantity	Unit Cost (US \$)	Total Cost (US \$)	
Real Time Marine Environmental Monitoring System - Fixed Platform Inshore	30	15,000	450,000	
Real Time Marine Environmental Monitoring System – Buoy Mounted Offshore System	30	30,000	900,000	
Process Information (PI) Servers	3	12,000	36,000	
Replacement & Refurbish of Monitoring Systems (\$5,000/Per Year/Per station)	60	5,000	1,500,000	
Miscellaneous Hardware			110,000	
Total			2,996,000	
Environmental services, analysis of physical behavior of effluent plumes in the ocean, with emphasis on modeling speed and orientation of the ocean currents that are primary factors governing plume dispersion. Contamination levels, recommendation for upgrading the wastewater treatment plant to primary from preliminary treatment—estimated at over US\$1.5 million				
Follow up Environmental/Water Quality Assessment Study for Cienaga de la Virgen, Cartagena Bay and Beaches				0.50
Environmental Management and Remediation Plan for the Cienaga de la Virgen, implementation and provision of specialized services				0.75
Improvements, maintenance and upgrades to el Paraíso pumping station, control systems and pumps				0.8
Equipment	Quantity	Unit Cost (US \$)	Total Cost (US \$)	
Pumps/ Accessories	6	60,000	360,000	
Meters and Recording Equipments			200,000	
Valves/ Accessories	12	20,000	240,000	
Total			800,000	
Improvements, maintenance, expansion and upgrades to Punta Canoa				1.5

U.S. goods and services				Total expected investment (US\$ million)
wastewater treatment plant				
Equipment	Quantity	Unit Cost (US \$)	Total Cost (US \$)	
Pumps/Accessories	6	60,000	360,000	
Scrubber System Upgrades			300,000	
Metering Equipment			80,000	
Backup Power System	1		500,000	
Valves/Accessories	12	25,000	300,000	
Total			1,540,000	
Control system for monitoring and operation of the integrated system—SCADA				1.9
Equipment	Quantity	Unit Cost (US \$)	Total Cost (US \$)	
Remote Terminal Unit (RTU) or Programmable Logic Controllers (PLC)	8	40,000	320,000	
Process Information (PI) Servers	8	12,000	96,000	
Computer Terminals, MIMIC Displays	12	5,000	60,000	
PI Software			260,000	
Trending Software			80,000	
LAN/WAN			36,000	
Radio Equipment (Radio + Antenna Tower)			210,000	
Replacement & Refurbish Hardware and Software over 5 years			200,000	
Engineering & Commissioning			600,000	
Total			1,862,2000	
Expansion of the water treatment system in the city of Cartagena, new water treatment plant south of Cartagena, equipment for operation and monitoring				8.0
Total direct potential impact on U.S. exports				<b>17.95</b>
Indirect potential impact as a consequence of this TA for the city of Cartagena—assuming that 5 cities in Colombia use U.S. technology as a consequence of dissemination efforts				
Automated control systems				12.0
Environmental services and automated equipment for monitoring water quality				15.0
Equipment related to wastewater treatment (per wastewater treatment plant)				25
Equipment	Quantity	Unit Cost (US \$)	Total Cost (US \$)	
Mixers	12	40,000	480,000	

<b>U.S. goods and services</b>				<b>Total expected investment (US\$ million)</b>
Flocculators/ 6 Basins			240,000	
Sedimentation Equipments/ 6 Basins			300,000	
Pumps/valves/Accessories	10	80,000	800,000	
Metering Equipments			200,000	
Pipes/ Diffusers/ 6 Basins			700,000	
Electrical Equipments			300,000	
SCADA System			800,000	
Laboratory Equipments			250,000	
Residual Treatment Equipments			1,000,000	
<b>Total</b>			<b>5,270,000</b>	
<b>Total indirect potential impact on U.S. exports</b>				<b>52.0</b>
<b>Total</b>				<b>69.95</b>

vi) Foreign competition and market entry issues

Colombian water sector companies have access to providers of goods and services from North America, Europe, and Asia as well as from the domestic market. Relevant goods for wastewater treatment plants include: pipelines, such as the marine outfall HDPE pipe produced by Pipelife in Norway; pumps; screeners; sedimentation tanks; valves; and monitoring equipment. In the case of the HDPE pipe, ACUACAR first approached a U.S. provider given the cost and transportation advantages, but it did not offer the required diameter. Some of the other foreign firms involved in the water sector in Latin America include: Degremont, Schneider, Sogreah, and Suez (France); Gelsenwasser, Wabag, and Siemens (Germany); ABB (Switzerland); Orange, Modern Water and Biwater (UK); Mitsubishi (Japan); Doosan (South Korea); and IDE (Israel).

However, the combination of price and quality is the most important factor used by ACUACAR in their procurement decisions. For this reason, ACUACAR recognizes the comparative advantage of U.S. technology and has purchased consulting services from Hazen and Sawyer, a U.S. consulting company, and also equipment that currently is in use throughout the Cartagena system.

Table 4 shows equipment that has been imported by ACUACAR from the U.S. during the last 5 years exceeding US\$8 million.

**Table 4: ACUACAR recent imports of goods and services from the U.S.**

U.S. good or service	Number of units	Total cost (US\$)
Consulting services—engineering design, among others by Hazen and Sawyer, Halcrow, James Lee Co., Triton, Philip Roberts from Georgia Tech, James Thomson, Calvin Patterson, William Hirvela, Keith Stolzenbach, Joe Perrone, the total exceeds US\$4 million		4,000,000
VALMATIC, valves, supplier Cirko Engineering Intl.	250	193,750
Cummins diesel generators, 1750 KW including installation	1	1,278,546.7
Smith & Loveless, vortex sand separator	2	120,159.9
Flowserv, sand separator pumps	4	116,152.0
U.S. SIEMENS filter, odor control capacity 570 cubic meters per minute	2	883,248.0
Vulcan, mechanical screens	2	584,301.9
York, air condition units for electric control rooms, 480 VAC	2	54,989.1
SIEMENS, electrical transformer 8-10 MVA ONAN-ONAF 66 +/- 2x2.5%/13.2 KV	1	339,163.9
SIEMENS, control switches and boards		642,960.0
SIEMENS, electrical transformer from 3,000/3,750 KVA, 13,200V/480-277 V	2	152,430.1

SIEMENS, odor control filters	2	404,340.0
	<b>Total</b>	<b>8,770,041.5</b>

**Source:** ACUACAR

There are no market entry issues for U.S. goods and services into Colombia. In particular, the U.S. – Colombia free trade agreement should be signed by the end of 2011 or early 2012. This trade agreement will further facilitate the export of U.S. goods and services in the water sector, and improve access to U.S. exporters. When the free trade agreement enters into effect most goods exported from the U.S. to Colombia will be tariff free, with the few remaining items facing a tariff reduction schedule over 10 years. Currently the U.S. is Colombia's the largest trading partner, followed by Venezuela and China. Colombia's proximity to the U.S. also gives an edge to U.S. exporters, as their transportation costs are significantly lower than those from Europe or Asia. Finally, Latin America does not produce equipment that could be substituted for U.S. products for this type of endeavor in the water sector.

vii) Development impact

The developmental impact of this project is high. The project will have direct benefits affecting thousands of families and businesses in Cartagena. Direct benefits are related to improved wastewater services and the reduction of environmental risk, which will positively impact the overall productivity of the city of Cartagena and neighboring regions. The expected impact is highest in infrastructure, human capacity building, technology transfer and productivity improvement. Table 5 below presents indicators that can be used to measure the development impact of this project.

**Table 5: ACUACAR TA development impact**

<b>Expected impact on</b>	<b>Suggested indicator</b>
Infrastructure	<ul style="list-style-type: none"> <li>• Jobs created in the construction of the marine outfall</li> <li>• Jobs created in the operation of the new wastewater system of the city of Cartagena</li> <li>• Jobs created by the construction of the new water treatment plant to the immediate south of Cartagena</li> <li>• Jobs created by the operation of the water treatment plant</li> <li>• Jobs created due to tourism-related investment and the improvements of water quality in the <i>Ciénaga de la Virgen</i></li> <li>• residential construction (jobs and capital investment) related to the expansion of the water network as a consequence of the new water treatment plant</li> <li>• industrial investment (jobs and capital investment) related to the expansion of the water network as a consequence of the new water treatment plant</li> </ul>
Human capacity building	<ul style="list-style-type: none"> <li>• specialized training in wastewater treatment operations and maintenance</li> </ul>

	<ul style="list-style-type: none"> <li>• specialized training in environmental water quality analysis</li> <li>• monitoring water quality</li> </ul>
Technology transfer	<ul style="list-style-type: none"> <li>• specialized equipment for water quality monitoring and evaluation</li> <li>• laboratory equipment and specialization in the analysis—scope and number of tests available</li> </ul>

**Source:** DHC estimates.

Alternatives: ACUACAR and the City of Cartagena have invested over US\$300 million in the Master Plan of water and sewerage of Cartagena that includes the design and construction of a new preliminary wastewater treatment plant in Punta Canoa because untreated and undertreated water was being discharged into *Ciénaga de la Virgen* and Cartagena Bay. All the components of the wastewater project—with the exception of the marine outfall—have been built but the system cannot operate until the outfall is in place. The alternative to installing the outfall is to increase pollution in and around Cartagena resulting in significant health risks to the population and a negative impact on the tourism industry.

viii) Environmental impact

The environmental impact of this TA is very high. The main objective of the startup of the wastewater system is to improve water quality in and around Cartagena. The current situation of discharging raw wastewater directly into the *Ciénaga de la Virgen* poses significant health and environmental risks. The new system will improve this situation by treating wastewater and then discharging the treated water through a marine outfall into the Caribbean Sea. Task 4 of the terms of reference focuses on measuring the positive impact of the execution of this TA. The major output of Task 3 is an environmental baseline for the *Ciénaga de la Virgen* and the preparation of a remediation plan. Task 3 also requires the review of regulation and enforcement, and involves the participation of the local environmental authorities from the *Corporación Autónoma Regional del Canal del Dique* (CARDIQUE).

The preliminary environmental analysis of the impact of the wastewater system of Cartagena, an output of the execution of the TA, would provide detailed information about the positive impact of the execution of this TA. In addition, the remediation plan that is an output of this TA will ensure that ACUACAR and CARDIQUE share a common roadmap of actions designed to lower risk related to poor water quality. It is worth highlighting that the actions presented in Task 3 are also a legal requirement for ACUACAR in the context of receiving an environmental license, *licencia ambiental*, which is needed to operate a wastewater treatment plant.

ix) Impact on U.S. labor

The expected impact on U.S. labor that would result from the execution of this TA, if fully materialized, is positive. The greatest impact is on firms that provide highly specialized goods and services to the water sector. Grant funding from the USTDA will result in the creation of new U.S. jobs as major equipment items such as: more energy efficient pumps and motors, water meters, instrumentation, controls, and SCADA systems purchased from

U.S. manufacturers. Funding for this project will not result in the transfer of U.S. jobs to Colombia and/or other countries on a permanent basis, nor will USTDA funds be utilized to assist in the development of an export-processing zone that could have an indirect negative impact on U.S. jobs. The Project would not promote the establishment of any business other than for the purpose of serving the local market more efficiently (e.g. local agent/distributor). Based upon our review, we found that the Project does not provide: (a) any financial incentive to a business enterprise currently located in the United States for the purpose of inducing such an enterprise to relocate outside the United States; (b) assistance for any project or activity that contributes to the violation of internationally recognized workers rights; or (c) direct assistance for establishing or expanding production of any commodity for export by any country other than the United States.

The transmission mechanism to higher employment in the U.S. is through U.S. exports. As noted in the first section of this final report, a rough estimation indicates that for every US\$100 million increase in exports, 321 new jobs are created. If the TA is successful, and results in large new exports from the U.S. to Colombia, then the direct impact of the execution of this TA would result in about 58 new jobs created, and counting both direct and indirect exports that would result from the execution of this TA, the total number of new jobs could be as high as 225. We note, as we did in the first section of this report, that these estimates are very preliminary and should be considered rough estimations that are highly sensitive to the overall macroeconomic conditions in the U.S. and the rest of the world—most notably the business cycle, and to the specific conditions of firms in the water sector. An important additional assumption is that U.S. companies would be aware of the new opportunities for doing business in Colombia. This TA, if fully executed, would provide an opportunity to U.S. and Colombian stakeholders in the water sector to meet and explore business opportunities as part of U.S. export promotion activities.

#### x) Qualifications

*[The definitive evaluation criteria for this RFP is included in Section 4-Award Criteria (page 14).]*

The team that would execute this TA is anticipated to include the following personnel: Project Director and Wastewater Treatment Expert; Mechanical Engineer-Pump Specialist; Instrumentation and Control Engineer; Environmental and Water Quality Specialist; Economist; and Local Consultant/local support.

xi) Justification

This project merits USTDA funding based on the following criteria: (i) technical appropriateness; (ii) commitment, financial viability and strength of the project and of the project sponsor; (iii) developmental and environmental impact of the project and endorsement of U.S. embassy; (iv) U.S. export potential and other benefits to our country; and (v) USTDA value added as a facilitator of projects.

**Technical appropriateness of TA criterion.** This project is technically sound as measured by appropriate engineering design and services, management of systems, equipment, and technologies to modernize and optimize wastewater treatment—the system was designed by Hazen and Sawyer between 1997 and 2003, and includes a 12-month oceanographic and hydrodynamic field data collection program that informed the design of the system and the preparation of a master plan. The wastewater system of the city of Cartagena is ready to start operation and only needs the construction and installation of the marine outfall and the initial testing and startup up integration of components to become fully functional. Moreover, data has already been collected and analyzed which will facilitate review and the creation of a water quality baseline for this project, as well as performance indicators of operation. On the other hand, if nothing is done then contamination of key recreational areas in and around Cartagena will result in significant health risks to the population and will have a negative impact on the tourism industry, the most important driver of economic growth for the area.

**Commitment, financial viability and strength of the TA and of the project sponsor criterion.** The Grantee is in a strong financial position as investments during the last several years have resulted in more efficient operations. In 2010 the total number of ACUACAR clients exceeded 190,000 and the total amount of sales exceeded US\$72 million. The company is backed by strong partners, the city of Cartagena and Aguas de Barcelona. There is unquestionable commitment to this TA from the Grantee, as the activities to be financed are absolutely necessary for the startup of the wastewater system. The project already received technical and financial support from the World Bank and the Inter-American Development Bank (IDB). The World Bank lending focused on the conveyance pipeline, the wastewater treatment plant and the marine outfall; whereas the IDB lending focused on the wastewater network system. Discussions of the DM team and representatives of both institutions indicate their interest in additional support to ACUACAR in the future. Finally the U.S. Embassy supports investment in projects in the sector.

**Developmental and environmental impact of the TA criterion.** The developmental impact of this project is high. The project will have direct benefits affecting thousands of families and businesses in Cartagena. Direct benefits are related to improved wastewater services and the reduction of environmental risk which will positively impact the overall productivity of the city of Cartagena and neighboring region. The expected impact is highest in infrastructure, human capacity building, technology transfer and productivity improvement.

**U.S. export potential and other benefits to our country criterion.** We are providing an estimate of U.S. export potential of goods and services. We estimate the export potential of this project to be US\$70 million. The ratio of potential U.S. exports to the proposed USTDA grant funding is 137 for total direct and indirect U.S. export potential, and 35 for direct impact alone. Indirectly this project will also provide significant opportunities for U.S. penetration into the water sector in Colombia. Government has announced the investment of over US\$5 billion in water infrastructure during the next 5 years. The DM visited the *Departamento Nacional de Planeación (DNP)* and confirmed plans for large investments in water and wastewater throughout the country. The priority is expanding wastewater services because national coverage is only 30% of households, compared to over 90% for potable water. In the table we assume that only 5 of the cities that will receive government support for investments will use U.S. technology. If only 5 cities adopt U.S. technology and buy services, it would represent potential exports of over US\$52 million, a conservative assumption given that it represents about 1% of the announced US\$5 billion investment in the sector. We suggest that follow up activities, similar to those proposed in Task 4, would have a large impact in facilitating U.S. exports to Colombia.

**USTDA value added as a facilitator of projects criterion.** USTDA's role in this project is extremely relevant as ACUACAR needs to complete the wastewater system as soon as possible and any delays will have a large negative impact. This project would also increase the exposure of U.S. companies in Colombia. As noted, ACUACAR already recognizes the comparative advantage of U.S. technology in goods and services.



### **List of Potential U.S. Providers for the ACUACAR Project**

The U.S. Companies capabilities in providing the goods and services related to the Colombia project are outstanding. The following list presents some of the U.S. leaders in the sector that provide worldwide engineering services for water and wastewater projects.

- AECOM Technology, Los Angeles, CA
- Black & Veatch, Kansas City, MO
- CDM International, Cambridge, MA
- CH2M-Hill, Denver, CO
- Earth Tech International, Austin, TX
- HDR, Omaha, NE
- MWH, Pasadena, CA
- Tetra Tech, Kansas City, MO
- URS, San Francisco, CA
- Hazen and Sawyer, NY
- Halcrow, NY

The following companies offer marine construction services in general, including the installation of marine outfalls.

Triton Marine Construction Corp.  
2181 Chico Way  
Bremerton, WA 98312

Reed & Reed, Inc.  
P.O. Box 370  
Woolwich, ME 04579  
Telephone: (207) 443-9747 | Fax: (207)443-2792 | [info@reed-reed.com](mailto:info@reed-reed.com)

Orion Marine Group Inc  
Corporate Headquarters  
12000 Aerospace Avenue  
Suite 300  
Houston, TX 77034  
713 852 6500

Misener Marine Construction, Inc.  
5600 West Commerce Street  
Tampa, FL 33616

F Miller Construction LLC  
825 Ryan Street, 2nd Floor  
Lake Charles, LA 70601  
337 439 4552

Northwest Marine Construction Inc  
1112 Alexander Street  
Tacoma, WA 98421  
713 852 6500

The following is a list of U.S. companies that provide water, wastewater technologies and SCADA technology products.

Cromaglass Corporation  
P.O. Box 3215  
2902 N. Reach Rd.  
Williamsport, PA 17701  
Telephone: (570) 326-3396  
FAX: (570) 326-6426  
E-Mail: [mailinfo@cromaglass.com](mailto:mailinfo@cromaglass.com)

Florida Aqua Store  
(561) 992-4200  
Boca Raton, Florida  
[www.florida-aquastore.com](http://www.florida-aquastore.com)

Seven Seas Water Corporation  
(340) 775-6607  
St Thomas, U.S. Virgin Islands

General Electric Water & Process Technologies  
(905) 465-3030x3241  
[jenn.watt@ge.com](mailto:jenn.watt@ge.com)

Agrimond  
(321) 783-7989  
Cape Canaveral, Florida

Hallaton, Inc.  
(410) 583-7700  
Sparks, MD  
BELDEN  
121 Parkland Avenue  
St. Louis, MO 63122  
Ph: (314) 210-3452  
<http://www.belden.com>

CalAmp  
1017 S. Main  
Ottawa, KS 66067  
Ph: (785) 248-9397  
<http://www.calamp.com>

ELPRO  
6803 Baybridge Terrace  
Austin, TX 78759  
Ph: (512) 297-5347  
<http://www.elprotech.com>

DanCo Systems, Inc.  
11503 W. 75th St. #201  
Shawnee Mission, KS 66214  
Ph: (913) 962-0600  
<http://www.dancosystems.com/>

GE MDS  
170 Science Parkway  
Rochester, NY 14620  
Ph: (585) 242-8376  
<http://www.gedigitalenergy.com/>

Georg Fisher  
2882 Dow Avenue  
Tustin, CA 92780  
Ph: (214) 769-2645  
<http://www.georgefisher.com>

HACH  
5600 Lindbergh Drive, PO Box 389  
Loveland, CO 80539  
Ph: (800) 227-4224 X2185  
<http://www.hach.com/>

HIRSCHMANN  
2700 Kelly Dr.  
Elgin, IL 60124  
Ph: (717) 217-2200, <http://hus.hirschmann.com/English/>

Honeywell Process Solutions  
1950 Craig Road, Suite 400  
Maryland Heights, MO 63146  
Ph: (314) 548-4153  
<http://hpsweb.honeywell.com/cultures/en-us/default.htm>

ITT Analytics  
Mansfield, OH 44903  
Ph: (419) 566-7383  
<http://ittanalytics.com/>

LiquiTech  
13520 West 107th St  
Lenexa, KS 66215  
Ph: (913) 469-5375  
<http://www.liquitechinc.com/>

Logic, Inc.  
890 N Mart-Way Ct.  
Olathe, KS 66061  
Ph: (913) 747-2359  
<http://www.logic-control.com/>

McCrometer  
868 Neighbors Way  
Perkasie, PA 18944  
Ph: (215) 258-5451  
<http://www.mccrometer.com/>

Emerson Process Management Power & Water Solutions, Inc  
200 Beta Drive  
Pittsburgh, PA 15238  
Ph: (412)963-4000  
[www.EmersonProcess-PowerWater.com](http://www.EmersonProcess-PowerWater.com)

End of Definitional Mission Report

**ANNEX 3**

**USTDA NATIONALITY REQUIREMENTS**



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

**NATIONALITY, SOURCE, AND ORIGIN REQUIREMENTS**

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

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

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

**NATIONALITY:**

1) Rule

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

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

## 2) Application

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

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

## 3) Definitions

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

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

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

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

## **SOURCE AND ORIGIN:**

### 1) Rule

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

### 2) Application

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

### 3) Definitions

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

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

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

**ANNEX 4**

**USTDA GRANT AGREEMENT,**

**INCLUDING MANDATORY CONTRACT CLAUSES**

## **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 Aguas de Cartagena S.A. E.S.P. ("Grantee"). USTDA agrees to provide the Grantee under the terms of this Grant Agreement US\$513,000 ("USTDA Grant") to fund the cost of goods and services required for technical assistance ("TA") on a proposed Cartagena Wastewater Treatment System Start-Up ("Project") in Colombia ("Host Country").

### **1. USTDA Funding**

The funding to be provided under this Grant Agreement shall be used to fund the costs of a contract between the Grantee and the U.S. firm selected by the Grantee ("Contractor") under which the Contractor will perform the TA ("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 TA ("Terms of Reference") are attached as Annex I and are hereby made a part of this Grant Agreement. The TA will examine the technical, financial, environmental, and other critical aspects of the proposed Project. The Terms of Reference shall also be included in the Contract.

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

USTDA and the Grantee recognize the existence of standards of conduct for public officials, and commercial entities, in their respective countries. The parties to this Grant Agreement and the Contractor shall observe these standards, which include not accepting payment of money or anything of value, directly or indirectly, from any person for the purpose of illegally or improperly inducing anyone to take any action favorable to any party in connection with the TA.

### **4. Grantee Responsibilities**

The Grantee shall undertake its best efforts to provide reasonable support for the Contractor, such as local transportation, office space, and part-time secretarial support while Contractor is working out of Grantee's offices in order to complete this TA. In addition, the Grantee shall assign a bilingual technical individual to interact with the Contractor and arrange meetings throughout the duration of the TA.

## **5. USTDA as Financier**

### **(A) USTDA Approval of Competitive Selection Procedures**

Selection of the U.S. Contractor for this fixed price TA shall be carried out by the Grantee according to its established procedures for the competitive selection of contractors with advance notice of the procurement published online through *Federal Business Opportunities* ([www.fedbizopps.gov](http://www.fedbizopps.gov)). Upon request, the Grantee will submit these contracting procedures and related documents to USTDA for information and/or approval.

### **(B) USTDA Approval of Contractor Selection**

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

### **(C) USTDA Approval of Contract Between Grantee and Contractor**

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

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

It is understood by the parties that USTDA has reserved certain rights such as, but not limited to, the right to approve the terms of the Contract and any amendments thereto, including assignments, the selection of all contractors, the Terms of Reference, the Final Report (as defined in Clause I of the Annex II), and any and all documents related to any contract funded under the Grant Agreement. The parties hereto further understand and agree that USTDA, in reserving any or all of the foregoing approval rights, has acted solely as a financing entity to assure the proper use of United States Government funds, and that any decision by USTDA to exercise or refrain from exercising these approval rights shall be made as a financier in the course of funding the TA 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. It is understood, however, that USTDA will act diligently and on a timely basis to prevent the Grantee from being negatively impacted by delayed payments from USTDA to the Contractor.

**(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 be controlling.

**6. Disbursement Procedures**

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

USTDA will make disbursements of Grant funds directly to the Contractor only after USTDA approves the Contract.

**(B) Contractor Invoice Requirements**

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

**7. Effective Date**

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

**8. TA Schedule**

**(A) TA Completion Date**

The completion date for the TA, which is March 31, 2013, is the date by which the parties estimate that the TA will have been completed. This completion date may be modified by means of an Implementation Letter from USTDA to the Grantee, pursuant to the time limitation on disbursement of USTDA grant funds established in §8(B) below.

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

Except as USTDA may otherwise agree, (a) no USTDA funds may be disbursed under this Grant Agreement for goods and services which are provided prior to the Effective Date of the Grant Agreement; and (b) all funds made available under the Grant Agreement must be disbursed within four (4) years from the Effective Date of the Grant Agreement.

## **9. USTDA Mandatory Clauses**

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

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

### **(A) Air**

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

### **(B) Marine**

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

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

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

## **12. Taxes**

USTDA funds provided under the Grant Agreement shall not be used to pay any taxes, tariffs, duties, fees or other levies imposed under laws in effect in Host Country. Neither the Grantee nor the Contractor will seek reimbursement from USTDA for such taxes, tariffs, duties, fees or other levies.

## **13. Cooperation Between Parties and Follow-Up**

The parties will cooperate to assure that the purposes of the Grant Agreement are accomplished. For five (5) years following receipt by USTDA of the Final Report, the Grantee agrees to respond to any reasonable inquiries from USTDA about the status of the Project.

## **14. Implementation Letters**

To assist the Grantee in the implementation of the TA, USTDA may, from time to time, issue implementation letters that will provide additional information about matters covered by the Grant Agreement. The parties may also use jointly agreed upon implementation letters to confirm and record their mutual understanding of matters covered by the Grant Agreement.

## **15. Recordkeeping and Audit**

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

## **16. Representation of Parties**

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

## **17. Addresses of Record for Parties**

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

To: Luis Alfonso Pinzón Corcho  
Manager for Projects and Civil Works  
Aguas de Cartagena S.A. E.S.P.  
Cra 13B No. 26-78 Edificio Chambacu, Of. 201  
Cartagena de Indias, Colombia

Phone: +57 5 650 4100  
Fax: +57 5 650 4108  
Email: [lpinzon@acuacar.com](mailto:lpinzon@acuacar.com)

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

Phone: (703) 875-4357  
Fax: (703) 875-4009

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

Any communication relating to this Grant Agreement shall include the following fiscal data:

Appropriation No.: 1112/131001

Activity No.: 2012-51001A

Reservation No.: 2012024

Grant No.: GH201251024

#### **18. Termination**

Either party may terminate the Grant Agreement by giving the other party thirty (30) days advance written notice. The termination of the Grant Agreement will end any obligations of the parties to provide financial or other resources for the TA (for the Grantee, as defined by §4-Grantee Responsibilities), except for payments which they are committed to make pursuant to noncancellable commitments entered into with third parties prior to the written notice of termination.

#### **21. 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.

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

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

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

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

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

**For Aguas de Cartagena S.A. E.S.P.**

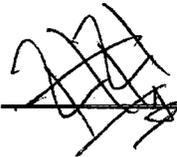
By: 

By: 

Date: 11/27/11

Date: 23/11/2011

Witnessed:

By: 

Witnessed:

By: 

**Annex I -- Terms of Reference**

**Annex II -- USTDA Mandatory 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 or in part by the U.S. Trade and Development Agency ("USTDA") under the Grant Agreement between the Government of the United States of America acting through USTDA and Aguas de Cartagena S.A. E.S.P. ("Client"), dated \_\_\_\_\_ ("Grant Agreement"). The Client has selected \_\_\_\_\_ ("Contractor") to perform the technical assistance ("TA") for the Cartagena Wastewater Treatment System Start-Up ("Project") in Colombia ("Host Country"). Notwithstanding any other provisions of this contract, the following USTDA mandatory contract clauses shall govern. All subcontracts entered into by Contractor funded or partially funded with USTDA Grant funds shall include these USTDA mandatory contract clauses, except for clauses B(1), G, H, I, and J. In addition, in the event of any inconsistency between the Grant Agreement and any contract or subcontract thereunder, the Grant Agreement shall be controlling.

#### B. USTDA as Financier

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

All contracts funded under the Grant Agreement, and any amendments thereto, including assignments and changes in the Terms of Reference, must be approved by USTDA in writing in order to be effective with respect to the expenditure of USTDA Grant funds. USTDA will not authorize the disbursement of USTDA Grant funds until the contract has been formally approved by USTDA or until the contract conforms to modifications required by USTDA during the contract review process.

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

It is understood by the parties that USTDA has reserved certain rights such as, but not limited to, the right to approve the terms of this contract and amendments thereto, including assignments, the selection of all contractors, the Terms of Reference, the Final Report, and any and all documents related to any contract funded under the Grant Agreement. The parties hereto further understand and agree that USTDA, in reserving any or all of the foregoing approval rights, has acted solely as a financing entity to assure the proper use of United States Government funds, and that any decision by USTDA to exercise or refrain from exercising these approval rights shall be made as a financier in the course of financing the TA and shall not be construed as making USTDA a party to the contract. The parties hereto understand and agree that USTDA may, from time to time, exercise the foregoing approval rights, or discuss matters related to these rights and the Project with the parties to the contract or any subcontract, jointly or separately, without thereby incurring any responsibility or liability to such parties. Any approval or failure to approve by USTDA shall not bar

the Client or USTDA from asserting any right they might have against the Contractor, or relieve the Contractor of any liability which the Contractor might otherwise have to the Client or USTDA.

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

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

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

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

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

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

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

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

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

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

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

#### **G. Reporting Requirements**

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

#### **H. Disbursement Procedures**

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

Disbursement of Grant funds will be made only after USTDA approval of this contract. To make this review in a timely fashion, USTDA must receive from either the Client or the Contractor a photocopy of an English language version of a signed contract or a final negotiated draft version to the attention of the General Counsel's office at USTDA's address listed in Clause M below.

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

A payment schedule for disbursement of Grant funds to the Contractor shall be included in this Contract. Such payment schedule must conform to the following USTDA requirements: (1) up to twenty percent (20%) of the total USTDA Grant amount may be used as a mobilization payment; (2) all other payments, with the exception of the final payment, shall be based upon contract performance milestones; and (3) the final payment may be no less than fifteen percent (15%) of the total USTDA Grant amount, payable upon receipt by USTDA of an approved Final Report in accordance with the specifications and quantities set forth in Clause I below. Invoicing procedures for all payments are described below.

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

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

USTDA to the Contractor for performance of the contract by submitting the following to USTDA:

**(a) Contractor's Invoice**

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

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

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

(ii) For contract performance milestone payments:

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

(iii) For final payment:

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

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

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

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

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

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

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

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

Requests for disbursement shall be submitted by courier or mail to the attention of the Finance Department at USTDA's address listed in Clause M below.

**(4) Termination**

In the event that the Contract is terminated prior to completion, the Contractor will be eligible, subject to USTDA approval, for reasonable and documented costs which have been incurred in performing the Terms of Reference prior to termination, as well as reasonable wind down expenses. Reimbursement for such costs shall not exceed the total amount of undisbursed Grant funds. Likewise, in the event of such termination, USTDA is entitled to receive from the Contractor all USTDA Grant funds previously disbursed to the Contractor (including but not limited to mobilization payments) which exceed the reasonable and documented costs incurred in performing the Terms of Reference prior to termination.

**I. USTDA Final Report**

**(1) Definition**

"Final Report" shall mean the Final Report described in the attached Annex I Terms of Reference or, if no such "Final Report" is described therein, "Final Report" shall mean a substantive and comprehensive report of work performed in accordance with the attached Annex I Terms of Reference, including any documents delivered to the Client.

**(2) Final Report Submission Requirements**

The Contractor shall provide the following to USTDA:

(a) One (1) complete version of the Final Report for USTDA's records. This version shall have been approved by the Client in writing and must be in the English language. It is the responsibility of the Contractor to ensure that confidential information, if any, contained in this version be clearly marked. USTDA will maintain the confidentiality of such information in accordance with applicable law.

and

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

and

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

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

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

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

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

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

**(b)** The inside front cover of every Final Report shall contain USTDA's logo, USTDA's mailing and delivery addresses, and USTDA's mission statement.

Camera-ready copy of USTDA Final Report specifications will be available from USTDA upon request.

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

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

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

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

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

#### **J. Modifications**

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

#### **K. TA Schedule**

##### **(1) TA Completion Date**

The completion date for the TA, which is March 31, 2013, is the date by which the parties estimate that the TA will have been completed.

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

Except as USTDA may otherwise agree, (a) no USTDA funds may be disbursed under this contract for goods and services which are provided prior to the Effective Date of the Grant Agreement; and (b) all funds made available under the Grant Agreement must be disbursed within four (4) years from the Effective Date of the Grant Agreement.

### **L. Business Practices**

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

### **M. USTDA Address and Fiscal Data**

Any communication with USTDA regarding this Contract shall be sent to the following address and include the fiscal data listed below:

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

Phone: (703) 875-4357  
Fax: (703) 875-4009

#### Fiscal Data:

Appropriation No.: 1112/131001  
Activity No.: 2012-51001A  
Reservation No.: 2012024  
Grant No.: GH201251024

### **N. Definitions**

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

## **O. Taxes**

USTDA funds provided under the Grant Agreement shall not be used to pay any taxes, tariffs, duties, fees or other levies imposed under laws in effect in Host Country. Neither the Client nor the Contractor will seek reimbursement from USTDA for such taxes, tariffs, duties, fees or other levies.

**ANNEX 5**

**TERMS OF REFERENCE (FROM USTDA GRANT AGREEMENT)**

## Annex I

### Terms of Reference

#### **Purpose and Background**

The Grantee has operated as the water public services provider for the city of Cartagena since 1995. With the support of financing from the World Bank and the Inter-American Development Bank (IDB) that entailed the backing of the Colombian government, the Grantee and the City of Cartagena have jointly invested more than \$300 million in the design and implementation of the Master Plan for Water and Sewerage for Cartagena, of which \$85 million have been invested since 2003 in the design and construction of a new wastewater treatment plant in Punta Canoa; a collector system that will bring wastewater to the new plant, including a 19.3 kilometer conveyance pipeline and a pumping station; a 1.6 kilometer terrestrial pipeline connecting the wastewater treatment plant to the marine outfall; and a 4.3 kilometer marine outfall that will discharge treated water into the Caribbean Sea. Many of the primary components of the wastewater system have been completed and the physical installation of the submarine outfall is expected to be completed by the end of calendar year 2011. The remainder of the primary infrastructure was built and installed over two years ago; the overall system can operate once the outfall is in place.

The TA has two main objectives: (i) to provide technical assistance during the critical phase of integrating subsystems and the start-up of the new wastewater system and (ii) the creation of the environmental water quality baseline and design of an ongoing water quality monitoring program, including recommendations for environmental remediation in the *Ciénaga de la Virgen*, a sea inlet surrounded by the city and suburbs. This TA ensures that Cartagena's new wastewater system will start operating in the shortest possible time. Moreover, this TA will also be an input for the expansion of the water and wastewater treatment system in the city of Cartagena. Currently the Grantee also has plans for expansion and construction of a new water supply treatment plant to the immediate south of Cartagena. It is expected that the design and construction of the expansion will also benefit from this TA, especially as it relates to automation and control, monitoring and equipment necessary for operations.

#### **Task 1: Kick-Off Meeting**

The Grantee shall provide to the Contractor all relevant data and information available about the Project. After reviewing this information, the Contractor shall prepare a detailed work program of TA execution, consistent with the tasks to be executed in the context of this TA, and a proposal for the timeline of participation of key members of the Contractor team in the field. The Contractor shall send the detailed work program for review and approval to the Grantee.

The Contractor shall meet the Grantee point of contact in Cartagena to discuss the TA work program and become familiar with any new developments. During the visit the

Contractor shall also become familiar with the status of all the system components, the type of equipment and materials used, and the start-up contractual procedures of individual subcomponents of the wastewater system.

The Contractor shall create a dedicated website to be used during the execution of this TA. This TA requires the sharing of a significant amount of information, and also close coordination between the Grantee and the Contractor. Therefore the website shall be an important communication tool for the TA.

**Deliverable:** Inception report presenting the approved detailed work program of the TA and the creation of a dedicated website for the TA execution.

## **Task 2: Monitoring Wastewater System Start-Up**

The start-up process requires fine-tuning and testing subcomponents of the wastewater system before it starts full operation. The Contractor shall monitor this process. In particular, the Contractor shall execute the subtasks enumerated below.

**Subtask 2.1 Integrated Action Plan for Wastewater System Start-Up.** The Contractor shall develop an Integrated Action Plan for commissioning of pumps, equipment, and start-up operation of wastewater collection and conveyance system, pump station, wastewater treatment plant, wastewater main, and marine outfall.

**Deliverable:** The Contractor shall provide a detailed integrated action plan for the wastewater system commissioning and start-up processes.

**Subtask 2.2 Testing the Paraiso Pumping Station.** The Contractor shall review commissioning and start-up testing procedure for the new, permanent condition, of pumping to the wastewater treatment plant including: review of design documents and blueprints, as-built drawings, specification of pumps and equipments, manufacturers' guidelines, operational procedures, limitations, health and safety hazards; verify that pumps and equipment have been installed according to the manufacturers recommendations and guidelines so that they meet the criteria for warranty; inspect pipes, valves and other devices to ensure proper installation, and prepare for test runs; review source water and power supply to the pumping station; perform dry-run and wet-run inspection with different modes of operation including manual control and automatic control and remote control assisted by Supervisory Control and Data Acquisition (SCADA); maintain proper testing and commissioning process documents, field verification logs/notes, calculations, graphs, tables, issues and resolutions; supervise basic training and guidelines for plant operational and management staff on pumps operation, start-up and shut down procedures; supervise testing of all equipment signals, alarms, output devices, and communication devices to confirm they are operating correctly.

**Deliverable:** The Contractor shall submit a Paraiso Station pump commissioning and start-up completion report for the new operating condition of Punta Canoa, with start-up

procedures to be used, pump performance verifications, electrical and mechanical integrity, issues and resolutions.

**Subtask 2.3 Testing the Wastewater Treatment Plant at Punta Canoa.** The Contractor shall review and monitor commissioning and start-up procedure including: review design documents, as built drawings, equipment specification, manufacturers' guidelines, operational procedures, limitations, general health and safety hazards; review the structural and mechanical integrity of equipment installations; ensure equipment is installed correctly according to the manufacturer's recommendations and guidelines so as to meet the criteria for warranty; perform dry run and wet run inspection with different modes of operation including manual control, automatic control and SCADA assisted remote control; perform test runs to cover operation range of flow conditions; test all equipment signals, alarms, output devices, and communication devices to ensure that they are operating correctly.

**Deliverable:** The Contractor shall submit process and equipment commissioning and start-up completion report with start-up procedures used, equipment performance verifications, electrical and mechanical integrity, issues and resolutions.

**Subtask 2.4 Testing Conveyance Pipeline.** The Contractor shall inspect and test the conveyance pipeline that connects the Paraiso Pumping Station to the wastewater treatment plant in Punta Canoa. The process shall include field inspections of exposed segments of pumping main, road and stream crossings, location of valves and mechanical joints prior to pressure tests. The Contractor shall also design the pressure testing protocol taking into consideration specifications, regulations, manufacturing guidelines and local requirements. The protocol shall include testing for all probable hydraulic conditions and other stress conditions. The testing procedure shall also include assessing the integrity of the pumping system to withstand unexpected pressure changes and/or temporary pressure surges due to pumps carrying out on and off operations. The Contractor shall record testing procedures, results, issues and conclusions of commissioning process for warranty requirements and future references.

**Deliverable:** The Contractor shall submit a report on tests performed and results, with recommendations for reducing risk during operations under unusually high volume circumstances.

**Subtask 2.5 Testing System Control.** The Contractor shall review original designs, drawings, technical information and reports pertaining to SCADA system for wastewater collection, conveyance, pumping and treatment. The Contractor shall evaluate the status of the SCADA software and hardware installation and operational conditions, and recommend improvements to the system, either by identifying design omissions or system elements that may be upgraded from the original design. The Contractor shall design a testing protocol. The protocol shall include testing the main system components including wastewater collection, conveyance, treatment and disposal. The Contractor shall oversee the testing of the SCADA system, to be carried out by the Grantee, considering individual elements, combination of elements, and full system operation with

complete remote operation mode, and stress testing.

**Deliverable:** The Contractor shall submit a report analyzing the testing process, procedures, notes, logs, issues, and resolutions for the SCADA testing and commissioning process.

**Subtask 2.6 Integrated System Start-Up.** The Contractor shall design an integrated system start-up process for wastewater collection, conveyance, pumping, treatment and outfall disposal. The process shall include a detailed description of sequential activities to be executed to start-up the system. This process would also be used for future start-up of the system, including partial functioning of the system. The Contractor shall provide support to the Grantee during the execution of the process, and shall provide training to selected technical staff that would be responsible for proper system operation. Training will focus on: (i) overall system functioning including the identification of monitoring parameters and normal functioning ranges; (ii) scenarios of malfunctioning and procedures to determine sources of failure and proper response, such as electrical failures, blackouts, earthquakes or other similar events; (iii) partial system operation, including complete failure of key components of the system such as the marine outfall, the wastewater treatment plant, and the Paraiso pumping station.

**Deliverable:** The Contractor shall submit a report describing the process, including recommendations for improving efficiency, expansion of the system, and identifying risks and providing suggestions on how to reduce operation risks under unusual circumstances.

**Subtask 2.7 Operational Manual, Protocols, and Contingency Plans for Integrated System Operation.** The Contractor shall review existing operational guidelines, manuals and protocols that have been submitted by equipment manufacturers and subcontractors. The review shall include the review of designs and as built drawings, testing and commissioning protocols. The Contractor shall compile a comprehensive operation manual of individual processes, equipment and maintenance. The manual shall also include testing protocols of the Paraiso pumping station, conveyance pipeline, Punta Canoa wastewater treatment plant, and control systems. An important consideration is the inclusion of trouble shooting protocols, and procedures to address emergency situations, including contingency plans for system malfunctions, power outage, and damaged equipment.

**Deliverable:** The Contractor shall submit an Operation and Maintenance, Protocols and Contingency Plans Manual.

### **Task 3: Environmental Monitoring and Management**

The Contractor shall take the lead role, in coordination with the Grantee and the local environmental authority (i.e., *Corporación Autónoma Regional del Canal del Dique - CARDIQUE*), in designing and undertaking an environmental and water quality assessment to analyze Project impacts and benefits as they relate to the *Cienaga de la*

*Virgen*. In addition, the Contractor shall review the existing Environmental Management Plan and, based on this review, shall prepare a final Environmental Management Plan that provides a program for future ongoing water quality and environmental monitoring, as well as any additional mitigation measures that may be required.

After reviewing the existing monitoring plan, the Contractor shall design a water quality baseline, lead data collection and analysis, create a monitoring system, and design a program to mitigate the environmental risk posed by water contamination in *Ciénaga de la Virgen*, and the beaches in and around Cartagena, extending from Punta Canoa to Bocagrande. The design of the water quality baseline shall include: sampling design, appropriate tests and analysis of results, and frequency of field work. The Contractor shall define targets for water quality improvement, as well as prepare an *ex ante* analysis of the impact of the new wastewater system. The Grantee shall be responsible for all costs related to data collection and laboratory analysis of samples necessary to execute this task. In addition, the Grantee shall provide to the Contractor all the information available that has been collected and analyzed to date during the construction of the wastewater system of Cartagena.

The Contractor shall review national regulation as it relates to maximum levels of pollution accepted for water bodies in Cartagena and should compare these levels with regulation in the U.S. provided by the U.S. Environmental Protection Agency (EPA). The Contractor shall focus on EPA best practices for monitoring water quality in and around marine outfalls.

The Contractor shall conduct a limited and focused preliminary environmental analysis of the impact of the wastewater system of Cartagena. This review shall identify potential positive and negative impacts of the system. The preliminary environmental impact analysis shall discuss which changes in policy or practice could lead to a substantial positive impact on the environment, and also the extent to which any negative effects of policy or practice could be mitigated in the future.

**Deliverable:** The Contractor shall submit a report of Task 3 including:

- Environmental water quality assessment;
- Water quality baseline and monitoring plan: Cartagena Bay, *Ciénaga de la Virgen*, outfall, and beaches, including pre-commissioning water quality baseline report;
- Environmental management plan: remedial environmental action plan;
- Regulatory issues; and
- Preliminary environmental analysis.

#### **Task 4: Dissemination of Technology and Project Promotion Activities**

The water treatment system (i.e., the existing plant and the new water treatment plant to be built in a site to the south of Cartagena such as Albornoz) and Punta Canoa wastewater system are the most modern systems in coastal Colombia. Cartagena is well placed to serve as a template for future water and wastewater treatment systems that are located on or near the coast in Colombia. The lessons learned from this Project, summarized in the deliverables produced for this TA, as well as lessons learned from the current water treatment system, and their implementation in the design and construction of the new water treatment plant to the south of Cartagena, shall inform similar projects in the future and shall help disseminate best practices throughout Colombia.

The Contractor shall prepare a brief document describing the components of these two systems, water and wastewater treatment, to present results and impact, highlighting the equipment and environmental and engineering services necessary for efficient operation. The Contractor shall identify and highlight areas in which U.S. technology, and environmental and engineering services have been or could have been used in the Cartagena system. In addition the Contractor shall assemble a list of potential U.S. providers of equipment and services.

The Contractor shall organize a one-day workshop in Cartagena to present the system to Colombian stakeholders. The objective of the workshop is to disseminate best practices in water and wastewater treatment in Colombia, with an emphasis on automation, control, monitoring, and engineering and environmental services using U.S. products and services. The audience of the workshop would include: municipal government representatives, public utilities representatives, associations of engineers, and private sector providers of goods and services to the water sector in Colombia. The Contractor shall also send invitations to the companies included in the list of U.S. providers. The Contractor is not responsible for travel expenses of attendants to the workshop.

**Deliverable:** The Contractor shall submit a report of Task 4:

- Prepare a brief document describing the opportunities for U.S. businesses in the water sector in Colombia. The brief document shall include a: (i) description of the Cartagena system; (ii) description of U.S. water treatment goods and services that may be used in Colombia; (iii) description of U.S. wastewater treatment goods and services that may be used in Colombia; (iv) general description of U.S. environmental services for prevention or remediation related to water and wastewater treatment plants, and specific monitoring and remediation options that apply to the *Ciénaga de la Virgen* and possible use elsewhere; and (v) contact list of U.S. providers of water, wastewater and environmental goods and services;
- Identify U.S. technology and services that match the needs of the Cartagena water and wastewater system with emphasis on: outfall construction, water and wastewater treatment plants and pumping stations, and water treatment technology that will be used in the new water treatment plant to the south of Cartagena;

- Identification of potential U.S. suppliers and service providers and qualified contractors;
- Outreach and information program for U.S. companies; and
- One-day workshop organized in Cartagena to highlight benefits of the system. The agenda of the one day workshop shall include: (i) description of the Cartagena system; (ii) description of U.S. water treatment goods and services that may be used in Colombia; (iii) description of U.S. wastewater treatment goods and services that may be used in Colombia; (iv) general description of U.S. environmental services for prevention or remediation related to water and wastewater treatment plants, and specific monitoring and remediation options that apply to the *Ciénaga de la Virgen* and possible use elsewhere; and (v) contact list of U.S. providers of water, wastewater and environmental goods and services.

#### **Task 5: Development Impact**

The Contractor shall document the potential development impacts of the Project. While specific attention should be paid to the immediate impact of the start-up of the wastewater system for the city of Cartagena, the Contractor shall include, where appropriate, additional developmental benefits of the Project as a whole, including spin-off and demonstration effects such as the replication of unique technical activities. The Contractor's analysis of potential benefits shall be as concrete and detailed as possible, and shall include short-term and long-term benefits to Colombia. The development impact factors are intended to provide the Grantee decision-makers and other interested parties with a broader view of the potential effects of the Project. The Contractor shall only detail benefits in the categories that are applicable, evaluating and providing estimates of the potential benefits in the following areas:

1. *Infrastructure/Industry*: Infrastructure success shall be defined as the sustainability and replicability of the recommended approach in managing wastewater conditions in Colombia.
2. *Market-Oriented Reforms*: The Contractor shall provide a description of the regulations, laws, or institutional changes that are recommended and the effect they would have if implemented.
3. *Human Capacity Building*: The Contractor shall address the level of technical capacity available for development and management of the Project. Key deficiencies shall be identified by the Contractor with recommendations for technical capacity enhancement to assure success of the Project. The Contractor shall also include an assessment of applicable capabilities and deficiencies in terms of human capacity.
4. *Technology Transfer and Productivity Enhancement*: The Contractor shall provide examples of new (to Colombia) technologies that may be utilized as a result of the implementation of the Project.

5. *Additional Economical and Social Benefits:* The Contractor shall detail the additional potential economic and social benefits of the Project as a result of the rehabilitation/upgrade of the wastewater treatment facility.

**Deliverable:** The Contractor shall prepare and submit an interim report to the Grantee detailing the information, analyses and findings compiled under Task 5, including an assessment of the development impact of the Project.

#### **Task 6: Final Report**

The Contractor shall prepare and deliver to the Grantee and USTDA a substantive and comprehensive final report of all work performed under these Terms of Reference ("Final Report"). The Final Report shall be organized according to the above tasks, and shall include all deliverables and documents that have been provided to the Grantee. The Final Report shall be prepared in accordance with Clause I of Annex II of the Grant Agreement. The Contractor shall also prepare an executive summary discussing the Project, the key findings of the TA, and the recommendations for further development of the Project, to be included in the Final Report.

The Final Report shall also include a comprehensive list of suppliers (Task 4), including potential sources of U.S. equipment and services relevant to the implementation of each component of the Project as outlined in the TA.

In addition to the copies of the Final Report that shall be provided to USTDA, as outlined in Clause I of Annex II of the Grant Agreement, the Contractor shall provide five (5) hard copies and one (1) electronic copy of both the public and confidential versions of the Final Report, and all of their annexes to the Grantee. One copy of the public report shall be provided to the U.S. Embassy in Bogotá.

#### **Notes:**

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

**ANNEX 6**

**U.S. FIRM INFORMATION FORM**



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

### U.S. Firm Information Form

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

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

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

Full Legal Name of U.S. Firm

Business Address (street address only)

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

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

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

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

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

If so, please provide the name of the U.S. Firm's parent company(s). In addition, for any parent identified, please complete Attachment B.

Is the U.S. Firm proposing to subcontract some of the proposed work to another firm?	Yes
	No

If yes, U.S. Firm shall complete Attachment C for each subcontractor. Attached?	Yes
	Not applicable

#### Project Manager

Name	Surname	
	Given Name	
Address		
Telephone		
Fax		
Email		

#### Negotiation Prerequisites

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

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

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

1. U.S. Firm is a [check one]  Corporation  LLC  Partnership  Sole Proprietor  Other: 

duly organized, validly existing and in good standing under the laws of the State of:

The U.S. Firm has all the requisite corporate power and authority to conduct its business as presently conducted, to submit this proposal, and if selected, to execute and deliver a contract to the Grantee for the performance of the USTDA Activity. The U.S. Firm is not debarred, suspended, or to the best of its knowledge or belief, proposed for debarment or ineligible for the award of contracts by any federal or state governmental agency or authority.
2. The U.S. Firm has included herewith, a copy of its Articles of Incorporation (or equivalent charter or document issued by a designated authority in accordance with applicable laws that provides information and authentication regarding the legal status of an entity) and a Certificate of Good Standing (or equivalent document) issued within 1 month of the date of signature below by the State of: 

The U.S. Firm commits to notify USTDA and the Grantee if it becomes aware of any change in its status in the state in which it is incorporated. USTDA retains the right to request an updated certificate of good standing.
3. Neither the U.S. Firm nor any of its principal officers have, within the three-year period preceding the submission of this proposal, been convicted of or had a civil judgment rendered against them for: commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a federal, state or local government contract or subcontract; violation of federal or state antitrust statutes relating to the submission of offers; or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, tax evasion, violating federal or state criminal tax laws, or receiving stolen property.
4. Neither the U.S. Firm, nor any of its principal officers, is presently indicted for, or otherwise criminally or civilly charged with, commission of any of the offenses enumerated in paragraph 3 above.
5. There are no federal or state tax liens pending against the assets, property or business of the U.S. Firm. The U.S. Firm, has not, within the three-year period preceding the submission of this proposal, been notified of any delinquent federal or state taxes in an amount that exceeds US\$3,000 for which the liability remains unsatisfied. Taxes are considered delinquent if (a) the tax liability has been fully determined, with no pending administrative or judicial appeals; and (b) a taxpayer has failed to pay the tax liability when full payment is due and required.
6. The U.S. Firm has not commenced a voluntary case or other proceeding seeking liquidation, reorganization or other relief with respect to itself of its debts under any bankruptcy, insolvency or other similar law. The U.S. Firm has not had filed against it an involuntary petition under any bankruptcy, insolvency or similar law.
7. The U.S. Firm certifies that it complies with USTDA Nationality, Source, and Origin Requirements and shall continue to comply with such requirements throughout the duration of the USTDA-funded activity. The U.S. Firm commits to notify USTDA and the Grantee if it becomes aware of any change which might affect U.S. Firm's ability to meet the USTDA Nationality, Source, and Origin Requirements.

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

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

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





**ATTACHMENT B**

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

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

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

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

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

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



**ATTACHMENT C**

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

**Subcontractor Information Form**

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

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

Name	Surname	
	Given Name	

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

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

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

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

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

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

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

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

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

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

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

Name		Signature	
Title			
Organization		Date	