REQUEST FOR PROPOSALS

FEASIBILITY STUDY FOR THE

PORT OF BUENAVENTURA OPERATIONAL AND SECURITY ENHANCEMENT PROJECT IN COLOMBIA

Submission Deadline: **4:00 PM**

LOCAL TIME (BUENAVENTURA, COLOMBIA)

July 1, 2009

Submission Place: **Sociedad Portuaria Regional de Buenaventura**
Avenida Portuaria
Edificio Administracion, A.A. 10765-478
Buenaventura
Colombia
Phone: (57-5) 241-0710

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 to the Sociedad Portuaria Regional de Buenaventura ("Grantee") to conduct a Feasibility Study on the proposed Port of Buenaventura Operational and Security Enhancement Project ("Project") in Colombia. 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 carry out the Feasibility Study.

1.1 BACKGROUND SUMMARY

The Port of Buenaventura is a multipurpose facility that handles containers, bulk cargo, break bulk, vehicles, and general cargo. The Grantee is the Sociedad Portuaria Regional de Buenaventura (SPRBun), the operator of the Port of Buenaventura.

The Contractor will evaluate existing conditions at the Port of Buenaventura; review current procedures and equipment at the port; determine and recommend improvements; prepare technical background material, and address the implementation of a container scanning facility. Implementation measures would include the installation of advanced security technologies such as a Vessel Traffic System (VTS) to monitor the safe transit of vessels near Buenaventura's coastline; Optical Character Recognition (OCR) equipment to record truck designations and container markings within the port; integration of container scanning equipment, and radiation detection and computerized integration of the existing closed circuit television network.

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

1.2 OBJECTIVE

The objective of the Port of Buenaventura Operational and Security Enhancement feasibility study in Colombia is to improve the monitoring and security of cargo transit at the Port of Buenaventura, the main terminal operator on Colombia's Pacific coast.

The Terms of Reference (TOR) for this Feasibility Study is 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.

Cost will not be a factor in the evaluation and therefore, cost proposals should not be submitted; upon detailed evaluation of technical proposals, one firm will be selected for contract

Cost will not be a factor in the evaluation and therefore, cost proposals should not be submitted; upon detailed evaluation of technical proposals, one firm will be selected for contract negotiations. The amount for the negotiated contract has been established by a USTDA grant of U.S. $400,000 dollars.

1.4 CONTRACT FUNDED BY USTDA

The negotiated contract will be funded by USTDA in accordance with the terms and conditions of its grant to the Grantee. The contract must include certain USTDA mandatory clauses relating to nationality, taxes, payment, reporting, and other matters. The USTDA nationality requirements and the USTDA mandatory clauses are attached at Annexes 3 and 4 for reference.

Section 2: INSTRUCTIONS TO PROPOSERS

2.1 PROJECT TITLE

The Project is called the "Port of Buenaventura Operational and Security Enhancement Feasibility Study."

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

2.3 DEFINITIONAL MISSION REPORT

USTDA sponsored a Definitional Mission to address technical, financial, sociopolitical, environmental, and other aspects of the proposed Project. A copy of the Report is attached at Annex 2 for background information only.

2.4 EXAMINATION OF DOCUMENTS

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

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

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

2.5 PROJECT FUNDING SOURCE

The Feasibility Study will be funded under a grant from USTDA. The total amount of the grant is not to exceed U.S. $400,000 dollars.

2.6 RESPONSIBILITY FOR COSTS

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

2.7 TAXES

Offerors should submit proposals which note that in Annex 4, USTDA Mandatory Contract Provisions, USTDA funds are not to be used to pay taxes or duties under the laws of host country.

2.8 CONFIDENTIALITY

The Grantee will use its best efforts to preserve the confidentiality of any business proprietary or confidential information submitted by the Offeror, which is clearly designated as such by the Offeror.

2.9 ECONOMY OF PROPOSALS

Proposal documents should be prepared simply and economically, providing a comprehensive and concise description of the Offeror's capabilities to satisfy the requirements of the RFP. There is no necessity for expensive bindings, colored displays, or other promotional material unless such material is absolutely pertinent to the proposal. Emphasis should be placed on completeness and clarity of content.

2.10 SUBSTANTIVE PROPOSALS

The Offeror shall certify (a) that its proposal is genuine and is not made in the interest of, or on the 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 himself 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 host country for up to twenty percent (20%) of the amount of the USTDA grant. USTDA nationality requirements are detailed in Annex 3.

2.12 LANGUAGE OF PROPOSAL

All proposal documents shall be prepared and submitted in English and Spanish.

2.13 PROPOSAL SUBMISSION REQUIREMENTS

The cover letter in the proposal must be addressed to:

Domingo Chinea
Sociedad Portuaria Regional de Buenaventura
Avenida Portuaria
Edificio Administracion, A.A. 10765-478
Buenaventura
Colombia
Phone (57-2) 241-0710
Fax (57-2) 242-2700

An original in English, an original in Spanish, one (1) copy in English, and three (3) copies in Spanish of your proposal must be received at the above address no later than 4:00 PM (local time in Buenaventura, Colombia), on July 1, 2009.

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

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

2.14 PACKAGING

Each proposal must be sealed to ensure confidentiality of the information. The proposals should be individually wrapped and sealed, and labeled for content including "original" or "copy number x"; the original in English, the original in Spanish, one (1) copy in English, and three (3) copies in Spanish should be collectively wrapped and sealed, and clearly marked for content.

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

2.15 AUTHORIZED SIGNATURE

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

2.16 EFFECTIVE PERIOD OF PROPOSAL

The proposal shall be binding upon the Offeror for sixty (60) days after the proposal due date, and Offeror may withdraw or modify this proposal at any time prior to the due date upon written request, signed in the same manner and by the same person who signed the original proposal.

2.17 EXCEPTIONS

Firms agree by their response to the RFP announcement to abide by the procedures set forth therein. Material modifications in the TOR or responsibilities of the parties will not be accepted.

Any exceptions in the proposal shall be clearly identified, and shall include the scope of such exception, and its impact, on the procurement. The Grantee shall make final determination as to the responsiveness of such exceptions and their acceptability.

2.18 OFFEROR QUALIFICATIONS

As provided in Section 3, Offerors shall submit evidence that they have relevant past experience and have previously delivered advisory and Feasibility Study services similar to those required in the TOR.

2.19 RIGHT TO REJECT PROPOSALS

The Grantee reserves the right to reject any and all proposals and to accept or reject any or all of the items in the proposal, and to award the contract in whole or in part if it is deemed in the best interest of the Grantee.

2.20 PRIME CONTRACTOR RESPONSIBILITY

Offerors have the option of subcontracting parts of the services they propose. The Offeror's proposal must include a description of any anticipated subcontracting arrangements, including the name, address, and qualifications of consultants and subcontractors. USTDA nationality provisions are set forth in detail in Annex 3. The successful Offeror shall cause appropriate provisions of its contract, including all mandatory USTDA clauses, to be inserted in all subcontracts ensuing to ensure fulfillment of all contractual provisions by subcontractors.

2.21 AWARD

An award resulting from this RFP shall be made to the best qualified Offeror, taking into consideration the evaluation factors set forth herein; however, the right is reserved to reject any

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

2.22 COMPLETE SERVICES

The successful Offeror shall be required to (a) furnish all supplies, supervision, transportation, and other execution accessories, services, and facilities; (b) provide and perform all necessary labor; and (c) in accordance with good technical practice, with due diligence, and in accordance with the requirements, stipulations, provisions, and conditions of this RFP and the resultant contract, execute and complete all specified work to the satisfaction of the Grantee.

2.23 INVOICING AND PAYMENT

Deliverables under the contract shall be delivered on a schedule to be agreed upon in a contract with the Grantee. The Contractor may submit invoices to the designated Grantee Project Director in accordance with a schedule to be negotiated and included in the contract. Upon approval of each invoice, the Grantee will forward the invoice to USTDA which will process payment to the Contractor. All payments by USTDA under the Grant Agreement will be made in U.S. currency.

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. No cost proposal is required as the value of the USTDA grant is established at U.S. $400,000 dollars.

Offerors shall submit one (1) original in English, one (1) original in Spanish, one (1) copy in English, and three (3) copies in Spanish of the proposal. Proposals received by fax cannot be accepted.

The following sections and content are required for each proposal:

Transmittal Letter,
Cover/Title Page,
Table of Contents,
Introduction and Executive Summary,
Company Information,
Organizational Structure, Management Plan, and Key Personnel,
Technical Approach and Work Plan,
Experience and Qualifications, and
Miscellaneous.

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

3.1 SECTION 1: INTRODUCTION AND EXECUTIVE SUMMARY

An Executive Summary should be prepared describing the major facts or features of the proposal, including any conclusions, assumptions, and generalized 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 SECTION 2: COMPANY INFORMATION

3.2.1 Company Profile

Provide the information listed below relative to the Offeror's firm. If the Offeror is proposing to subcontract some of the proposed work to another firm(s), similar information must be provided for each subcontractor. Offerors are requested to limit the length of the Company Profile Information to one (1) page per firm.

1. Name of firm and business address, including telephone and fax numbers.

2. Year established (include former firm names and year established, if applicable).

3. Type of ownership and parent company, if any.

4. Project Manager's name, address, telephone and fax number, if different from (1).

3.2.2 Offeror's Authorized Negotiator

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

3.2.3 Negotiation Prerequisites

1. Discuss any impact of any current or anticipated commitments which may impact the ability of the Offeror or its subcontractors to complete the Feasibility Study as proposed and within the Project schedule.

2. Identify any specific information which is needed from the Grantee before commencing contract negotiations.

3.3 SECTION 3: ORGANIZATIONAL STRUCTURE, MANAGEMENT, AND KEY PERSONNEL

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

Provide a listing of personnel (including subcontractors and consultants) to be engaged in the Project, either U.S. or local 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 organizational relationship between the firms must be described.

A manpower schedule and the level of effort for the Project period, by activities and tasks, as detailed under the 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 SECTION 4: TECHNICAL APPROACH AND WORK PLAN

Describe in detail the proposed technical approach and work plan. Discuss the Project requirements as perceived by the Offeror. Include a brief narrative of 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 Technical Work Plan, including periodic reporting or review points, incremental delivery dates, and other Project milestones.

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

3.5 SECTION 5: EXPERIENCE AND QUALIFICATIONS

Provide a discussion of the Offeror's experience and qualifications which are relevant to the objectives and TOR for the Feasibility Study. If a subcontractor(s) is being used, similar information must be provided for the prime and each subcontractor firm proposed for the Project. Relevant experience and qualifications of key staff proposed shall be provided including letters of commitment from the individuals proposed concerning their availability for contract performance.

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

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

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

Section 4: AWARD CRITERIA

Individual proposals will be initially evaluated by a Procurement Selection Committee of representatives from the Grantee. The Committee will then conduct a final evaluation and completion of ranking of qualified Offerors, and the Grantee shall promptly 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 shall then be undertaken with the second most qualified Offeror and so forth.

The selection of the Contractor will be based on the following criteria and their corresponding assigned weights:

1. Offeror's qualifications and experience relevant to the objectives and TOR of the Feasibility Study (20 points maximum)
   - Overall experience of the Offeror in similar port related security assessment studies (10 points)
   - Overseas experience of the Offeror, particularly in South/Central America (10 points)

2. Proposed technical approach and work plan (50 points maximum)
   - Appropriateness of proposed technical approach and work plan, including a breakdown by major work areas defining the scope of work, activities and effort required for each (25 points)
   - Knowledge of proposed work and understanding of tasks (25 points)

3. Qualifications and experience of key personnel (30 points maximum)
   - Project management and operations experience on similar projects (6 points)
   - Electrical engineering and IT experience on similar projects, including management and operation of similar monitoring and control systems (6 points)
   - Experience directly related to the project scope dealing with port security systems and customs regulations, including the Container Security Initiative (CSI) (6 points)
   - Project development and implementation experience on similar projects (6 points)
   - Experience and ability to work in the Spanish language (6 points)

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

Price will not be a factor in Contractor selection.

ANNEX 1

FEDBIZOPPS ANNOUNCEMENT

Mr. Domingo S. Chinea, Sociedad Portuaria Regional de Buenaventura, Avenida Portuaria, Edificio Administración, Buenaventura, Colombia, Tel: (57-2) 241-0710, Fax (57-2) 242-2700

2009-51015A – Colombia: Port of Buenaventura Operational and Security Enhancement Feasibility Study

POC John Kusinerek, USTDA, 1000 Wilson Boulevard, Suite 1600, Arlington, VA 22209-3901, Tel.: (703) 875-4357, Fax: (703) 875-4009. Port of Buenaventura Operational and Security Enhancement Feasibility Study, Colombia. The Grantee (Sociedad Portuaria Regional de Buenaventura) invites submission of qualifications and proposal data (collectively referred to as the "Proposal") from interested U.S. firms that are qualified on the basis of experience and capability to develop a Feasibility Study to evaluate existing conditions at the Port of Buenaventura; review current procedures and equipment at the port; determine and recommend improvements; prepare technical background material, and address the implementation of a container scanning facility.

The objective of the Port of Buenaventura Operational and Security Enhancement feasibility study in Colombia is to improve the monitoring and security of cargo transit at the Port of Buenaventura, the main terminal operator on Colombia's Pacific coast. The selected feasibility study contractor will evaluate existing conditions at the Port of Buenaventura; review current procedures and equipment at the port; determine and recommend improvements; prepare technical background material, and address the implementation of a container scanning facility. Implementation measures would include the installation of advanced security technologies such as a Vessel Traffic System (VTS) to monitor the safe transit of vessels near Buenaventura's coastline; Optical Character Recognition (OCR) equipment to record truck designations and container markings within the port; integration of container scanning equipment, and radiation detection and computerized integration of the existing closed circuit television network.

The Terms of Reference (TOR) for the Feasibility Study include the following tasks:
1) Data collection and review of existing conditions; 2) develop a vessel tracking system; 3) develop an optical character recognition system; 4) develop a computer monitoring system; 5) review of cargo inspection; 6) interim presentation; 7) development and environmental impacts; and 8) final report and presentation.

The U.S. firm selected will be paid in U.S. dollars from a $400,000 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 TOR, and a background Definitional Mission report is available from USTDA, at 1000 Wilson Boulevard, Suite 1600, Arlington, VA 22209-3901. Requests for the RFP should 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 RFP's 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 mailroom 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 4:00 PM (local time in Buenaventura, Colombia), July 1, 2009, 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

DEFINITIONAL MISSION

COLOMBIA - PORTS SECTOR SAFETY & SECURITY

USTDA 2008510013

Prepared by

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Final Report
October 2008

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 recommendation 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.

1000 Wilson Blvd., Suite 1600, Arlington, VA 22209-3901

Phone: 703-875-4357 • Fax: 703-875-4009 • Web site: www.ustda.gov • email: info@ustda.gov

The U.S. Trade and Development Agency

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

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

Mailing and Delivery Address: 1000 Wilson Boulevard, Suite 1600, Arlington, VA 22209-3901

Phone: (703) 875-4357 Fax: (703) 875-4009 Web site: www.ustda.gov email: info@ustda.gov

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LIST OF ACRONYMS

CBP	United States Customs and Border Patrol
CCTV	Closed Circuit Television
CFS	Consolidated Freight Station
CSI	Container Security Initiative
C-TPAP	Customs – Trade Partnership Against Terrorism
DHS	Department of Homeland Security
DIAN	Dirección de Impuestos y Aduanas Nacionales (Colombian Customs)
IDB	InterAmerican Development Bank
IFC	International Finance Corporation
IMO	International Maritime Organization
ISPS	International Ship & Port Security Code
IT	Information Technology
MTSA	Maritime Transportation & Security Act
OCR	Optical Character Recognition
PFSO	Port Facility Security Officer
PFSP	Port Facility Security Plan
RFID	Radio Frequency Identification Device
RS	Reach Stacker
RTG	Rubber Tired Gantry
SOLAS	Safety of Life at Sea
SPI	Secure Port Initiative
SPRBun	Sociedad Portuaria Regional de Buenaventura
SPRC	Sociedad Portuaria Regional de Cartagena
STS	Ship to Shore Crane
TA	Technical Assistance
TOS	Terminal Operating System
USTDA	United States Trade and Development Agency
VTMS	Vessel Traffic Management System
VTS	Vessel Traffic System
WB	The World Bank

A. EXECUTIVE SUMMARY

General

LEONARD SUGIN Consulting Engineer, according to its contract with the U.S. Trade and Development Agency (USTDA) carried out a Definitional Mission (DM) for Ports Sector Safety and Security – Colombia. Changes to the laws regarding port infrastructure has led to the privatization of these facilities through concessions. The concession process has spurned the development and improvements to previously public ports, with the infusion of new equipment, operating companies, and technology. The country has well developed ports with Buenaventura on the Pacific and Cartagena, Muelle de Bosque, Barranquilla, and Santa Marta on the Caribbean. The country also has several private special purpose ports serving the coal export markets. In 2007 Buenaventura handled nearly nine million tons of cargo and Cartagena more than seven million tons.

The work of the DM consultant was aided by the well-coordinated and dedicated efforts of the Commercial Section at the U.S. Embassy in Bogota. We wish to acknowledge the efforts of Ms. Margaret Hanson-Muse and Ms Tanya L. Cole, and their staff. The DM consultant is indebted to his local associate, Mr. Fernando Buitrago, Director of Ports & Logistic, a company with extensive experience and contacts in the Colombian shipping and terminal business. Mr. Buitrago's personal relationship with nearly all of the terminal operators and directors was critical in our receiving the support from all the organizations visited.

A.1 Cartagena / Contecar Central Security & Customs Facility

Sociedad Portuaria Regional de Cartagena (SPRC), established in 1993, is a privately held company that was granted a forty-year concession for the Port of Cartagena. Under the terms of the concession SPRC is responsible for all investments in the port, including berths, yards, equipment, dredging, and operations. Cartagena has been the recipient of previous USTDA grants for grain terminal development and security improvements. The recent USTDA grant for security measures resulted in upgrading of the facilities and procedures, enabling SPRC to obtain CSI status.

Besides expanding its facilities at Cartagena, SPRC is developing the port of Contecar, located about 15 km from the port of Cartagena, to supplement and expand its container handling capacity at Cartagena. SPRC intends to duplicate Cartagena's Terminal Operating System (TOS) system at Contecar, and interconnect the two operations. They will integrate terminal security with Cartagena's systems. SPRC will incorporate Contecar's terminal activities and procedures into its existing TOS (Navis SPARC). The two terminals will be interconnected with fiber optic cabling and wireless transmitters.

SPRC requests a USTDA grant for a feasibility study to develop a central customs and security to serve the SPRC ports of Cartagena and Contecar and possibly other terminals handling containers in the Bay of Cartagena. SPRC's objective is to incorporate

Contecar's operations into the CSI designated Cartagena operations. Terminal Maritimo Muelles el Bosque did not express any interest in joining a central customs and security operation, since they felt their terminal was too far from the others. The feasibility study would incorporate the following key aspects:

- Develop the conceptual plan and operating procedure of a centralized inspection station including the new facility and the necessary safeguards for all connecting transport modes
- Review procedural matters and/or modifications of CSI, DIAN, narcotics police, agricultural inspection, and other agencies involved in the inspections and clearing of inbound and outbound cargos
- Develop the physical layout of the centralized installation including gate control, inspection sheds, waiting and processing areas, ancillary and supporting facilities (new scanners, radiation detection, OCRS, truck scales, etc.)
- Develop plans for the physical security of the centralized installation and the interconnecting transport networks (CCTV, intrusion detection, personnel access control, computer monitoring of intrusion events, etc.)
- Develop the secure network for data transmission within Cartagena, Contecar, and outside users (forwarders, shipping lines, trucking companies, banks, and others)
- Develop procedures and equipment for establishing a regional database of truckers to simplify entry, exit, and internal movement within the terminals and the centralized station

This project will expand the CSI program for containers handled at Contecar and improve the movement of cargo from Colombia to the US. In order to operate as a single terminal, Contecar would have to get CSI status, a lengthy and uncertain procedure at this time.

A central facility, meeting the objectives of SPRC, and serving both port locations, will enhance the competitive position of SPRC by lowering overall costs and providing more choices for shippers. SPRC through previous efforts and support from USTDA received CSI designation for its terminal in Cartagena, providing container inspection and security clearance at the source rather than being processed in the United States upon arrival. CSI designation is an advantage to the shippers by expediting their consignments through U.S. customs and security upon arrival.

Implementation of a central facility, requiring additional cargo inspection equipment is an opportunity for U.S. suppliers. Additionally, the challenges of maintaining the security of the container along the transport corridor and monitoring the entire operations are areas where U.S. firms have the expertise and components to realize a high level of performance.

The DM Consultant recommends a grant of US$400,000 to the Sociedad Portuaria Regional de Cartagena (SPRC) for a feasibility study to assess and recommend a Central Security and Custom Facility as outlined in the Term of Reference (Section L.1). The

responsibility for the feasibility study can be directed by a single U.S. firm, experienced in port and transport development, operations, and security issues.

The result of implementing the anticipated central facility has potential U.S. exports of US$14 million. The bulk of the potential exports are related to security and cargo inspection issues at the central facility and along the transport corridor from the terminals at Cartagena and Contecar. A central facility, meeting the objectives of SPRC, and serving both port locations, will enhance the competitive position of SPRC by lowering overall costs and providing more choices for shippers.

A.2 Buenaventura Operational & Security Enhancement

Sociedad Portuaria Regional de Buenaventura (SPRBun) is the operator of the port of Buenaventura, a multipurpose facility handling containers, bulk cargo, break bulk, vehicles, and general cargo. SPRBun just extended its concession for twenty years past the original end date on 2013. SPRBun is the main terminal operator on Colombia's Pacific coast. Several new private terminals are in the early stages of development or pre construction that will compete with SPRBun for the projected increased container cargos.

SPRBun wants to improve its cargo inspection capacity and is prepared to implement a container scanning facility. Improved cargo inspection and upgraded security is an objective of SPRBun. SPRBun's terminal security system is extensive, incorporating 330 CCTV, sensors, gate vehicle and personnel control, identification badges, security personnel, and a central monitoring station. Enhancement of their Terminal Operating System (TOS) capability to include more automation of its gate operations will speed up processing of cargos. SPRBun wants to investigate their options, including adding equipment and changing procedures.

SPRBun requests a grant for a feasibility study is to provide information to assist those making decisions on implementing security improvements. The specific objectives of this feasibility study include the following areas of interest:

- SPRBun anticipates increased vessel traffic in the channel due to the expanded capacity of its facilities and the planned new terminals. To improve the safety and security of navigation and the monitoring of all vessels near Buenaventura's coastline, SPRBun wants a Vessel Traffic System (VTS), implemented by the proper authority, at this time.
- SPRBun wants to install Optical Character Recognition (OCR) equipment, to record truck designations and the container markings, to improve efficiency at the container gates. They will integrate the information with their Terminal Operating System (TOS). They will install the OCRs at all container entry and exit gates (fourteen gates in total). Integration of scanners, radiation detection, and OCR equipment is to be considered into the same gate structures.
- Computer monitoring of the CCTV network and access throughout the perimeter fencing and waterfront is a possible supplement and addition to the

existing visual procedures and programs. Introduction of computer monitoring, of all or a portion of the CCTV and access control network, to detect improper intrusions or unauthorized access on a real time basis is to be investigated.

- SPRBun wants improve container inspection and is prepared to implement container scanning equipment and facilities, and by reviewing procedures, equipment, interaction with other agencies, and record keeping. .

The DM Consultant recommends a grant of US$400,000 to the Sociedad Portuaria Regional de Buenaventura (SPRBun) for a feasibility study, as outlined in the Terms of Reference (Section L.2). The study will assess and recommend the installation of a Vessel Traffic System (VTS) and determine the implementing authority. Optical Character Recognition (OCR) equipment at the terminal's gates and computer monitoring assistance for the terminal's security CCTV and sensors is included. In addition, the study will assess cargo inspection improvements, mainly by the use of scanning equipment and facilities, and by changes in procedures and/or implementation of additional equipment and systems.

The result of implementing all of the subprojects of the feasibility study has potential U.S. exports of US$19 million. The bulk of the potential exports are related to security matters requiring the purchase of a container scanner and related equipment, systems, and facilities. U.S. firms are international supplier of container scanning systems; however, there are many competing systems from Europe and China. Another area is the development of computer monitoring of the ports extensive security camera installation (more than 330 CCTVs) as an adjunct to the present monitoring activities. The market potential for adopting computer monitoring of a terminal's extensive security systems of CCTV and sensors is attractive when the areas are large. Continuous manual monitoring requires a large staff, extensive set up of visual monitors, constant shifting of areas under active surveillance, and the need to avoid complacency. A computer monitoring system is attentive 24 hours a day, seven days a week and can have fail safe backup systems. U.S. firms are leading the way to employ this technology to a terminal's land and water areas.

A large subproject is implementing a Vessel Traffic System (VTS) to monitor the increased vessel activity at SPRBun and the new terminals scheduled for Buenaventura. Although SPRBun is undertaking a role in developing the VTS for Buenaventura, the study will determine the proper authority for implementing the project. SPRBun is striving to improve its competitiveness, and the OCR as the gates will improve the processing of containers and security of personnel and vehicles entering and leaving the terminal. All these issues relate to improving cargo inspection, which is an objective of the government agencies supervising the port concessionaires, the terminal operators, and most importantly, the customers.

A.3 Multipuerto Terminal at Salgar

Puerto Salgar is in the Department of Cundinamarca, on the eastern bank of the Magdalena River, in front of the Municipality of La Dorada (Department of Caldas), 195 kilometers north of Bogota, by road, and 880 kilometers from Barranquilla, an important

port on the river's outlet. The 3 Ha site at Salgar was an operating river port, consisting of approximately 300 meters of bulkhead river frontage, an operating apron, and buildings. The project site is east of an existing road and the river.

Puerto Salgar was until the mid-last century an important waterway national port. However, through financial subsidies that favored ground transportation (railway and roads), river navigation decreased. Because of economic globalization, Colombia needs to develop a competitive interconnection to the inner regions of the country having large centers of economic activity.

Sociedad Portuaria Multimodal del Rio Magdalena S.A. (MultiPuerto) proposes to develop a river terminal serving clients with varying needs. The project is planned for phased development, meeting an anticipated cargo growth. The project has strong government support, considering the economic benefits and the goal to diversify away from road transport. A vibrant river terminal will encourage new industrial and commercial development in the surrounding areas that are now less competitive due to unavailable and high road transport.

MultiPuerto has requested a grant for a feasibility study to develop a rehabilitated river terminal at Salgar on the Rio Magdalena. The objectives of the feasibility study Grant are to establish the parameters for development of the MultiPuerto Terminal at Salgar by:

- Reviewing and updating the commodity forecasts and market potential of the terminal
- Inspecting and evaluating the condition of the existing structures and facilities
- Reviewing the composition of the tugs and barges needed to serve the terminal
- Establishing terminal development plans to meet the market demand
- Establishing outline technical and performance specifications for project implementation
- Reviewing environmental regulations and assessing potential impacts
- Preparing capital and operating cost estimates, and indicating financing options
- Preparing an overall project implementation schedule

The result of implementing the project has potential U.S. exports of US$14 million, including improvements to the terminal and the barges and tugs. The main U.S. exports are concentrated in the river transport improvements for barges, tugs, and navigational components. Other exports include systems and components for cargo handling at the terminal. A longer-term benefit to the U.S. export market is the opportunity to sell greater volumes of grains due to a lower delivered cost, using river transport.

The DM Consultant recommends a grant of US$415,000 to the Sociedad Portuaria Multimodal del Rio Magdalena S.A. (MultiPuerto) for a feasibility study, as outlined in the Terms of Reference (Section L.3), to develop a rehabilitated river terminal at Salgar on the Rio Magdalena.

The result of implementing the project has potential U.S. exports of US$14 million, including improvements to the terminal and the barges and tugs. The main U.S. exports are concentrated in the river transport improvements for barges, tugs, and navigational components. Other exports include systems and components for cargo handling at the terminal. A longer term benefit to the U.S. export market is the opportunity to sell greater volumes of grains due to a lower delivered cost, using river transport.

A.4 Punta Bello

A new terminal at Punta Bello is a 'greenfield' development on the north coast of Colombia on the Caribbean Sea. The project sponsors, Sociedao Portuaria Punta Bello have undertaken a development role. The 380-Ha property, owned by private interests is in Cordoba approximately 60 miles west of Cartagena.

A 'greenfield' development offers opportunities for US supplier participation for the implementation of the project. 'Greenfield' projects involve substantial capital investments, and US sources can provide many components, systems, equipment, and services.

On the negative side, a 'greenfield' development requires large investments that may not be financially competitive in Colombia's port sector. The financial analysis must consider the effects of expanding existing terminals (Cartagena, Contecar, Muelles el Bosque, Drummond coal, Santa Marta, etc.) and new facilities already committed (TCBuen, Aguadulce, Barranquilla, etc.). The sponsors are inexperienced concerning port development and need to have a knowledgeable equity partner.

The new private developers are seeking a USTDA grant for a feasibility study to define the new port and terminal requirements. The DM Consultant does not recommend this project, at this time. However, USTDA should revisit the project in future after the sponsors organize the project development in more concrete terms.

A.5 Other Projects Reviewed

Muelles el Bosque is a small multipurpose terminal near Cartagena. It handles coal, grains, liquids, and containers. The terminal just completed an expansion program to add one more berth, mainly to handle containers. The present equipment is nearly all second hand that has been reworked for this terminal. The management felt they were doing a good job and did not need additional assistance. The DM Consultant does not recommend this project for a USTDA grant.

The Tax & Customs Administration (DIAN) has worked with the United States in implementing measures and controls in Cartagena to get CSI status for the port, and is exerting efforts to improve the reliability of the ports. DIAN was asked to provide specific areas of concern and objectives of the reliability improvement program to formulate a possible USTDA grant. The DM Consultant does not recommend a grant at this time.

Superintendencia de Puertos y Transporte is responsible for monitoring and controlling all port concession and concession related port services (e.g., stevedoring companies). To carry out its main functions, they want to install a real time supervisory and monitoring

system for all the ports and stevedoring companies operating under its jurisdiction. The objectives of the Superintendencia involve reviews and access to many private firms, a procedure that is unlikely to be met with the needed level of support for an outside US firm to obtain. The DM Consultant does not consider a USTDA grant technical assistance program will be able to achieve meaningful results in a limited time frame, and therefore does not recommend a grant.

Proexport is a Colombian governmental agency concerned with macro-trade issues and development. Proexport does not have a specific project in mind for a USTDA grant. They need help developing the logistic support centers; however, technical assistance at this point may be too late. Financial support to implement the logistics centers is the next step, and they will look to the private sector for funding.

The DM Consultant interviewed other groups. The Cali office of the American Chamber of Commerce arranged a meeting with several user associations of port facilities in Buenaventura. The representatives wanted improved cargo movements at the port (mainly grains and containers). We requested that they prepare a specific list of perceived deficiencies; however, we did not receive this information.

A meeting was arranged by the Commercial Services with the Ministry of Defense, since they are involved with security issues. Although the representative recognized the need to improve security at the ports and improve cargo inspection, they did not have a specific program that a USTDA grant for a feasibility study or technical assistance could address. Many of the issues impeding efficient cargo inspection and security upgrading are related to regulations, procedural, and administrative matters.

B. PROJECT DESCRIPTIONS

B.1 Cartagena / Contecar Central Security and Customs Processing Facility

Sociedad Portuaria Regional de Cartagena (SPRC) was established in 1993 as part of Colombia's effort to improve, develop, and privatize its ports. SPRC is a privately held company that was granted a forty-year concession for the Port of Cartagena. Under the terms of the concession SPRC is responsible for all investments in the port, including berths, yards, equipment, dredging, and operations. The port operates 24-hours a day, seven days a week with non-unionized work force. Cartagena has been the recipient of previous USTDA grants for grain terminal development and security improvements. The recent USTDA grant for security measures resulted in upgrading of the facilities and procedures, enabling SPRC to obtain CSI status. Table B.1.1, Cartagena Port Statistics, shows the growth in tonnage and the increase in container handling from 2000 to 2007.

Table B.1.1 Cartagena Port Statistics

TONELADAS MOVILIZADAS POR TIPO DE ESTIBA (2000 - 2007)

	Doméstico					Transbordo					
	Descargado			Cargado		Descargado			Cargado		
Año	Carga Gral	Cont.	Granel	Carga Gral	Cont.	Carga Gral	Cont.	Granel	Carga Gral	Cont.	Total
2000	202.004	663.579	57.964	13.125	673.707	257	1.088.957		262	1.107.532	**3.807.387**
2001	162.436	709.389	5.930	18.331	819.355	224	1.348.225	480	343	1.297.998	**4.362.711**
2002	109.590	784.693		6.506	979.566	667	1.216.554	2.999	534	1.166.028	**4.267.137**
2003	91.074	944.352		463	1.080.393	1.516	1.257.054		766	1.274.023	**4.649.642**
2004	118.276	1.146.546		23.896	1.372.970	576	1.080.199		1.212	1.043.449	**4.787.124**
2005	73.630	1.356.936		9.354	1.449.472	65	1.270.683		1.093	1.285.466	**5.446.699**
2006	8.305	1.776.501		600	1.756.757	642	1.706.793		1.297	1.685.556	**6.936.450**
2007	46.517	1.672.160		10.795	1.779.911	558	1.820.775		825	1.785.146	**7.116.687**

MOVIMIENTO DE CARGA CONTENERIZADA (TEUS / AÑO 2000 - 2007)

	Doméstico				Transbordo				
	Llenos		Vacíos		Llenos		Vacíos		
Año	Descargado	Cargado	Descargado	Cargado	Descargado	Cargado	Descargado	Cargado	Total
2000	58.392	53.644	13.927	22.927	71.055	71.962	13.966	14.064	**319.937**
2001	75.582	67.736	20.882	32.351	104.658	104.461	20.216	20.301	**446.187**
2002	80.328	87.559	36.264	30.783	87.930	84.463	13.442	12.553	**433.322**
2003	95.034	97.675	36.720	35.265	87.649	89.360	6.989	6.639	**455.331**
2004	117.971	115.782	31.981	32.877	75.068	72.426	12.086	10.673	**468.864**
2005	135.998	123.036	33.326	44.932	91.515	92.530	14.429	14.094	**549.860**
2006	172.649	147.628	31.137	53.715	124.233	123.001	29.726	29.440	**711.529**
2007	192.445	145.790	27.989	84.633	139.644	136.784	34.512	33.583	**795.380**

In addition to expanding its facilities at Cartagena, SPRC is developing additional container handling capacity at Contecar, approximately 15 km from its present facilities, as shown in Figure B.1.1, Overall Layout of the Bay of Cartagena.

SPRC's existing facilities in Cartagena is shown in Figure B.1.2, Existing Facilities Cartagena Port, consisting of two marginal berths, four STS, sixteen RTGs, and 20,500 slots.

Automated systems handle nearly 80% of the containers that include continuous GPS positioning for the Ship-To-Shore cranes (STS), Rubber Tired Gantries (RTGs), and terminal tractors. The STSs and RTGs are from Kalmar/Noell, who developed their positioning system in cooperation with the Port of Cartagena, utilizing wireless transmitters. This includes instantaneous data logging of the containers' position and placement, and alerts to the operators when the system makes an incorrect placement. Secure intranet sends information to the forwarders. The entire port area has fiber optic cabling for its LAN, with all areas and equipment connected.

The terminal uses NAVIS SPARCS as it Terminal Operating System (TOS), supplied from the United States. It controls the berth operations, the stockyard operations, and the terminal tractors. External control for the outside trucking is incorporated. The terminal deals with 182 individual trucking organizations (single and multiple truck ownership) and all must ask for an appointment to enter the terminal to delivery or pick up containers. This detail control of the operations, as incorporated in the Navis SPARCS TOS, results in container dwell time of less than a day. Since, by regulations, three days of dwell time is free, they handle most containers within the free time-period. The ability to move containers quickly in the yard, and avoid truck congestion in the terminal and waiting areas, is the key to successful and efficient operations.

Cartagena's port security includes 96 CCTVs and monitoring equipment. The US Department of Energy is giving the port of Cartagena radiation detectors for installation at each gate (3 in gates and 3 out gates). In addition, the radiation detection equipment will come with integral Optical Character Recognition (OCR). OCR equipment and technology will speed up the processing of vehicles entering and leaving the terminal, and provide further controls and monitoring of vehicles in the terminal. Access control within the terminal, for more than 3,000 outside personnel, is in operation, with centralized control to enable or disable individual permits. They have the technology for fingerprint identification, and intend to build a database of outside personnel to monitor and control terminal access. This will speed up gate processing of personnel and the OCR will automate the recognition of vehicles and the containers.

Weekly cargo inspection includes about 1,000 import containers by DIAN and 300 export containers, picked by profile developed by the narcotics' police, and random selection by CSI personnel.

Figure B.1.3, SPRC Phase III Expansion, shows the final expansion of Cartagena to include three marginal berths, seven STS, thirty RTGs, and 27,000 slots.

SPRC is now developing the port of Contecar, located about 15 km from the port of Cartagena, to supplement and expand its container handling capacity at Cartagena. Figure B.1.4, Contecar Present Condition, shows the present condition at the port. Moffatt and Nichol a US engineering consultant, is carrying out preliminary planning for the terminal. HPC, from Germany, is providing consulting service for the equipment

arrangements and technical specifications. SPRC's major expansion is through development of Contecar Terminal, with Phase I shown in Figure B.1.5, Contecar Phase I Development, include two marginal berths, three STS, and twelve RTGs (most probably supplied by Kalmar/Noell and fabricated in China) designed for handling 450,000 TEU annually.

SPRC intends to duplicate Cartagena's TOS system at Contecar, and interconnect the two operations. Terminal security anticipates installation of 51 CCTVs, motion sensors, personnel control, and other equipment. They will integrate terminal security with Cartagena's systems. The two terminals will be interconnected with fiber optic cabling and wireless transmitters.

Contecar's future expansion is shown in Figure B.1.6, Contecar – Proposed Development, includes three marginal berths, twelve STS, sixty RTGs, and 57,000 slots.

SPRC wants a USTDA grant for a feasibility study to develop a central customs and security to serve the SPRC ports of Cartagena and Contecar and possibly Terminal Maritimo Muelles el Bosque S.A., near Cartagena. SPRC's objective is to incorporate Contecar's operations into the CSI designated Cartagena operations. Terminal Maritimo Muelles el Bosque did not express any interest in joining a central customs and security operation, since they felt their terminal was too far from the others. The feasibility study would incorporate the following key aspects:

- Develop the conceptual plan and operating procedure of a centralized inspection station including the new facility and the necessary safeguards for all connecting transport modes
- Review procedural matters and/or modifications of CSI, DIAN, narcotics police, agricultural inspection, and other agencies involved in the inspections and clearing of inbound and outbound cargos
- Develop the physical layout of the centralized installation including gate control, inspection sheds, waiting and processing areas, ancillary and supporting facilities (new scanners, radiation detection, OCRS, truck scales, etc.)
- Develop plans for the physical security of the centralized installation and the interconnecting transport networks (CCTV, intrusion detection, personnel access control, computer monitoring of intrusion events, etc.)
- Develop the secure network for data transmission within Cartagena, Contecar, and outside users (forwarders, shipping lines, trucking companies, banks, and others)
- Develop procedures and equipment for establishing a regional database of truckers to simplify entry, exit, and internal movement within the terminals and the centralized station

This project will expand the CSI program for containers handled at Contecar and improve the movement of cargo from Colombia to the US. SPRC will incorporate Contecar's terminal activities and procedures into its existing Terminal Operating System (Navis SPARC). In order to operate as a single terminal, Contecar would have to get CSI status,

a lengthy and uncertain procedure at this time. A grant for a Feasibility Study to investigate centralizing customs and security procedures at a central common facility is requested. The new installation and interconnecting transport corridors will need substantial security equipment and software for monitoring. They need installation of additional cargo inspection equipment, such as scanners and radiation detectors. They will need additional TOS modules (of US source) and OCR devices to monitor the activities at the centralized installation.

This project is recommended for a USTDA grant.

B.2 Buenaventura Improved Security Project

Sociedad Portuaria Regional de Buenaventura (SPRBun) is the operator of the port of Buenaventura, a multipurpose facility handling containers, bulk cargo, break bulk, vehicles, and general cargo. SPRBun just extended its concession for twenty years past the original end date on 2013. SPRBun is the main terminal operator on Colombia's Pacific coast. Several new private terminals are in the early stages of development or pre construction that will compete with SPRBun for the projected increased container cargos.

One of the main terminal activities is handling containers. In 2007 the terminal handled approximately 700,000 TEU (500,000 units) on two berths with four Ship-To-Shore (STS) cranes, multiple Rubber Tired Gantries (RTGs), and Reach Stackers (RS). The two new STS cranes are of Post-Panamax design. Figure B.2.1, Buenaventura Port - Overall View, shows the extent of the present terminal, container cranes, warehouses, and other facilities. Table B.2.1, Buenaventura Port Statistics, shows the growth and breakdown of all cargos and containers from 2004 to 2007.

Table B.2.1 Buenaventura Port Statistics

Year	2004	2005	2006	2007
General Cargo	0.74	0.76	0.73	0.71
Bulk Solids	3.21	3.00	3.31	2.94
Bulk Liquid	0.43	0.38	0.29	0.28
Bulk Coal	0.44	0.46	0.54	0.52
20 Ft. Containers	1.65	1.76	1.93	2.32
40 Ft. Containers	1.50	1.64	1.89	2.13
Total Tonnage	**7.97**	**8.00**	**8.69**	**8.90**
40 Ft. Loaded	124,000	133,000	165,000	180,000
20 Ft. Loaded	117,000	132,000	140,000	149,000
40 Ft. Empty	37,000	51,000	57,000	86,000
20 Ft. Empty	31,000	33,000	37,000	42,000
Total Number Containers	**309,000**	**349,000**	**399,000**	**457,000**
Total Number of TEUs	**470,000**	**533,000**	**621,000**	**723,000**

SPRC with the aid of a USTDA grant implemented programs to upgrade and improve its security equipment and procedures. They applied for and obtained CSI designation at the

beginning of 2008. The DM Consultant and USTDA contemplated similar assistance to SPRBun as part of this DM; however, discussions with Department of Homeland Security (DHS) suggested that obtaining CSI designation would be difficult for Buenaventura.

SPRBun's management acknowledges their situation concerning designation as a CSI port (Container Security Initiative), as is the container terminal at Sociedad Portuaria Regional Cartagena (SPRC). SPRBun's container cargo composition and prime trading partners do not fall into the guidelines of the DHS for designation as a CSI terminal.

SPRBun's terminal security system is extensive, incorporating 330 CCTV, sensors, gate vehicle and personnel control, identification badges, security personnel, and a central monitoring station.

SPRBun wants to improve its cargo inspection capacity. SPRBun is taking positive steps to integrate a container scanning facility into their security and inspection procedures. They are taking this action, considering the general directives from DIAN to upgrade security and inspection at the terminals.
Enhancement of their Terminal Operating System (TOS) capability to include more automation of its gate operations will speed up processing of cargos. SPRBun wants to investigate their options, including adding equipment and changing procedures.

SPRBun wants a Feasibility Study is to provide information to assist those making decisions on implementing security improvements. This Study will include the following general aspects:

- Evaluation of the existing conditions and procedures
- Determining the requirements and characteristics of the improvements
- Preparing technical background material
- Developing alternative proposals to achieve the objectives
- Recommending and selecting the most appropriate alternative
- Developing outline specifications and requirements for the selected alternative
- Preparing capital and operating cost estimates of the selected alternative
- Evaluating the environmental and social impacts of the project

The specific objectives of this Feasibility Study include the following areas of interest:

a. SPRBun anticipates increased vessel traffic in the channel due to the expanded capacity of its facilities and the planned new terminals. To improve the safety and security of navigation and the monitoring of all vessels near Buenaventura's coastline, SPRBun wants to install a Vessel Traffic System (VTS), at this time.
b. SPRBun wants to install Optical Character Recognition (OCR) equipment, to record truck designations and the container markings, to improve efficiency at the container gates. They will integrate the information with their Terminal Operating System (TOS). They will install the OCRs at all container entry and exit gates (fourteen gates in total). Integration of scanners, radiation detection, and OCR equipment is to be considered into the same gate

structures.

c. SPRBun wants to improve container inspection and is prepared to implement container scanning equipment and facilities, and by reviewing procedures, equipment, interaction with other agencies, and record keeping. .

d. Computer monitoring of the CCTV network and access throughout the perimeter fencing and waterfront is a possible supplement and addition to the existing visual procedures and programs. Introduction of computer monitoring, of all or a portion of the CCTV and access control network, to detect improper intrusions or unauthorized access on a real time basis is to be investigated.

This project is recommended for a USTDA grant.

B.3 Multipuerto Terminal Development at Salgar

Puerto Salgar is in the Department of Cundinamarca, on the eastern bank of the Magdalena River, in front of the Municipality of La Dorada (Department of Caldas), 195 kilometers north of Bogota, by road, and 880 kilometers from Barranquilla, an important port on the river's outlet. Figure B.3.1, Magdalena River, shows Salgar's location in relation to the river and Barranquilla.

The site at Salgar was an operating river port, consisting of approximately 300 meters of bulkhead river frontage, an operating apron, and buildings.

Sociedad Portuaria Multimodal del Rio Magdalena S.A. proposes to develop a river terminal serving clients with varying needs. The 3 Ha project site is east of an existing road and the river. The project is planned for phased development, meeting an anticipated cargo growth. Figure B.3.2, Layout of Salgar Terminal, shows the existing terminal site layout. Figure B.3.3, Existing Salgar Facilities shows some of the existing facilities.

Puerto Salgar was until the mid-last century an important waterway national port. However, through financial subsidizes that favored ground transportation (railway and roads), river navigation decreased. Because of economic globalization, Colombia needs to develop a competitive interconnection to the inner regions of the country having large centers of economic activity. In 2002, the Colombian government considered the importance of setting priorities for the recovery of the Magdalena River. In its proposal, *Colombia – Vision of the Second Centenary (2019), Generating an Adequate Development Structure*, Puerto Salgar is considered not only as a river port, but also as a provider of added-value cargo services and logistics activities.

A Steer Davis Gleave Hydro-Study, in 2002 and 2003, recommended connecting the interior of the country to the Atlantic Coast through the Puerto Salgar-La Dorada node. Reactivation of navigation to and from the ports will result in high cargo traffic volume and a high internal rate of return. The recommendations suggested refurbishment of the navigation channel and maintaining a 4-ft depth up to the intersection of the ports of Puerto Salgar-La Dorada. The study defined actions to attract part of the cargos, currently transported by road, to the Magdalena River navigation system. Cargos included

commodities in solid and liquids, grains, and containers.

Sociedad Portuaria Multimodal del Rio Magdalena S.A., the sponsors, created the project in 2002 as an interdisciplinary public-private (30% public - 70% private) company. Public participants are the Department of Cundinamarca (25%) and the Municipality of Puerto Salgar (5%). Private participants are Silva Carreño Asociados (17.5%), specialists in waterways and responsible for technical studies; Valor y Estrategia (17.5%), responsible for investment development; Eduardo L. Gerlein y Aras Ltda. (17.5%), an agency responsible for waterway and port operations; and Julián Palacio and Manuel González, experts in port administration and multimodal development, who are the principal and deputy managers of the company.

The objectives of the Feasibility Study Grant are to establish the parameters for development of the MultiPuerto Terminal at Salgar by:

- Reviewing and updating the commodity forecasts and market potential of the terminal
- Inspecting and evaluating the condition of the existing structures and facilities
- Reviewing the composition of the tugs and barges needed to serve the terminal
- Establishing terminal development plans to meet the market demand
- Establishing outline technical and performance specifications for project implementation
- Reviewing environmental regulations and assessing potential impacts
- Preparing capital and operating cost estimates, and indicating financing options
- Preparing an overall project implementation schedule

This project is recommended for a USTDA grant.

B.4 New Terminal at Punta Bello

This is a 'greenfield' development on the north coast of Colombia on the Caribbean Sea. The project sponsors, Sociedao Portuaria Punta Bello, (represented by Alfredo Ramirez Juliao, Presidente, of Consorcio Districaladas and Oscar Gomez, Legal Representative) have undertaken a development role.

The 380-Ha property, owned by private interests (Sr. Alfredo Ramirez Juliao), is in Cordoba approximately 60 miles west of Cartagena. In 2000, the Cordoba municipal government (Sociedad Portuaria de Cordoba), using a Dutch grant, had Haskoning conduct a study of the potential port. The site is 186 km closer to Medellin than Cartagena, a major population center, needing 25% of all of Colombian imports and exports. Connection to the existing main road network is through a new 5-km road, built by the port. The market analysis suggested cargos including export of ferro-nickel in bulk, 120,000 TEUs with auto parts and coffee, and other agricultural and general cargos. The first phase development consisted of 450 meters of berth (two small vessels) connected to a 300-meter wide platform, in 10 meters of water. A dredged access channel provided the

needed fill material for the platform. In 2000, Haskoning estimated the project at US$50 million for the marine/civil works and one STS Crane.

The new private developers are seeking a USTDA grant for a feasibility study to define the new port and terminal requirements. The sponsors of the new port consider the following aspects:

- It will successfully compete with the facilities in Cartagena, due to its better location to a main consumer center
- Sufficient undeveloped land area is available to support the terminal's activities and all related support facilities (cold storage warehouses, warehouses, container freight stations, repair facilities, offsite container storage, offices and administrative facilities, etc.)
- Access to deep water (minus 13.8 meters) requires only a 1.5-km dredged channel
- The port is to handle Post-Panamax container ships and have 14-meter water depth
- Initial development to consider one container berth with 2 STS cranes and additional berthing facilities for other cargos
- Future developments anticipate additional container berths with up to 6 Post-Panamax cranes
- The private investors say the Central American Development Bank has made an informal commitment for loans up to US$200 million

A feasibility study would involve the following tasks:

- Complete review of the Haskoning 2000 study. The study is quite large and covered many issues in detail
- Prepare a new marketing survey identifying potential cargos in containers and bulk (the ferro-nickel demand is still active and the area is near many coal export facilities that would want direct deep water loading capability)
- Analyze the competitive position for the new terminal, considering all of the port development projects, committed or planned (several Cartagena developments, Barranquilla proposals, Buenaventura proposals, etc.)
- Conduct a review of the environmental regulations and prepare a preliminary environmental assessment of the project
- Prepare alternative phased development plans, in line with the market analysis, and evaluate and recommend an alternative for further study
- Develop a recommended phased plan for implementation, including capital costs, outline specifications for marine and civil works, performance guidelines for cargo handling equipment, a preliminary operational plan (organization and staffing), operating costs, and cash flow analysis
- Review sources of financing for the project including development banks and international lending agencies, private banks and capital markets, terminal operating equity partnerships, etc.

A 'greenfield' development offers opportunities for US supplier participation for the implementation of the project. Besides the preference for US components in Colombia, a new project requires many technological components from competitive US sources. 'Greenfield' projects involve substantial capital investments, and US sources can provide many components, systems, equipment, and services.

On the negative side, a 'greenfield' development requires large investments that may not be financially competitive in Colombia's port sector. The financial analysis must consider the effects of expanding existing terminals (Cartagena, Contecar, Muelles el Bosque, Drummond coal, Santa Marta, etc.) and new facilities already committed (TCBuen, Aguadulce, Barranquilla, etc.). The sponsors are inexperienced concerning port development and need to have a knowledgeable equity partner.

The DM Consultant does not recommend this project, at this time. However, USTDA should revisit the project in future after the sponsors organize the project development in more concrete terms. Areas that need development include:

- Further identification of potential users indicating commodities, quantities, and market growth
- Further identification of potential terminal operators (as equity partners or operating company)
- Further identification of financial sources (development banks, international financing organizations, capital market funds, etc.)

Assembly of updated positive background information for USTDA review may justify a grant for a comprehensive feasibility study.

B.5 Terminal Maritimo Muelles el Bosque S.A.

Muelles el Bosque is a small multipurpose terminal near Cartagena. It handles coal, grains, liquids, and containers. The terminal just completed an expansion program to add one more berth, mainly to handle containers. The present equipment is nearly all second hand that has been reworked for this terminal. Containers are loaded/unloaded by a second hand STS crane and mobile harbor cranes. Container yard operations rely on rebuilt Reach Stackers and rebuilt small RTGs (from Mi-Jack of US origin).

The terminal's operations are driven by contractual arrangements made with customers. Coke is dumped in an open area near the berth and handled by a mobile harbor crane. Grains are handled in warehouses and silo storage. The client has paid for and is installing a new silo and conveyor equipment. Muelles el Bosque rented the land area but made no capital investment in the grain cargos.

An expanded container yard is under construction behind the new berth. Selection of equipment for the new berth and container yard may rely on existing, second hand, or new equipment. Muelles el Bosque does not see its container traffic (existing or projected) as meeting the guidelines for a CSI program. As part of the expansion program, the internal roads and location of the entry gates will be relocated.

Muelles el Bosque is limited by its location on a small island, and cannot easily expand past its present program. Additional berths or expanded storage areas within the terminal are not possible. Land outside of the island's limits may be available; however, land filling to connect the areas is not possible due to small navigation channels used by the navy.

Areas of interest that a USTDA grant may be helpful include the following:

- The terminal must have container cargo inspection facilities in accordance with DIAN, narcotics, or agricultural regulations. Capital investment in container X-ray equipment will be a burden on the terminal, whereas manual inspection is less expensive.
- Muelles el Bosque would like to study how to improve its operations. The study's parameters would have to respect and keep unchanged the expansion under construction, the contractual arrangements with its customers/users, equipment availability, and land areas. Improvements in operations could only be realized by some changes in management.
- Muelles el Bosque would like to study how it can become a free zone.

The management felt they were doing a good job and did not need additional assistance.

Given the above the DM Consultant does not recommend this project for a USTDA grant.

B.6 Dirección de Impuestos y Aduanas Nacionales

The Tax & Customs Administration (DIAN) has worked with the United States in implementing measures and controls in Cartagena to get CSI status for the port. Following a directive of the President of Colombia, DIAN is exerting effort to improve the reliability of the ports. As part of the program's coordination and efficiency, DIAN, narcotics' police, and others involved in port operations must take corrective measures.

DIAN confirms they are arranging for the purchase of container scanners in this improvement effort. Efforts related to evaluating, specifying or implementing scanning equipment systems are well underway and they do not need assistance for these tasks as part of a USTDA grant.

Improving the reliability of the ports, from DIAN's perspective, includes the following areas:

- Reviewing, updating, and improving customs procedures
- Reviewing, updating, and improving regulations concerning customs and cargo inspection procedures
- Reviewing, evaluating, adapting, or implementing activities to introduce and upgrade technology into the procedures, specifically the greater application of Electronic Data Information (EDI)

Although DIAN has not allocated specific funds to improve the reliability of port operations, they will budget funds from their resources to carry out the programs indicated above.

Visits to the ports, shows a lack of uniformly in applying customs procedures. Some of the procedural discrepancy is due to customs organization, at the port, and some due to the port's operations. Customs procedures must work within the confines of the port's operations, equipment, facilities, etc. It is unlikely that one set of detailed procedures is suitable for all ports.

Modifying regulations involves the entire political spectrum of activities and is difficult for outside consultants, even if independent, to recommend effective changes in a short time.

Technology advancement and greater use of EDI are areas where an outside consultant's assistance may be valuable. Without concurrent improvements to procedures and regulations, EDI may not be able to achieve significant improvement to the reliability of ports.

DIAN was asked to provide specific areas of concern and objectives of the reliability improvement program to formulate a possible USTDA grant. The DM Consultant does not recommend a grant at this time.

B.7 Superintendencia de Puertos y Transporte

This agency is responsible for monitoring and controlling all port concession and concession related port services (e.g., stevedoring companies). Under the law, the Superintendencia is responsible for the following:

- Checking to see the concessionaires are meeting all of their obligations (paying properly, contributing to the social taxes, declaring the proper revenue, etc.)
- Checking to see that the licensed stevedoring companies are also abiding by the regulations concerning labor and income reporting
- Monitoring activities, procedures, and installations for personnel security at the ports
- Monitor the movement of cargo through the ports

To carry out its main functions, they want to install a real time supervisory and monitoring system for all the ports and stevedoring companies operating under its jurisdiction. Their designated functions are the following:

- Control of the ports and stevedores in order the correct any mistakes they are making.
- Monitor, in real time, all of the security and operational aspects of the ports
- Analyze the real time data to improve the efficiency and operations of the ports

The Superintendencia receives the required information for each month before the fifth of the month. The companies submit the information, in the format dictated by the Superintendencia, by electronic means. If the Superintendencia discovers errors or areas

needing review, they must send auditors to the ports or stevedoring companies. With real time monitoring, they will be proactive rather than reactive after the fact.

The Superintendencia receives its funds from a small impost on the gross revenues of the ports and stevedoring companies. We do not know if their auditing activities mainly deal with gross income receipts, payments of required social benefits, security issues, or efficiency of cargo movements.

It was unclear why the Superintendencia needed real time monitoring, since the ports and stevedores submit all of the information they monitor in the manner required. Real time monitoring implies connections, through secure internet, of the ports' and stevedoring companies' computers and data. The Superintendencia has not considered the procedures and systems necessary to establish secure firewalls, to allow for only limited authorized access into files on the private companies. The Superintendencia did not indicate the tie-in between having real time monitoring and gains in efficiency of the ports' operations. They are not prepared to use their funds for implementing infrastructure improvements, nor do they have authority to change the regulations and procedures of DIAN (customs) or the narcotics' police.

Fulfillment of their role, under the law, is the rationale for having a real time monitoring system. Although they receive all of the required information, their ability to be proactive is limited. They can only react after reviewing the material submitted by the ports and stevedores.

They want a grant to study how to integrate, in real time monitoring, all the ports, and stevedoring companies for compliance with the regulations. Implementing the program implies the need to establish a secure network. Safeguards are needed that allow the Superintendencia to tap into the computers of the ports and stevedoring companies, of only those areas that are supposed to be available for review and audit.

The objectives of the Superintendencia involve reviews and access to many private firms, a procedure that is unlikely to be met with the needed level of support for an outside US firm to obtain. The DM Consultant does not consider a USTDA grant technical assistance program will be able to achieve meaningful results in a limited time frame, and therefore does not recommend a grant.

B.8 Proexport

Proexport is a Colombian governmental agency concerned with macro-trade issues and development. MIDAS, working with a USAID program, directed by the Colombian President's office and DNR high level planning, identified global problems, the types of business and infrastructure investments needed to improved trade. A key conclusion of the study is identification of nine logistic centers to handle container distribution. The logistics centers need to provide enhanced refrigerated container facilities and cold storage warehousing. The US Embassy tried to promote these projects about 1 ½ years ago. Proexport now claims renewed foreign investment interest in developing the logistics centers exists.

MIDAS identified nine centers and sent their studies to DNR for further elaboration, with the objective of establishing a national logistics program. The nine centers include Bogota, Buga, Buenaventura, Cartagena, and Pereira (because it is central to the coffee industry). Cucuta and Maicao were selected because they border Venezuela and Ipiales as it borders Ecuador. Barrancabermeja was selected because it uses the river. DNP work is to be ready after July 2008 providing an overall framework for the logistics centers operations. The framework is to include the concession arrangements of the centers and more importantly the concession of the cargo corridors (mainly private toll roads). They believe the truckers would use toll roads since they may ban commercial traffic from local roads and these corridors will be the only way to move cargos. (Toll roads are in operations around Bogota with the concessionaire also establishing tollbooths on the adjacent local roads. A convenient way to avoid the tolls is not possible.). (Commercial vehicles also use the toll road portion from Cali to Buenaventura. Driving commercial vehicles through the local roads around Buenaventura is impossible.)

Core Magdalena, a separate agency from the Ministry of Transport, commissioned a US$10 million study to investigate increased traffic on the Rio Magdalena. A Dutch company has expressed interest in developing the river transport system with shallow draft barges.

Buenaventura is a key port for Colombia and needs to address the following areas:

- They must improve security at the port
- They must stop narcotic traffic
- They must resolve labor inefficiencies
- Better coordination between the agencies carrying out inspections (agencies do not inspect cargo simultaneously delaying movement)

Proexport does not have a specific project in mind for a USTDA grant. They need help developing the logistic support centers; however, technical assistance at this point may be too late. Financial support to implement the logistics centers is the next step, and they will look to the private sector for funding.

B.9 Other Discussions

The DM Consultant interviewed other groups. The Cali office of the American Chamber of Commerce arranged a meeting with several user associations of port facilities in Buenaventura. The representatives wanted improved cargo movements at the port (mainly grains and containers) and were to prepare a specific list of perceived deficiencies.

A meeting was arranged by the Commercial Services with the Ministry of Defense, since they are involved with security issues. Although the representative recognized the need to improve security at the ports and improve cargo inspection, they did not have a specific program that a USTDA grant for a feasibility study or technical assistance. Many of the issues impeding efficient cargo inspection and security upgrading are related to regulations, procedural, and administrative matters.

After the data gathering effort, the DM Consultant was informed of a potential development on the Rio Magdalena by SPRC at Gamarra. This terminal would have a river connection to the facility at Contecar, via the canal. SPRC has acquired a 365 Ha site for possible development where the water depth, all year, is five feet. A major road and railroad connections are close to the proposed terminal. SPRC has investigated possible barge and tug configurations for this operation. The SPRC river terminal has potential advantages in water depth over the Multipuerto Terminal at Salgar: however, Salgar is closer to major consumer centers and anticipates handling a wide range of products. As part of the market study for Multipuerto, this potential competitive or complimentary terminal will be considered. SPRC is funding its own preliminary investigations, and the DM Consultant does not recommend feasibility study grant funding for a second river terminal. Should the market analysis, for Multipuerto, indicate an immediate advantage for SPRC's Gamarra terminal, or increased river traffic justify another terminal, we recommend that USTDA reconsider this project.

C. DEVELOPMENTAL IMPACT

Colombia is experiencing rapid economic growth. Major expansion of the port and transport infrastructure is needed to keep pace with the growing cargo demand (import and export). The port infrastructure is constantly expanding and upgrading to keep pace with the changes in container transport. Colombia's ports are now private operations, receiving concessions from the government requiring them to underwrite the capital improvements.

This DM has concentrated on projects that upgrade the safety and security of the ports and their operations, and open up new transport avenues for moving cargo.

C.1 Cartagena / Contecar Central Security & Customs Facility

Infrastructure: This project could result in the construction of a fully operational central customs and security facility that meets international and CSI standards for cargo clearance.

Human Capacity Building: The construction effort will create jobs in the private sector, and during operations will create employment in the private and public sectors

Technology Transfer and Productivity Improvement: It is anticipated the project will encourage introduction of the latest technology for cargo inspection, security monitoring, and processing.

Market Oriented Reforms: It is anticipated the central customs and security facility will encourage modifications of the administrative procedures, and improve the processing of cargos.

C.2 Buenaventura Operational & Security Enhancement

Infrastructure: This project will have limited effect on the physical infrastructure in the

areas the VTS is installed, and for the container scanning facility.

Human Capacity Building: The construction effort will create jobs in the private sector, and during operations will create employment in the private and public sectors for operations and monitoring of the enhanced security and operational facilities.

Technology Transfer and Productivity Improvement: It is anticipated the project will encourage introduction of the latest technology for monitoring ship movements, and inspection, security monitoring, and processing of cargos.

Market Oriented Reforms: It is anticipated the project will improve the processing of cargos, due to changes to the port's operational procedures and enhanced cargo tracking.

C.3 Multipuerto Terminal at Salgar

Infrastructure: This project will result in improved river terminals, and expand transport options for cargo movement in Colombia. A major revival of river transport will open opportunities for barge and tug operations

Human Capacity Building: The construction effort will create jobs in the private sector. Terminal operations and expanded transport options will create employment in the private and public sectors

Technology Transfer and Productivity Improvement: It is anticipated the project will encourage introduction of the latest technology for cargo movement, monitoring, and processing.

Market Oriented Reforms: It is anticipated a new competitive transport option will be available to industries and agriculture in the central inner areas of Colombia.

D. PROJECT SPONSORS COMMITMENT

The sponsors of all three projects are committed to implementing them for various reasons. All have the financial resources or can obtain the necessary financing to carry out their project.

D.1 Cartagena / Contecar Central Security & Customs Facility

SPRC is committed to developing the Contecar terminal and has the financing in place to carry out its plans. Cartagena's recent designation as a CSI terminal improves its competitive position in trading with the U.S. Containers arriving in the U.S. have already received security clearance. Since Contecar terminal will be integrated with Cartagena's TOS, security, and operations, having Contecar's operations work as part of the overall is a major advantage. It is also unlikely that a separate CSI designation for Contecar could be obtained, and therefore having customs and security of both terminals centrally located will improve SPRC's overall efficiency. SPRC needs this flexibility in operations to offer

comparable services at Cartagena and Contecar. Other terminals handling containers in the Bay of Cartagena may also benefit from a central facility.

Governmental, security, and customs agencies will benefit from the central facility as it will concentrate their resources in a single location, improving the flow of cargo through the country. If these agencies are amenable to the concept and operations of a central facility, SPRC will see to its implementation.

D.2 Buenaventura Operational & Security Enhancement

SPRBun recognizes the need to enhance its operations. Upgrading in the processing of containers is needed to reduce the delays at the terminal and improve communications within the TOS, customers, customs, security, shippers, etc. Installing an OCR system will result in quicker and more efficient service, a primary aim of SPRBun. SPRBun can carry out this part of the project will internal funding or through financing.

Security enhancement is being imposed on all terminals. Overall security enhancement at Buenaventura and SPRBun's terminals are to be upgraded. SPRBun will install a container scanning installation with supporting facilities. The VTS is needed to control the increase in vessels calling at SPRBun and for the new terminals under construction. This project will have to be coordinated with other agencies, an implementing agency (other than SPRBun) must be designated, and some form of joint financing may be possible.

Upgraded security is an objective of all the ports, and SPRBun expects to expand its facilities and additional CCTV surveillance will be needed, in addition to the extensive system, they now have. A complementary system to allow for greater real time monitoring may be needed, and computer monitoring is an attractive option. Financing will have to be investigated since SPRBun has undertaken substantial short term financial obligations under its concession extension.

D.3 Multipuerto Terminal at Salgar

The sponsors of Multipuerto have backing and participation of the local governments and they are enthusiastic about reinvigorating river transport and opening new enterprises. The other partners have financial resources and experience in transport and transport development and administration. Financing from public and private sources will most likely be available. Confirmation of the positive preliminary market potential is the key to starting redevelopment of the facilities at Salgar.

E. IMPLEMENTATION FINANCING

E.1 Background Information

U.S. Eximbank has provided financing for a port security project in Kingston, Jamaica about two years ago. They also supplied financing for a port in Egypt. Eximbank has established "Transportation Security Export Program" specifically to support financing US components related to port security. The program is especially helpful as it allows a US

supplier responsible for the entire installation to finance the local component up to 15% of the entire cost. The financing is ten years and covers up to 85% of the U.S. content. They would like to see more activity in this area and will extend their support. In addition, Colombia is a 'Special Imitative Country', and they give projects priority support.

OPIC is looking to establish a "Latin America Capital Markets Fund"' to support debt financing for projects between US$25 and 150 million. This will cover senior long term indebtedness. OPIC now has its standard financing and insurance available. Although they have not recently provided assistance in the port sector, projects meeting their criteria will be considered.

InterAmerican Development Bank (IDB) is supportive of these types of projects as they encourages trade and is complementary to the Free Trade Agreements in the area. They are interested in financing public, government, and private sector projects, but especially like PPPs (Public/Private Partnerships). Financing from their Multilateral Investment Funds are always available to the private sector window and they are looking for logistics type projects.

The IDB is not very involved in financing port development. However, through their vice president for nongovernmental markets (private sector group) they are prepared to help. They have not done much with governmental agencies. IDB does not have a special fund set aside for transportation, but wants help develop the competitiveness of transport in Colombia.

DIAN could go to IDB for support to develop its programs through the government loan window. IDB provided a US$10 million, to the government, for transport development in small cities to establish PPPs (Public Private Partnerships). They can close a loan in 4 to 5 months, if necessary; otherwise, the usual timing is 12 months.

The most important aspect of IDB's policy in Colombia involves loans to carry out studies. They can give loans to develop a project, based on the assumption the sponsor will repay it as part of the larger loan for project implementation. During the course of the study work, if the project is considered financially unfeasible, IDB forgives the study loan!

The World Bank's web site shows six active projects in Colombia, but no port development or security related matters. They would need standard government requests to respond to or obtain project funding

The International Finance Corporation (IFC) is heavily involved in providing financial support to the Colombian port sector. They have appraised SPRC's Contecar project and are prepared to provide funding. Considering the increasing demand for container handling at Cartagena, Contecar will move forward to meet the demand.

IFC is also supporting Santa Marta Norte, a separate concession owned by Santa Marta Port, for additional development based on the just negotiated 20-year extension of their concession (originally scheduled to end in 2013). The container project development is progressing, and they have an operational agreement with SSA (Stevedoring Services of America).

IFC is supporting projects in Barranquilla port (existing and new facilities) and for total development of barge transport on the Magdalena River.

IFC is actively seeking borrowers in this sector, as they anticipate continued expansion of Colombian trade. Loans are generally between US$15 and 100 million, with $10 million as the minimum. For expansion projects, they are prepared to offers loans of 35 to 50% of the project.

Corporación Andina de Fomento (CAF) is very interested and leading the financing effort for the Aguadulce Terminal in Buenaventura. They also plan to participate in the TCBuen Container Terminal in Buenaventura by syndicating around 30% of the project. The Port of Manta in Ecuador received a $35 million loan at 5% yearly interest, with a 10 years term, and two years without payment of principal. The port had to provide equity of $20 million. (Colombia Office: Carrera 9a, No 76–49, Edificio ING, Piso 7, Bogotá; Tel: +57 (1) 313-2311 (master), Fax: +57 (1) 313-2721 / 313-2787, email: colombia@caf.com

BANCOLDEX S.A

BANCOLDEX: works mainly for export projects. They may have assisted with the coal export ports, and are prepared to consider any projects that encourage Colombian exports. Colombian Foreign Trade Bank; Main office: Calle 28 Nº 13 A 15, Pisos 38 al 42, Bogota; Tel: (57-1) 3821515 Fax: (57-1) 2862451 / (57-1) 2860237.

E.2 Cartagena / Contecar Central Security & Customs Facility

SPRC may have sufficient internal resources to develop the central facility. Financing for the project will depend on SPRC, since they are the primary beneficiaries of the central facility by encompassing Contecar's operations into the CSI designation. IFC is particularly interested and supportive of SPRC's improvements of Colombia's transport competitiveness.

E.3 Buenaventura Operational & Security Enhancement

SPRBun may sufficient internal reserves to implement the OCR program, as it will improve their operations. Additional financial support, from governmental sources and development banks will probably be needed to implement the VTS. Introducing computer monitoring of its security cameras and sensors will require financing from several sources, including possible supplier credits and support from U.S. agencies.

E.4 Multipuerto Terminal at Salgar

The project sponsors will have to arrange for financing the terminal improvements. The most likely sources will be private capital markets, even though governmental agencies have a 30% interest in the project. Other supporting infrastructure improvements may be carried out by the governmental agencies in support of the project.

Financial support for developing the barges and tugs needed to make the project viable will have to come from private sources. Existing barge operators on the river will need some outside financing support for the new shallow draft barges and tugs. The IFC has indicated they may support improvements to the barge operations.

F. U.S. EXPORT POTENTIAL

The recommended studies offer opportunities for U.S. exports although it is limited. Although many projects are being developed in Colombia's port sector, the major developments involve land structures, marine facilities, and large container handling equipment. Exports of U.S. construction materials (steel, cement, utilities, etc.) may be competitive with materials from neighboring countries. Cargo handling equipment for container terminals (e.g., ship-to-shore cranes (STS), yard cranes (RTGs), and reach stackers (RS)) are not manufactured in the U.S., although they may contain some U.S. components. The major international supplier of STS cranes and RTGs is China. U.S. electrical systems are common in Colombia, and may be the preferred electrical system for projects in this sector.

The DM Consultant believes U.S. firms can competitively provide specialized knowledge of operations, terminal management and logistics systems, scanners and security systems for containers, communications and secure data transmission systems, terminal operating systems, technical and managerial support, and training.

The U.S. firms shown are some typical suppliers, and are not to be considered exclusive, endorsed, or preferred suppliers for the recommended projects.

F.1 Export Potential for Central Security & Customs Processing Facility

This project anticipates establishing a central security and customs facility accessible to containers handled at Cartagena and Contecar. Cartagena is a CSI designated terminal and expansion of SPRC is committed to developing Contecar as an operational equivalent terminal. The central station requires the cooperation and participation of governmental authorities to administer a central station, U.S. CBP to expand CSI designation to Contecar, shipping lines, and transport companies. The transportation corridors between the terminals and the central facility must be made secure.

Table F.1, Cost Estimate & U.S. Suppliers - Central Security & Customs Processing Facility, presents a range of total cost, U.S. opportunities, and potential suppliers. We express the project cost and U.S. exports as a range to illustrate the uncertainty of conclusions the study may reach. The DM Consultant believes the Feasibility Study will justify the advantages of a central security and customs processing facility for SPRC. The main equipment will be container scanners (not in DIAN present program), radiation and OCR devices, and computer monitoring of security.

Table F.1 Cost Estimate & U.S. Suppliers - Central Security & Customs Processing Facility
(Cost in million $US)

Item	Total Cost		U.S. Exports		Comments	Potential Suppliers
	High	Low	High	Low		
Container x-ray facility	$12.0	$6.0	$8.0	$4.0	Two installations	Rapidscan; Science Applications International Corp., Advanced Research & Applications Corp., ScanTech Sciences, InstroTek, Inc.
Radiological detection equipment & Optical Character Recognition	$6.0	$3.0	$5.0	$2.5	Six installations	Thermo Scientific, SAIC, Canberra Industries, GE Security
Surveillance Equipment & vehicular controls: Facility & Transport Corridor	$3.0	$1.0	$1.0	$0.5		3M, ADT, Barantec Inc., Big Sky, Casi Rusco, Chubb, General Dynamics, Serco
Computer monitoring Software	$3.0	$1.0	$2.5	$0.5		Computer Associates, Booz Allen, IBM, Oracle, Unisys
Network hardware connections & facilities	$1.0	$0.5	$0.5	$0.3		Raytheon, Honeywell, CISCO, Texas Instruments, Boeing, Northrop Grumman
Facilities, Buildings, Fencing, Gates	$3.0	$1.0	$0	$0	All Local Supply	
Utilities & Ancillary facilities, Contingencies	$1.0	$0.5	$0.5	$0.0		
Engineering and project management	$3.0	$2.0	$1.5	$1.0		TERA, Han-Padron, URS, Parsons, Sandler & Travis, ADT, CoreStreet
Range of Costs / Exports	$32.0	$15.0	$19.00	$8.80		
Est. Cost / U.S. Exports	$23.0		$14.0			

F.2 Export Potential for Buenaventura Operational & Security Enhancement

This project anticipates installation of a VTS to monitor and control vessels in and around Buenaventura. Upgrading of container tracking equipment and systems are anticipated with installation of OCR capability. SPRBun intends to install a container scanning facility, and is responsible for selecting and purchasing the equipment. Upgrading of security monitoring is anticipated with the adaptation of computer monitoring of security cameras and sensors throughout the port.

Table F.2 Cost Estimate & U.S. Suppliers - Buenaventura Operational & Security Enhancement
(Cost in million $US)

Item	Total Cost		U.S. Exports		Comments	Potential Suppliers
	High	Low	High	Low		
VTS radars, cameras, AIS responders, transmission towers, etc	$6.0	$3.0	$4.5	$2.5	Present & future terminals included	Raytheon, Lockheed-Martin, Northrop-Grumman, American Technology, Ultra Electronics
Optical Character Recognition Systems	$6.0	$3.0	$5.0	$2.5	14 Installations	Duos Technology, IBM, Computer Associates, GE Security
Container Scanner & Associated Facilities	$10.0	$6.0	$8.0	$5.0	1 Installation	Rapidscan; Science Applications International Corp., Advanced Research & Applications Corp., ScanTech Sciences, InstroTek, Inc.
Computer monitoring systems & software	$6.0	$3.0	$4.50	$2.5	330 cameras included	Cernium, ADT, Computer Associates, Booz Allen, IBM, Oracle, Unisys
Network hardware connections & facilities	$1.0	$0.5	$0.5	$0.3		Honeywell, CISCO, Texas Instruments
Facilities, Buildings, Fencing, Gates	$3.0	$1.0	$0	$0	All Local Supply	
Utilities & Ancillary facilities, Contingencies	$1.0	$0.5	$0.5	$0.0		
Engineering and project management	$2.0	$1.0	$1.0	$0.5		TERA, Han-Padron, URS, Parsons, Sandler & Travis, CoreStreet
Range of Costs / Exports	$35.0	$18.0	$24.00	$13.3		
Est. Cost / U.S. Exports	$27.0		$19.0			

F.3 Export Potential for Multipuerto Terminal at Salgar

This project will require purchasing of bulk handling and storage equipment including conveyors, cranes, storage silos, and mobile equipment. This equipment is available for several large U.S. equipment suppliers, as well as smaller specialized companies. Tugs and barges to support the terminal are key elements in the overall concept. Special shallow draft tugs and barges will have to be designed and built to operate at Salgar Terminal. The U.S. has many ship consultants that can design the tugs and barges, and shipyards, near the Gulf of Mexico and the Caribbean to meet the demand. Colombia does not have a strong manufacturing base for tugs and barges. Many tugs and barges, operating in Colombia, are from the U.S.

Table F.3 Cost Estimate & U.S. Suppliers - Multipuerto Terminal at Salgar
(Cost in million $US)

Item	Total Cost		U.S. Exports		Comments	Potential Suppliers
	High	Low	High	Low		
Rehabilitation of marine, civil, structural works	$3.0	$1.0	$0	$0	Local sources	
Bulk loading and unloading systems, storage facilities	$5.0	$3.0	$4.0	$2.5	Conveyors, environmental controls, storage silos	Robins, Continental, A.O. Smith, PDM, P&H, Link-Belt, Caterpillar, Hyster,
Tug Boats (4units)	$8.0	$6.0	$6.0	$4.0	Marine engines & transmissions	Caterpillar, Cummins, Detroit Diesel, Fairbank Morse, GE Diesel
Barges (15 units)	$7.5	$4.5	$4.0	$2.0		Bender, Bollinger, Eastern Shipbuilding
Navigation & Comm. (4 sets)	$1.5	$1.0	$1.5	$1.0		Motorola, Raytheon, Lockheed Martin
Marine Designs, Technical Assistance, Proj. Mgmt.	$3.0	$1.5	$2.0	$1.0	Terminal and Barge / Tugs included	DMJM-Harris, Han-Padron, ABAM, Atlantic Marine, Avondale, Tug & Salvage, Glendale Boat, Mullen, Rosenblatt, John W. Gilbert Associates, Inc., Keel Design Corporation
Misc. & Contingency	$1.0	$0.5	$0	$0		
Range of Costs / Exports	$29.00	$17.50	$17.50	$10.50		
Est. Cost / U.S. Exports	$19		$14			

G. FOREIGN COMPETITION

Table G.1, Foreign Competition, illustrates some countries and typical competition and firms that are competitors to U.S. suppliers. The U.S. is a natural supplier of systems, components, and equipment to Colombia, considering its geographic advantage and long standing business ties.

The proposed projects are related to port development, specialized transport by barges, and security and customs processing issues. Modern and sophisticated IT and security control systems are common in European and Asian ports and terminals. Many competing systems and transport management consultants are available to provide the needed expertise. The large number of ports offers opportunities for specialized products from local suppliers or nearby countries.

The U.S. ship building industry is struggling, because of higher labor costs. Asian and Eastern European countries have substantial ship building capability and availability of marine components; however, the transport distances to Colombia are very long and costly. Tugs and barges from the U.S. may have an advantage.

Table G.1 Foreign Competition

Area of Supply	Countries	Firms
Computers & Controls	Japan, Sweden, Germany	NEC, Sony, Toshiba, ABB, Siemens
Scanners	Germany, France, China	Siemens, ABB, Smiths, Neutech
Special Programs	Germany, Sweden, Finland, Denmark	Siemens, ABB, Vissy, Milestone
Marine Engines	Germany, Scandinavia, Korea	Volvo, MAN, Wartsila, Daewoo
Security Scanners	Germany, Sweden	Siemens, ABB
Conveyors, Material Handling, Cranes	Germany, Switzerland, Austria, Japan, Eastern Europe	Krupp, Mitsubishi, Swiertel, Buhler
Vessel Traffic System	Ireland, Russia	Barco, Transas Ltd.

H. IMPACT ON THE ENVIRONMENT

The central security and customs processing facility will require an environmental impact assessment since a new facility will have to be constructed. Mitigation due to construction issues is standard, and presents no problems for implementation. A more efficient cargo inspection and customs facility will reduce truck waiting and engine idling time at the terminals, and environmental effects.

The security improvements at Buenaventura will have no undesirable environment effects, since very little construction will take place and the disturbance is limited and short term. Improving the efficiency of processing cargos, with the OCR system will reduce truck waiting and idling time and environmental effects. Improving the security monitoring will reduce the need for patrolling the terminal sites and reduce vehicle exhaust emissions.

Implementing the terminal at Salgar will require an environmental assessment, considering the construction efforts to rehabilitate the facilities and add new cargo handling equipment. Handling of bulk materials will need environmental abatement measures to suppress and collect fugitive dust emissions. The technology for mitigating these nesciences is well known and effective. The environmental assessment will have to consider the exhaust emission from the tug operations, but they should be offset by substantial reductions in truck exhaust emissions. A net improvement should result in switching to river transport.

All of the projects need to include a review of the environmental regulations and impact assessment, in conformity to Colombian regulations, must be carried out. We believe these projects will not have a detrimental environmental effect during operations.

I. IMPACT ON U.S. LABOR

Implementation of the recommended projects provides opportunities for supply of U.S. materials, goods, equipment, and services. These projects meet The Foreign Operations, Export Financing and Related Programs Appropriations legislation restricting U.S. foreign assistance. The project does not provide for:

- Any financial incentive to a business enterprise currently located in the United States for the purpose of inducing such an enterprise to relocate outside the United States if such incentive or inducement is likely to reduce the number of employees of such business enterprise in the United States because United States production is being replaced by such enterprise outside the United States

- Assistance for the purpose of establishing or developing in a foreign country any export processing zone or designated area in which the tax, tariff, labor, environment, and safety laws of that country do not apply, in part or in whole, to activities carried out within that zone or area

- Assistance for any project or activity that contributes to the violation of internationally recognized workers rights

- Direct assistance for establishing or expanding production of any commodity for export by any country other than the United States, if the commodity is likely to be in surplus on world markets at the time the resulting productive capacity is expected to become operative and if the assistance will cause substantial injury to United States producers of the same, similar, or competing commodity

The anticipated projects provide opportunities to U.S. companies to export components, systems, or services related to the following:

- Port security and monitoring systems
- Vessel traffic monitoring components and systems
- Advanced management and IT components and systems
- Bulk and general cargo handling equipment
- Marine engines and transmissions
- Barges and tugs
- Navigational systems and communication systems
- Software, hardware and technical support
- Management services
- Follow up assignments for similar evaluations
- Marketing of spare parts and upgrading of the projects' systems

J. JUSTIFICATION

Colombia is experiencing rapid economic growth. Major expansion of the port and transport infrastructure is needed to keep pace with the growing cargo demand (import and export). The port infrastructure is constantly expanding and upgrading to keep pace with the changes in container transport.

The ports of Colombia are essential to the continued growth of its economy. Changes to the laws regarding port infrastructure led to the privatization of the previously public ports facilities through concessions. The concession process spurred developments and improvements with the infusion of new equipment, operating companies, and technology. The country has well developed ports with Buenaventura on the Pacific and Cartagena, Muelle de Bosque, Barranquilla, and Santa Marta on the Caribbean. The country also has several private special purpose ports serving the coal export markets. In 2007 SPRBun handled nearly nine million tons of cargo and SPRC over seven million tons.

Along with the rapid growth of the physical infrastructure, safety and security measures have been expanded and modernized. This DM has concentrated on projects that upgrade the safety and security of the ports, improved their operations, and open up new transport avenues for moving cargo.

J.1 Cartagena / Contecar Central Security & Customs Facility

The Sociedad Portuaria Regional de Cartagena (SPRC) has requested a grant for a feasibility study to assess and prepare recommendation for a Central Security and Custom Facility to service its terminals at Cartagena and Contecar.

A central facility, meeting the objectives of SPRC, and serving both port locations, will enhance the competitive position of SPRC by lowering overall costs and providing more choices for shippers. SPRC through previous efforts and support from USTDA received CSI designation for its terminal in Cartagena, providing container inspection and security clearance at the source rather than being processed in the United States upon arrival. CSI designation is an advantage to the shippers by expediting their consignments through U.S. customs and security upon arrival.

Implementation of a central facility, requiring additional cargo inspection equipment is an opportunity for U.S. suppliers. Additionally, the challenges of maintaining the security of the container along the transport corridor and monitoring the entire operations are areas where U.S. firms have the expertise and components to realize a high level of performance.

The result of implementing the anticipated central facility has potential U.S. exports of US$14 million. The bulk of the potential U.S. exports are related to security and cargo inspection issues at the central facility and along the transport corridor from the terminals at Cartagena and Contecar

J.2 Buenaventura Operational & Security Enhancement

The Sociedad Portuaria Regional de Buenaventura (SPRBun) has requested a grant for a feasibility study to:

- Assess and recommend the installation of a Vessel Traffic System (VTS)
- Assess and recommend the installation of Optical Character Recognition (OCR) equipment at the terminal's gates
- Assess and recommend a system to augment its security monitoring by integrating computer monitoring of the terminal's security CCTV and sensors
- Assess cargo inspection improvements by introduction of a container scanning installation, with supporting facilities, and changes in procedures and/or implementation of additional equipment and systems.

The result of implementing all of the subprojects of the feasibility study has potential U.S. exports of US$19 million. The bulk of the potential exports are related to security matters requiring a container scanner and supporting facilities. Development of computer monitoring of the ports extensive security camera installation (more than 330 CCTVs) as an adjunct to the present monitoring activities will be substantial. A large subproject is implementing a Vessel Traffic System (VTS) to monitor the increased vessel activity at SPRBun and the new terminal scheduled for Buenaventura. SPRBun is striving to improve its competitiveness, and the OCR at the gates will improve the processing of containers and security of personnel and vehicles entering and leaving the terminal.

The market potential for adopting computer monitoring of a terminal's extensive security systems of CCTV and sensors is attractive when the areas are large. Continuous manual monitoring requires a large staff, extensive set up of visual monitors, constant shifting of areas under active surveillance, and the need to avoid complacency. A computer monitoring system is attentive 24 hours a day, seven days a week and can have fail safe backup systems. U.S. firms are leading the way to employ this technology to a terminal's land and water areas.

All these issues relate to improving cargo inspection, which is an objective of the government agencies supervising the port concessionaires, the terminal operators, and most importantly, the customers.

J.3 Multipuerto Terminal at Salgar

The Sociedad Portuaria Multimodal del Rio Magdalena S.A. (MultiPuerto) has requested a grant for a feasibility study to develop a rehabilitated river terminal at Salgar on the Rio Magdalena. The scope of the work involves the following:

- Inspection of the existing facilities and recommendations for upgrading

- Assessing the commodities and market demand for the terminal
- Evaluating improvement of the river, tugs, and barges

The result of implementing the project has potential U.S. exports of US$14 million, including improvements to the terminal and the barges and tugs. The main U.S. exports are concentrated in the river transport improvements for barges, tugs, and navigational components. Other exports include systems and components for cargo handling at the terminal.

A longer-term benefit to the U.S. export market is the opportunity to sell greater volumes of grains due to a lower delivered cost, using river transport.

The project has strong government support, considering the economic benefits and the goal to diversify away from road transport. A vibrant river terminal will encourage new industrial and commercial development in the surrounding areas that are now less competitive due to unavailable and high road transport.

K. QUALIFICATIONS

The following sections provide guidance to the Grantee in the selection of Contractors to carry out the feasibility studies funded in whole or part by USTDA.

K.1 QUALIFICATIONS- Cartagena/Contecar Central Security & Customs Facility

The following section provides criteria for selection of the U.S. Contractor to carry out the indicated Terms of Reference within the allocated budget. Carrying out the Study requires expertise in many areas directly or indirectly associated with the planning and designing of modern cargo handling terminals, marine facilities, security codes and requirements, customs regulations and procedures, modern terminal management, ancillary facilities, and supporting services. The U.S. Contractor should have appropriate experience as described.

A. Experience and capability of the firm including a demonstrated ability to perform port related security assessment studies; evaluate customs procedures and regulations; develop information technology systems; overseas experience (preferably in South/Central America); ability to complete the study to the parameters required by traditional lending agencies. (20 points)

B. Demonstrate the understanding of the Study's problems and tasks. Describe the methodology to respond to the technical scope and requirements of the security and customs aspects of the Study, within the central facility and on the transport corridor. Present a clear and organized work program, broken down into the major work areas, defining the scope of work of each, activities, schedule, and effort. (40 points)

C. Qualifications and capability of staff including experience directly related to the project scope dealing with port security systems and customs regulations (CSI experience desirable); development and implementation of security procedures and systems; management and operational monitoring and control systems; multifaceted project development; relevant experience in South/Central America or countries with similar socioeconomic background. (40 points)

K.2 QUALIFICATIONS – Buenaventura Operational & Security Enhancement

The following section provides criteria for selection of the U.S. Contractor to carry out the indicated Terms of Reference within the allocated budget. Carrying out the Study requires expertise in many areas directly or indirectly associated with the planning and designing of modern cargo handling terminals, marine facilities, security codes and requirements, customs regulations and procedures, modern terminal management, ancillary facilities, and supporting services. The U.S. Contractor should have appropriate experience as described.

A. Experience and capability of the firm including a demonstrated ability to perform port related security assessment studies including vessel traffic management; evaluate customs procedures and regulations; develop information technology systems; overseas experience (preferably in South/Central America); ability to complete the study to the parameters required by traditional lending agencies. (20 points)

B. Demonstrate the understanding of the Study's problems and tasks. Describe the methodology to respond to the technical scope and requirements of the security and customs aspects of the Study. Present a clear and organized work program, broken down into the major work areas, defining the scope of work of each, activities, schedule, and effort. (40 points)

C. Qualifications and capability of staff including experience directly related to the project scope dealing with vessel traffic systems; port IT systems development; port security systems including development and introduction of new technologies; relevant experience in South/Central America or countries with similar socioeconomic background. (40 points)

K.3 QUALIFICATIONS – Multipuerto Terminal at Salgar

The following section provides criteria for selection of the U.S. Contractor to carry out the indicated Terms of Reference within the allocated budget. Carrying out the Study requires expertise in many areas directly or indirectly associated with the planning, rehabilitating, and designing of modern cargo handling terminals, marine facilities, and water transport systems and infrastructure, modern terminal management and operational procedures and systems, ancillary facilities, and supporting services. The U.S. Contractor should have appropriate experience as described.

A. Experience and capability of the firm(s) including a demonstrated ability to perform port and transport related feasibility studies and designs; develop multiproduct terminals; evaluate barge and tug requirements; evaluate navigational issues affecting barge transport; overseas experience (preferably in South/Central America); ability to complete the study to the parameters required by traditional lending agencies. (20points)

B. Demonstration of the understanding the project's problems and tasks. Responsiveness of the proposal to the technical scope and requirements to rehabilitate and improve existing facilities. Outline the approach to evaluating the potential market demand. Outline the approach to evaluating river transport needs. Present a clear and organized work program, broken down into the major work areas, that defines the scope of work, activities, schedule, and effort of each task. (30 points)

C. Qualifications and capability of staff including experience directly related to the project scope dealing with evaluation of the potential market demand for the multiproduct terminal; relevant work experience in South/Central America or countries with similar socioeconomic background. (30 points)

D. Qualifications and capability of staff including experience directly related to the project scope dealing with evaluation, rehabilitation, development, and implementation of the cargo handling requirements for the multipurpose terminal. (20 points)

E. Qualifications and capability of staff including experience directly related to the project scope dealing with evaluation, development, and implementation of barges and propulsion units operating within the navigational restrictions. (10 points)

L.1 TERMS OF REFERENCE – CARTAGENA / CONTECAR CENTRAL SECURITY and CUSTOMS FACILITY

Background

Sociedad Portuaria Regional de Cartagena (SPRC) was established in 1993 as part of Colombia's effort to improve, develop, and privatize its ports. SPRC is a privately held company, granted a forty-year concession for the Port of Cartagena. Under the terms of the concession SPRC is responsible for all investments in the port, including berths, yards, equipment, dredging, and operations. Cartagena has been the recipient of previous USTDA grants for grain terminal development and security improvements. The recent USTDA grant for security resulted in upgrading of the facilities and procedures, enabling SPRC to obtain CSI status.

The container terminal has 538 meters of berth with four STS, 21RTGs, RS, tractors, and trailers. Cartagena container terminal has 20,000 slots for containers, designed to handle 850,000 TEUs. Automated systems handle nearly 80% of the containers. They installed continuous GPS positioning for the STS cranes, RTGs, and terminal tractors, using wireless transmitters. Secure intranet sends information to the forwarders. The entire port area has fiber optic cabling for its LAN, with all areas and equipment connected.

The Terminal Operating System (TOS) is NAVIS SPARCS, supplied from the United States, for controlling berth, stockyard, and terminal tractor operations. External control for the outside trucking, with 182 individual trucking organizations (single and multiple truck ownership), is incorporated. The ability to move containers quickly in the yard, and avoid truck congestion in the terminal and waiting areas, is the key to successful and efficient operations. They highly automate the container operations at the port with sophisticated IT systems and controls.

Cartagena's port security includes 96 CCTVs and monitoring equipment. As part of the Megaports program, the US Department of Energy is giving the port of Cartagena radiation detectors for installation at each gate (3 in gates and 3 out gates). In addition, the radiation detection equipment will come with integral Optical Character Recognition (OCR) capability. OCR equipment and technology will speed up the processing of vehicles entering and leaving the terminal, and provide further controls and monitoring of vehicles in the terminal.

Weekly cargo inspection includes about 1,000 import containers by DIAN and 300 export containers, picked by profiles developed by the narcotics' police, and random selection by CSI personnel.

SPRC is now developing the port of Contecar, located about 8 km from the port of Cartagena, to supplement and expand container handling capacity at Cartagena. Contecar Terminal, Phase I, includes two berths, three STS cranes, and multiple RTGs for 450,000 TEUs. Contecar's future expansion includes 967 meters of berth, 12 STS, 60 RTGs for 2.5 million TEUs.

SPRC will duplicate Cartagena's TOS system in Contecar, and interconnect the two operations. Terminal security anticipates installation of 51 CCTVs, motion sensors, personnel control, and other equipment. They will integrate terminal security with Cartagena's systems. The two terminals will be interconnected with fiber optic cabling and wireless transmitters.

Objectives

The feasibility study will develop a central customs and security facility to serve the SPRC ports of Cartagena and Contecar, and possibly other terminals handling containers in the Bay of Cartagena. SPRC wants to incorporate Contecar's operations into the CSI designated Cartagena operations. Although Terminal Maritimo Muelles el Bosque (TMEB) did not express an interest in joining a central customs and security operation, the results fo this study's analysis may change their perception on the benefits of the initiative.

SPRC will incorporate Contecar's terminal activities and procedures into its existing Terminal Operating System. To operate as a single terminal, Contecar would have to receive CSI status, a lengthy and uncertain procedure at this time. The project will expand the CSI program for containers handled at Contecar and improve the movement of cargo from Colombia to the US.

The central installation and interconnecting transport corridors will need security equipment, cargo inspection equipment (scanners, radiation detectors, and software), and additional OCR devices and TOS modules. SPRC requests a grant for a Feasibility Study to investigate a central customs and security facility.

The feasibility study would incorporate the following key aspects:

a. Develop the conceptual plan and operating procedure of a central inspection station including the new facility and the necessary safeguards for all connecting transport modes

b. Review procedural matters and modifications of CSI, DIAN, Narcotic's Police, Instituto Nacional de Vigilancia de Medicamentos y Alimentos (INVIMA), and other agencies concerned with inspections and clearing of inbound and outbound cargos

c. Review the procedures and determine the required interfaces and systems that facilitate a central customs and security to operate by identifying the areas for simultaneous inspections and integration between the agencies by sharing documents, IT integrations, and other areas

d. Develop the physical layout of the central installation including gate controls, inspection sheds, waiting and processing areas, ancillary and supporting facilities (new scanners, radiation detection, OCRS, truck scales, etc.)

e. Develop plans for the physical security of the central installation and the interconnecting transport networks (CCTV, intrusion detection, personnel

access control, computer monitoring of intrusion events, etc.)

f. Develop the secure network for data transmission within Cartagena, Contecar, and outside users (forwarders, shipping lines, trucking companies, banks, and others)

g. Develop procedures and equipment for establishing a regional database of truckers to simplify entry, exit, and internal movement within the terminals and the centralized station

Task I Review of the Existing Security & Customs Systems

1.1 The Contractor shall identify and describe the procedures, resources, locations, agencies, and other relevant information involved in moving containers through customs and security at existing Colombian ports and terminals.

1.2 The Contractor shall hold discussions with DIAN, security, CSI, Narcotic's Police, Instituto Nacional de Vigilancia de Medicamentos y Alimentos (INVIMA), Instituto Colombiano Agropecuarlio (ICA) and other officials and review current Colombian procedures and regulations, noting any special conditions or circumstances pertaining to Cartagena.

1.3 The Contractor shall describe existing security and custom's inspection equipment at terminals in Cartagena handling containers.

1.4 The Contractor shall provide an assessment, including a checklist and flow chart of the existing procedures and systems, for the terminals in operations.

Deliverable #1: The Contractor shall provide a report that includes all above information, and submit it to SPRC for review, comments and suggestions. The agreed to report shall be the basis for developing the other tasks of the Feasibility Study.

Task 2 Evaluate & Identify a Central Security & Customs Facility

2.1 The Contractor shall identify at least two potential sites for a central facility, considering available land area, connecting transport corridors, and availability of utilities and ancillary facilities.

2.2 The Contractor shall prepare layouts of the proposed central facility to inspect and clear inbound and outbound cargos, including required inspection and security equipment (e.g., scanners, radiation detectors, CCTVs, sensors, etc.), buildings (e.g., inspection sheds, offices for SPRC and the authorities, bonded warehouses, gates, etc.), ancillary facilities (e.g., gates, fencing, parking areas, OCRs, scales, etc.), and main utilities and ancillary support facilities.

2.3 The Contractor shall develop the security requirements for the transport corridors between the two ports and the central facility, indicating physical and monitoring

systems for the corridors (e.g., fencing, CCTVs, sensors, monitoring systems with computers and personnel, etc.).

2.4 The Contractor shall develop the security and monitoring requirements for the containers moving in the corridors (e.g., radio frequency identification (RFID), special seals, computer systems, personnel, etc.).

2.5 The Contractor shall review the environmental regulations applicable to the project, prepare a preliminary environmental assessment, and outline any mitigating measures to undertaken.

2.6 The Contractor shall prepare budget cost estimates of the alternatives, and a proposed project schedule with identified tasks.

2.7 The Contractor shall evaluate and compare the alternatives, and recommend the most appropriate location and arrangement of the central facility.

Deliverable #2: The Contractor shall prepare a report that includes all of the above information including layouts, illustrative material, cost estimates, discussion of the alternatives, and recommendations. The draft of the report shall be submitted to SPRC before the Interim Presentation so they may distribute it to other interested parties and prepare their comments.

Task 3 Interim Presentation

The Contractor shall arrange an interim presentation meeting with the Grantee and other interested parties to the projects' development and implementation. The purpose of the interim meeting is for the Contractor to present its findings and recommendations of Task 2, and receive suggestions and comments from the Grantee. At the conclusion of the interim meeting the Contractor and the Grantee shall prepare a summary of meetings' conclusion and adopted recommendations for further elaboration. The summary will form the basis for Contractor's final preparation of its investigations and recommendations.

Deliverable #3: The joint summary conclusion statement.

Task 4 Performance Specifications and Implementation Plan

Based on the agreed to program resulting from the Interim Presentation, including all comments and suggestions, the Contractor shall expand on the preliminary presentations and information to include the following issues:

4.1. Prepare overall layouts of the central facility showing access routes, area development, security provisions, gates and parking areas, inspection and administration facilities, major utilities and ancillary facilities, and other key structures and installations.

4.2. Prepare overall layouts of the transport corridors indicating physical and monitoring systems including the location of fencing, control points, lighting, CCTVs, sensors,

monitoring systems (by computers and personnel), and other key structures and installations.

4.3. Prepare performance specifications and criteria for the security equipment and components, monitoring by computers and personnel, and other systems to incorporate into the facility and along the transport corridors.

4.4. Prepare performance specifications and criteria for cargo inspection equipment and components (scanners, radiation detectors, etc.) to incorporate into the facility meeting the requirements of DIAN, CSI, narcotic's police, ICA, INVIMA, World Customs Organization (WCO), and other agencies.

4.5. Develop the requirements for additional IT components, systems, software, and communications between the central facility and the terminals in Cartagena and Contecar, users, and supervising agencies.

4.6. Prepare an outline of the procedural and organizational setup for operating and managing the central facility. The outline shall include the required interfaces between the parties, responsibilities of each entity, list of all contacts, typical reports, and other management and administrative guidelines.

4.7. Prepare an outline of the procedures to carry out an environmental impact assessment of the project, including a listing of the agencies involved. Suggestions for mitigating measures, during the construction and for operations shall be provided.

4.8. Prepare capital and operating cost estimates for the central facility with a breakdown of the major civil, structural, mechanical, and electrical, IT, management and operational systems, and security provisions.

4.9. Assess potential sources of financing the central facility including SPRC's resources, governmental agencies, development and private banks, suppliers' credits, security improvement grants, equity operating partnership, private sources, and other capital markets.

4.10. Prepare a comprehensive list of suppliers, including potential sources of U.S. equipment and services, and indicate the value of these components.

4.11. Prepare an overall implementation program for each part of the project development.

Deliverable #4: The Contractor shall assemble all of the material into a final report for presentation to the Grantee, as outlined below.

Task 5 Development Impacts on Colombia

The primary goal of the study is to identify ways to increase the efficiency and security of cargo transport in Cartagena. The Contractor shall provide an analysis of key host country

development impacts. These development impact factors are intended to provide USTDA and interested parties with a broader view of the Project's potential effects on the Host Country. The analysis shall focus on what development impact is likely if the Project is implemented according to the Contractor's recommendations. The Contractor shall specifically focus on examples of impacts from the categories listed below, and develop a methodology for assessing these impacts over time (one to six years after the Contractor's report is complete). The Contractor shall choose examples that USTDA could reasonably expect to be able to obtain information on in the future, and make suggestions how USTDA could confirm whether the potential benefits have been realized. While specific focus shall be paid to the immediate impact of the Project, analysis shall include any additional developmental benefits that may result from the Project's implementation, including spin-off and demonstration effects. The analysis shall include an assessment of each of the following categories with respect to the Project's potential development impact:

5.1 Infrastructure: Provide a statement on the physical or financial infrastructure improvements that would result if the Project were implemented and an estimate of the scale of construction/installation expected.

5.2 Market-Oriented Reform: Discuss any market-oriented reforms recommended to facilitate implementation of the Project, or would result from implementation of the Project. This would include any policy changes, which result in the increase in trade flow, or increase in competition in a given sector.

5.3 Human Capacity Building: Estimate the number and type of jobs that would be created during the installation/construction phase if the Project were implemented as recommended. Provide separate estimates of the number of jobs that would be created or sustained once installation is complete (or the number of jobs that would be lost due to labor saving technology). Comment on any prospective training recommended in the study, including an estimate of the number of persons to be trained, type of training needed, and the desired outcome of the training.

5.4 Technology Transfer and Productivity Enhancement: Provide a description of any advanced technologies/processes that would be introduced because of the Project, and a description of any efficiency that would be gained.

5.5 Other: Describe any other developmental impacts or benefits that would result from the Project, for example, follow-on or replication projects, improved, governance, or enhanced revenue flows to the Host Country.

Deliverable #5: A section in Final Report of the Developmental Impacts shall be prepared.

Task 6 Final Report and Presentation

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 Contractor shall organize the Final Report according to the above tasks, and shall include an Executive Summary and all deliverables and documents that they

have provided to the Grantee. Confidential information shall be submitted as a separate annex to the report. The Final Report shall be prepared in accordance with Clause I of Annex II of the Grant Agreement.

The Contractor shall present the findings of the Final Report to the Grantee at the completion of the Feasibility Study. The presentation shall afford an opportunity for final discussions concerning implementing the recommended components of the project's development.

Deliverable #6: Preparation, submission, and presentation of the Final Report.

Notes:

(a) The Final Report and all deliverables shall be provided to the Grantee in both English and Spanish. USTDA shall be provided an English version. Electronic versions of each report shall be provided.
(b) The Contractor is responsible for compliance with U.S. export licensing requirements, if applicable, in the performance of the Terms of Reference.
(c) The Contractor and the Grantee shall be careful to ensure that the public version of the Final Report contains no security or confidential information.
(d) The Grantee and USTDA shall have an irrevocable, worldwide, royalty-free, non-exclusive right to use and distribute the Final Report and all work products developed under these Terms of Reference.

L.2 TERMS OF REFERENCE – BUENAVENTURA OPERATIONAL and SECURITY ENHANCEMENT

Background

Sociedad Portuaria Regional de Buenaventura (SPRBun) is the operator of the port of Buenaventura, a multipurpose facility handling containers, bulk cargo, break bulk, vehicles, and general cargo. SPRBun just extended its concession for twenty years past the original end date on 2013. SPRBun is the main terminal operator on Colombia's Pacific coast. Several new private terminals are in the early stages of development or pre construction that will compete with SPRBun for the projected increased container cargos.

One of the main terminal activities is handling containers. In 2007 the terminal handled approximately 700,000 TEU (500,000 units) on two berths with four Ship-To-Shore (STS) cranes, multiple Rubber Tired Gantries (RTGs), and Reach Stackers (RS). The two new STS cranes are of Post-Panamax design.

SPRBun's management acknowledges the situation concerning designation as a CSI port (Container Security Initiative), as is the container terminal at Sociedad Portuaria Regional Cartagena (SPRC). SPRBun's container cargo composition and prime trading partners do not fall into the guidelines of the DHS for designation as a CSI terminal.

SPRBun's terminal security system is extensive, incorporating 330 CCTV, sensors, gate vehicle and personnel control, identification badges, security personnel, and a central monitoring station.

SPRBun wants to improve its cargo inspection capacity and is prepared to implement container scanning equipment and facilities. .
Enhancement of their Terminal Operating System (TOS) capability to include more automation of its gate operations will speed up processing of cargos. SPRBun wants to investigate their options, including adding equipment and changing procedures.

Objectives

The purpose of this Feasibility Study is to assist SPRBun to make decisions on implementing security improvements. This Study will include the following general aspects:

- Evaluation of the existing conditions and procedures
- Determining the requirements and characteristics of the improvements
- Preparing technical background material
- Developing alternative proposals to achieve the objectives
- Recommending and selecting the most appropriate alternative
- Developing outline specifications and requirements for the selected alternative
- Preparing capital and operating cost estimates of the selected alternative
- Recommending organizational improvements and suggested responsible

agencies to implement the improvements

- Evaluating the environmental and social impacts of the project

The specific objectives of this Feasibility Study include:

a. SPRBun anticipates increased vessel traffic in the channel due to the expanded capacity of its facilities and the planned new terminals. To improve the safety and security of navigation and the monitoring of all vessels near Buenaventura's coastline, SPRBun wants to encourage the installation a Vessel Traffic System (VTS), under the auspicious of the competent authority and in cooperation with SPRBun and other beneficiaries.

b. SPRBun wants to install Optical Character Recognition (OCR) equipment, to record truck designations and the container markings, to improve efficiency at the container gates. They will integrate the information with their Terminal Operating System (TOS). They will install the OCRs at all container entry and exit gates (fourteen gates in total). Integration of scanners, radiation detection, and OCR equipment is to be considered into the same gate structures.

c. SPRBun wants improve container inspection, including installation of scanning equipment, and by reviewing procedures, equipment, interaction with other agencies, and record keeping. .

d. Computer monitoring of the CCTV network and access throughout the perimeter fencing and waterfront is a possible supplement and addition to the existing visual procedures and programs. Introduction of computer monitoring, of all or a portion of the CCTV and access control network, to detect improper intrusions or unauthorized access on a real time basis is to be investigated.

Task 1 Data Collection and Review of Existing Conditions

1.1 The Contractor shall visit the terminal to observe daily operations and familiarize itself with SPRBun's operations and procedures.

1.2 They shall make a survey of the immediate area for the purpose of locating radars and other components of a Vessel Traffic System (VTS). The survey shall include site conditions, access, security provisions, and availability of ancillary facilities and utilities. Meetings with national security agencies, local enforcement agencies, and operators of existing and planned ports and terminals are required to establish the scope of coverage for the VTS.

1.3 The Contractor shall observe the operations and procedures of the in and out gates, in detail, to itemize all of the procedures, data collection, and processing required. The extent of any data bases for vehicles or personnel passing through the gates shall be determined.

1.4 The Contractor shall note the location and coverage of the CCTVs and intrusion sensors to establish their zones of coverage. The characteristics of the CCTVs shall be checked for 24-hour operational suitability. They shall observe and consider the operations of the present security monitoring, and adding the installation of computer monitoring of some sections of the network.

1.5 The Contractor shall review the procedures and requirements of SPRBun, DIAN, the narcotics police, and other agencies with responsibilities of cargo inspections. The Contractor shall consider locations for a container scanner, cargo inspection, movement of containers, personnel requirements, and shall document the time the containers are delayed due to the present inspection procedures.

Deliverable #1: The Contractor shall prepare a report of its observations and data collection, and submit it to SPRBun for review, comments, and suggestions. The agreed to report shall be the basis for developing the other tasks of the Feasibility Study.

Task 2 Develop a Vessel Traffic System

The Contractor shall develop at least two alternatives for implementing a Vessel Traffic System (VTS) covering SPRBun's terminals, the access channel, surrounding coastline, and the proposed new terminals in Buenaventura. Although SPRBun is leading the effort to introduce VTS in Buenaventura, the final implementation of n overall system requires the participation of national and local security agencies, othr terminal operators, and the developers of new terminals. The Contractor shall canvas all of the agencies involved in security monitoring of Buenaventura and surrounding areas, and terminal operators, and incorporate their requirements into the systems. The alternatives shall consider the following subtasks:

2.1 Prepare an overall layout for the location of all radars, sensors, television cameras, radio communications, towers, utilities, and ancillary facilities to implement the VTS.

2.2 Assemble illustrative materials of the components needed for the VTS to incorporate into the report. Prepare a comparison of the components and make a recommendation for the selection of each major component.

2.3 Prepare a comparative evaluation of the alternatives and a recommendation for the selected alternative.

2.4 Review the environmental regulations applicable to the project, prepare a preliminary environmental assessment, and outline mitigating measures to undertake.

2.5 Prepare outline performance specifications for each of the major components of the VTS.

2.6 Prepare outline performance specifications or criteria for the supporting auxiliary facilities and utilities needed for the proposed VTS.

2.7 Prepare capital and operating cost estimates for the VTS.

2.8 Prepare an implementation schedule.

2.9 Prepare a recommendation of the organizational setup for the VTS, indicating the agency responsible for implementation, and additional monitoring setups within the terminals

2.10 Review potential sources of financing the VTS, including available U.S. grant assistance.

Deliverable #2: The Contractor shall prepare a report summarizing the evaluation of the alternatives, its recommendations, illustrative materials, outline performance specifications and criteria, and cost estimates.

Task 3 Develop an Optical Character Recognition System

The Contractor shall develop at least two alternatives for implementing a Character Recognition System (OCR) at all of SPRBun's gates handling containers. The alternatives shall consider the following subtasks:

3.1 Prepare an overall layout of the OCR system at each gate, showing the location and arrangement of key components.

3.2 Assemble illustrative materials of the components needed to implement the OCR system. Prepare a comparison of the components and make a recommendation for the selection of each major component.

3.3 Indicate how the OCR will be integrated into SPRBun's Terminal Operating System (TOS), and make recommendations of needed changes or additional TOS components.

3.4 Prepare a comparative evaluation of the alternatives and a recommendation for the selected alternative.

3.5 Prepare an outline of vehicle and personnel data bases that SPRBun should assemble to expedite processing of containers at the gates.

3.6 Review the environmental regulations applicable to the project and prepare a preliminary environmental assessment and outline any mitigating measures to undertaken.

3.7 Prepare outline performance specifications for each of the major components of the OCR.

3.8 Prepare outline performance specifications or criteria for the supporting auxiliary facilities and utilities needed for the proposed OCR.

3.9 Prepare capital and operating cost estimates for the OCR.

3.10 Prepare an implementation schedule.

Deliverable #3: The Contractor shall prepare a report summarizing the evaluation of the alternatives, its recommendations, illustrative materials, outline performance specifications and criteria, and cost estimates.

Task 4 Develop Computer Monitoring of Security System

The Contractor shall develop a system to supplement the present security monitoring system and procedures, using computer programs. Implementing computer monitoring of the terminal's 330 CCTVs and other intrusion detection devices shall include the following subtasks:

4.1. Review of the present setup of the subsystems of CCTVs and intrusion detection devices.

4.2. Analyze the present arrangements and subsystems for adaptability to supplemental computer monitoring.

4.3. Prepare recommendations of the subsystems and monitoring procedures that SPRBun can adapt to computer monitoring.

4.4. Assemble illustrative materials of typical programs and components needed to implement the computer monitoring system. Prepare a comparison of the programs and components and make a recommendation for the selection of each major component.

4.5. Indicate how the computer monitoring will be integrated into SPRBun's security program, and make recommendations of changes or additional security components.

4.6. Prepare a comparative evaluation of the alternatives and a recommendation for the selected alternative.

4.7. Review the environmental regulations applicable to the project and prepare a preliminary environmental assessment and outline any mitigating measures to undertaken

4.8. Prepare outline performance specifications for each of the major components of the computer monitoring software and systems.

4.9. Prepare outline performance specifications or criteria for the supporting auxiliary facilities and utilities needed for the proposed computer monitoring.

4.10. Prepare capital and operating cost estimates for the computer monitoring.

4.11. Prepare an implementation schedule.

Deliverable #4: The Contractor shall prepare a report summarizing the evaluation of the alternatives, its recommendations, illustrative materials, outline performance specifications and criteria, and cost estimates.

Task 5 Develop Cargo Scanning & Improved Inspection Systems

The Contractor shall develop at least two alternatives for implementation of a container scanning facility. The Contractor shall review the cargo inspection procedures considering the regulations and procedures of DIAN, narcotics police, agricultural, and other authorities. The review shall consider present practices and procedures, and proposed additional measures the authorities and SPRBun intend to implement.

5.1 Assemble illustrative materials of the various scanning systems, including the major components, presently in operations at other port terminals.

5.2 Prepare an overall layout for location of the scanners and auxiliary facilities needed for efficient container scanning and processing of the information. Location and space requirements must consider the scanning equipment, processing facilities, waiting areas, traffic patterns, and other aspects associated with scanning.

5.3 Prepare a comparative evaluation of the alternatives and a recommendation for the selected alternative.

5.4 Prepare a listing of existing installations incorporating the various systems and options included in the alternatives.

5.5 Review the environmental regulations applicable to the project, prepare a preliminary environmental assessment, and outline mitigating measures to undertake.

5.6 Prepare outline performance specifications for each of the major components of the scanning installation.

5.7 Prepare outline performance specifications or criteria for the supporting auxiliary facilities and utilities needed for the proposed scanner installation.

5.8 Prepare capital and operating cost estimates for the scanner, recording, and data facilities, supporting auxiliary facilities, and utilities.

5.9 Prepare an implementation program for acquiring and installing the scanner and supporting facilities.

Deliverable #5: The Contractor shall prepare a report of its review, alternatives, recommendations for installation of a container scanning facility, and include suggestions for improving or upgrading cargo inspection. The recommendations shall include the requirements for installation of a container scanning facility, additional facilities, equipment,

and systems, and procedural and reporting issues..

Task 6 Interim Presentation

The Contractor shall arrange an interim presentation meeting with the Grantee and other interested parties to the projects' development and implementation. The purpose of the interim meeting is for the Contractor to present its findings and recommendations of Tasks 2, 3, 4, and 5, and receive suggestions and comments from the Grantee. At the conclusion of the interim meeting, the Contractor and the Grantee shall prepare a summary of meetings' conclusion and adopted recommendations for further elaboration. The summary will form the basis for Contractor's final preparation of its investigations and recommendations.

Deliverable #6: The joint summary conclusion statement.

Task 7 Development Impacts on Colombia

The primary goal of the study is to identify ways to increase the efficiency and security of cargo transport in SPRBun. The Contractor shall provide an analysis of key host country development impacts. These development impact factors are intended to provide USTDA and interested parties with a broader view of the Project's potential effects on the Host Country. The analysis shall focus on what development impact is likely if the Project is implemented according to the Contractor's recommendations. The Contractor shall specifically focus on examples of impacts from the categories listed below, and develop a methodology for assessing these impacts over time (one to six years after the Contractor's report is complete). The Contractor shall choose examples that USTDA could reasonably expect to be able to obtain information on in the future, and make suggestions as to how USTDA could confirm whether the potential benefits have been realized. While specific focus shall be paid to the immediate impact of the Project, analysis shall include any additional developmental benefits that may result from the Project's implementation, including spin-off and demonstration effects. The analysis shall include an assessment of each of the following categories with respect to the Project's potential development impact:

7. 1 Infrastructure: Provide a statement on the physical or financial infrastructure improvements that would result if the Project were implemented and an estimate of the scale of construction/installation expected.

7. 2 Market Oriented Reform: Discuss any market-oriented reforms that are recommended to facilitate implementation of the Project, or would result from implementation of the Project. This would include any policy changes, which result in the increase in trade flow, or increase in competition in a given sector.

7. 3 Human Capacity Building: Estimate the number and type of jobs that would be created during the installation/construction phase if the Project were implemented as recommended. Provide separate estimates of the number of jobs that would be created or sustained once installation is complete (or the number of jobs that would be lost due to labor saving technology). Comment on any prospective training recommended in the study, including an estimate of the number of persons to be

trained, type of training needed, and the desired outcome of the training.

7. 4 Technology Transfer and Productivity Enhancement: Provide a description of any advanced technologies/processes that would be introduced as a result of the Project, and a description of any efficiency that would be gained.

7. 5 Other: Describe any other developmental impacts or benefits that would result from the Project, for example, follow-on or replication projects, improved, governance, or enhanced revenue flows to the Host Country.

Deliverable #7: A section in Final Report of the Developmental Impacts shall be prepared.

Task 8 Final Report and Presentation

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 Contractor shall organize the Final Report according to the above tasks, and shall include an Executive Summary and all deliverables and documents that they have provided to the Grantee. Confidential information shall be submitted as a separate annex to the report. The Final Report shall be prepared in accordance with Clause I of Annex II of the Grant Agreement.

Based on the agreed to comments and recommendations the Contractor shall complete the final report to include the following aspects:

8.1 Prepare the scope of work for purchase and installation of the VTS including equipment, IT systems, structures, buildings, supporting infrastructure, utilities, and ancillary facilities. The scope of work shall indicate the items included and general performance or technical specifications for carrying out the work. A proposed organization for implementing the VTS, indicating the responsible agency, and a financing plan shall be included.

8.2 Prepare the scope of work for purchase and installation of the OCR including equipment, IT systems, structures, buildings, supporting infrastructure, utilities, and ancillary facilities. The scope of work shall indicate the items included and general performance or technical specifications for carrying out the work.

8.3 Prepare the scope of work for purchase and installation of the computer monitoring of the CCTVs and intrusion detection systems, including equipment, IT systems, structures, buildings, supporting infrastructure, utilities, and ancillary facilities. The scope of work shall indicate the items included and general performance or technical specifications for carrying out the work.

8.4 Prepare the scope of work for the purchase and installation of a container scanning installation including the scanner, additional equipment, and auxiliary facilities. Final recommendations for operating the scanner, modifying traffic patterns, and improving cargo inspection including additional or complementary procedures,

equipment, systems, and ancillary support shall be included.

8.5 Prepare an outline of the required environmental licensing procedures and a preliminary assessment of the terminal's impact and appropriate mitigating measures to take.

8.6 Prepare a final capital cost estimate of each of the systems (VTS, OCR, computer monitoring, scanner, and improved cargo inspection) with a breakdown of the major civil, structural, mechanical, and electrical, IT, management and operational systems, and security provisions.

8.7 Prepare an outline of potential financing options and sources to implement the project's components, including SPRBun's resources, governmental agencies, development and private banks, and other capital markets. Availability of grants, supplier credits, and private operations shall be considered.

8.8 Prepare a comprehensive list of suppliers, including potential sources of U.S. equipment and services, and indicate the value of these components.

8.9 Prepare an overall implementation program for each part of the project development.

8.10 The Contractor shall present the findings of the Final Report to the Grantee, and other involved agencies at the completion of the Feasibility Study. The presentation shall afford an opportunity for final discussions with regard to implementing the recommended components of the project's development.

Deliverable #8: Preparation, submission, and presentation of the Final Report.

Notes:

(a) The Final Report and all deliverables shall be provided to the Grantee in both English and Spanish. USTDA shall be provided an English version. Electronic versions of each report shall be provided.
(b) The Contractor is responsible for compliance with U.S. export licensing requirements, if applicable, in the performance of the Terms of Reference.
(c) The Contractor and the Grantee shall be careful to ensure that the public version of the Final Report contains no security or confidential information.
(d) The Grantee and USTDA shall have an irrevocable, worldwide, royalty-free, non-exclusive right to use and distribute the Final Report and all work products that are developed under these Terms of Reference.

L.3 TERMS OF REFERENCE – MULTIPUERTO TERMINAL AT SALGAR

Background

Puerto Salgar was until the mid-last century an important waterway national port. However, through financial subsidizes that favored ground transportation (railway and roads), river navigation decreased. Because of the economic globalization, the country needs a competitive interconnection of large centers of economic activity, in the inner regions of the country. In 2002 the Colombian government considered the importance of setting priorities for the recovery of the Magdalena River. In its proposal, Colombia – *Vision of the Second Centenary (2019), Generating an Adequate Development Structure*, Puerto Salgar is considered not only as a river port, but also as a provider of added-value cargo services and logistics activities.

A Steer Davis Gleave Hydro-Study, in 2002 and 2003, recommended connecting the interior of the country to the Atlantic Coast through the Puerto Salgar-La Dorada node. Reactivation of navigation to and from these ports will result in high cargo traffic volume and a high internal rate of return. The recommendations suggested refurbishment of the navigation channel and maintaining a 4-ft depth up to the intersection of the ports of Puerto Salgar-La Dorada. The study defined actions to attract part of the cargos, currently transported by road, to the Magdalena River navigation system. Cargos included commodities in solid and liquids, grains, and containers.

The sponsors created the Project in 2002 as an interdisciplinary public-private (30% public - 70% private) company. Public participants are the Department of Cundinamarca and the Municipality of Puerto Salgar. Private participants are Silva Carreño Asociados, specialists in waterways and responsible for technical studies; Valor y Estrategia, responsible for investment development; Eduardo L. Gerlein y Aras Ltda., an agency responsible for waterway and port operations; and Julián Palacio and Manuel González, experts in port administration and multimodal development, who are the principal and deputy managers of the company.

Puerto Salgar is in the Department of Cundinamarca, on the eastern bank of the Magdalena River, in front of the Municipality of La Dorada (Department of Caldas), 195 kilometers north of Bogota, by road, and 880 kilometers from Barranquilla, an important port on the river's outlet. The site at Salgar was an operating river port, consisting of approximately 300 meters of bulkhead river frontage, an operating apron, and buildings. The proposed project site is east of the existing road and consists of approximately 3 Ha.

Objectives

The objectives of the Feasibility Study Grant are to establish the parameters for development of the MultiPuerto Terminal at Salgar by:

a. Reviewing and updating the commodity forecasts and market potential of the terminal
b. Inspecting and evaluating the condition of the existing structures and facilities

c. Reviewing the composition of the tugs and barges needed to serve the terminal
d. Establishing terminal development plans to meet the market demands
e. Establishing outline technical and performance specifications for project implementation
f. Reviewing environmental regulations and assessing potential impacts
g. Preparing capital and operating cost estimates, and indicating financing options
h. Preparing an overall project implementation schedule

Task 1 Review of Existing Conditions

The site at Salgar was an operating river port, consisting of approximately 300 meters of bulkhead river frontage, operating apron, and buildings. The proposed project site is east of the existing road and consists of approximately 3 Ha. The Contractor is to visit the facilities to determine their condition and suitability for use as an upgraded river port.

1.1 The Contractor shall review the available original design drawings and any previous inspection reports of the structures and facilities.

1.2 The Contractor shall inspect the existing marine structures to determine its structural condition, including areas above and below the water level. Measurements, using nondestructive means, shall be made on all representative members and in areas showing visual deterioration.

1.3 Bathymetric measurements at the facility and adjacent water areas shall be determined. Adjacent water areas shall encompass the width of the river and one (1) kilometer upstream and downstream of the facility.

1.4 All structures and facilities on land shall be inspected to determine their structural suitability for continued usage. Structures designated for demolition need not be included in the overall condition survey.

1.5 The general condition of utilities shall be assessed, determining their condition for continued usage and capacity.

1.6 Alternative (at least two) repair solutions, of deteriorated marine and land structures, shall be developed indicating the methods to implement the repairs, materials needed, and approximate cost.

Deliverable #1: The Contractor shall prepare a detailed report of the condition of the marine and land facilities, and the bathymetry of the area. The report shall provide a written description and overall drawings of each structure. Deteriorated areas shall be indicated on plans, elevations, and sectional drawings. For each alternative and structure, the methodology and materials for carrying out the repairs shall be described, including their approximate costs. The report shall include the Contractor's recommended alternative for implementation. The Contractor shall submit a draft of the report to the

Grantee for its review, before the interim presentation meeting.

Task 2 Commodity Forecast and Market Analysis

2.1 The Contractor shall obtain and review all previous studies, documents, and cargo projections developed in connection with the project or its previous organizational setups.

2.2 The Contractor shall gather data of potential inbound and outbound cargos using the facility. Independent data gathering shall include meeting with potential users, reviewing their cargo projections, reviewing alternative transportation routes, and evaluating their usage of the terminal.

2.3 The market analysis shall review and consider present usage and capacity of nearby or competing facilities, terminals, and transport modes. Competitive terminals and transport modes shall also consider proposed new projects, terminals, and transport modes.

2.4 The market projections shall indicate specific cargos, origins, and destinations. Annual short term growth rates for the first five (5) and ten (10) years of operations, and thereafter in five year intervals for a total time span of 25 years shall be prepared.

2.5 The forecasts shall identify the types and quantities of inbound and outbound commodities (e.g., containers, Ro-Ro, solid and liquid bulk, general and break bulk, specialized, and other cargos).

2.6 Pessimistic, optimistic, and reasonable cargo forecast scenarios shall be developed.

2.7 The limitations of the Rio Magdalena shall be considered in developing all cargo forecasts. Water depths, dredging programs, seasonal variations, and other factors shall be considered in preparing the short and long cargo projections.

Deliverable #2: The Contractor shall prepare a detailed report of commodity forecast and market analysis. The report shall include the raw data collected, a discussion of the competing terminals and transport modes, and an analysis of the development of short and long term cargo projections. The Contractor shall submit a draft of the report to the Grantee for its review, before the interim presentation meeting.

Task 3 Evaluation of Tug and Barge Requirements

A critical element for the success of the terminal is availability of appropriate tugs and barges to move the cargo. In the preparation of the evaluation of the cargo forecasts, the navigation restrictions of the Rio Magdalena must be considered. The Contractor shall make a preliminary evaluation of the requirements for the tugs and barges needed to service the terminal (and other river terminals along the river) including the following:

3.1 Prepare a survey of existing tugs and barges operating on the Rio Magdalena indicating the size, draft, and age of the tugs, and the size, capacity, draft, and age of the barges.

3.2 Evaluate the limitations for barges to operate at the terminal considering navigational and water level restrictions. Review the navigational restrictions on the Rio Magdalena considering alignments and changes, water depths and seasonal variations, nighttime, tugs and barge servicing, and other issues. The Contractor shall include the present situation and proposed improvements in the review.

3.3 Develop alternative concepts (at least two) and recommendations for the barge size, capacity, and draft, considering the commodities developed in the commodity forecasts.

3.4 Evaluate the limitations for tugs to operate at the terminal considering navigational and water level restrictions. Develop alternative concepts (at least two), and recommendations for the tug size, capacity, draft, and number of barges in a tow.

3.5 Prepare an outline of the requirements for an appropriate fleet of tugs and barges to meet the cargo projections. Develop order-of-magnitude capital and operating cost estimates for the recommended fleet.

3.6

Deliverable #3: The Contractor shall prepare a report of its investigations of the existing tug and barge operations, and of the navigational restrictions on the river. Present the alternative concepts and costs for the tugs and barges, and the Contractor's recommendations for fleet composition. The Contractor shall submit a draft of the report to the Grantee for its review, before the interim presentation meeting.

Task 4 Prepare Alternative Conceptual Project Developments

The Contractor shall develop at least three alternative arrangements of the terminal, considering the preliminary assessments of the condition survey (Task 1), the commodity, and market forecast (Task 2), and the analysis of barge transport (Task 3). The alternatives shall consider, as a minimum, the following aspects:

4.1. Facilities, storage areas, and handling equipment for bulk liquid and solid cargos.

4.2. Facilities, storage areas, and handling equipment for containers, break bulk, and general cargos.

4.3. Improvements or modifications to the marine structures, berthing areas, and cargo handling areas.

4.4. Improvements or modifications to the storage, administrative, and other structures and supporting utilities.

4.5. Prepare general arrangement and elevation drawings of the proposed alternatives, illustrating the major features of the terminal's facilities and operations.

4.6. Indicate the environmental regulations governing the terminal's development. Prepare a preliminary assessment of the potential environmental impacts of the terminal's development, and discuss the steps needed to mitigate any detrimental effects.

4.7. Prepare order-or-magnitude capital and operating cost estimates of the alternatives.

4.8. Indicate the availability of potential financing for the project, including development and regional banks, equity terminal partners, private banks, private capital funds, and other sources.

4.9. Prepare a comparative ranking and evaluation table of the alternatives.

4.10. Develop a recommendation of the preferred alternative.

Deliverable #4: The Contractor shall assemble each alternative, including background material, drawings, illustrations, cost estimates, and descriptive analysis and recommendations into a report. The Contractor shall submit a draft of the report to the Grantee for its review, before the interim presentation meeting.

Task 5 Interim Presentation Meeting

The Contractor shall arrange an interim presentation meeting with the Grantee and other interested parties to the terminal's development and implementation. The purpose of the interim meeting is for the Contractor to present its findings and recommendations of Tasks 1, 2, 3, and 4, and receive suggestions and comments from the Grantee. At the conclusion of the interim meeting the Contractor and the Grantee shall prepare a summary of meetings' conclusions and adopted recommendations for further elaboration. The summary will form the basis for Contractor's final preparation of its investigations and recommendations.

Deliverable #5: The joint summary conclusion statement.

Task 6 Development Impacts on Colombia

The primary goal of the study is to identify ways to develop greater use of the Rio Magdalena and increase the efficiency and security of cargo transport in Colombia. The Contractor shall provide an analysis of key host country development impacts. These development impact factors are intended to provide USTDA and interested parties with a broader view of the Project's potential effects on the Host Country. The analysis shall focus on what development impact is likely if the Project is implemented according to the Contractor's recommendations. The Contractor shall specifically focus on examples of impacts from the categories listed below, and develop a methodology for assessing these impacts over time (one to six years after the Contractor's report is complete). The Contractor shall choose examples that USTDA could reasonably expect to be able to

obtain information on in the future, and make suggestions as to how USTDA could confirm whether the potential benefits have been realized. While specific focus shall be paid to the immediate impact of the Project, analysis shall include any additional developmental benefits that may result from the Project's implementation, including spin-off and demonstration effects. The analysis shall include an assessment of each of the following categories with respect to the Project's potential development impact:

6.1 Infrastructure: Provide a statement on the physical or financial infrastructure improvements that would result if the Project were implemented and an estimate of the scale of construction/installation expected.

6.2 Market-Oriented Reform: Discuss any market-oriented reforms that are recommended to facilitate implementation of the Project, or would result from implementation of the Project. This would include any policy changes, which result in the increase in trade flow, or increase in competition in a given sector.

6.3 Human Capacity Building: Estimate the number and type of jobs that would be created during the installation/construction phase if the Project is implemented as recommended. Provide separate estimates of the number of jobs that would be created or sustained once installation is complete (or the number of jobs that would be lost due to labor saving technology). Comment on any prospective training recommended in the study, including an estimate of the number of persons to be trained, type of training needed, and the desired outcome of the training.

6.4 Technology Transfer and Productivity Enhancement: Provide a description of any advanced technologies/processes that would be introduced as a result of the Project, and a description of any efficiency that would be gained.

6.5 Other: Describe any other developmental impacts or benefits that would result from the Project, for example, follow-on or replication projects, improved, governance, or enhanced revenue flows to the Host Country.

Deliverable #6: A section in Final Report of the Developmental Impacts shall be prepared.

Task 7 Final Report and Presentation

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 include an Executive Summary and all deliverables and documents provided to the Grantee. Confidential information shall be submitted as a separate annex to the report. The Final Report shall be prepared in accordance with Clause I of Annex II of the Grant Agreement.

Based on the agreed to comments and recommendations the Contractor shall complete the final report to include the following aspects:

7.1 Prepare the scope of work for repairs and rehabilitation of the marine structures,

buildings, supporting infrastructure, utilities, and ancillary facilities. The scope of work shall indicate the items included and general performance or technical specifications for carrying out the work.

7.2 Finalize the three trends of commodity forecast and market projections, incorporating the agreed to comments and suggestion of the Grantee, in the short and long term.

7.3 Finalize the analysis of an appropriate tug and barge fleet to serve the terminal, indicating possible operators and financing of the fleet.

7.4 Finalize the agreed to terminal arrangement and prepare performance specifications and criteria for the cargo storage and handling systems.

7.5 Prepare an operational outline for the terminal including performance specifications and criteria for terminal operating systems (TOS), information technology systems (IT), and security provision for the terminal and cargos.

7.6 Prepare an outline of the required environmental licencing procedures and a preliminary assessment of the terminal's impact and appropriate mitigating measures to be taken.

7.7 Prepare a final capital cost estimate of the selected alternative, with a breakdown of the major marine, civil, structural, mechanical, electrical, material handling, management and operational systems, and security provisions.

7.8 Prepare an outline of potential financing options and sources to implement the terminal, including development and private banks, governments, equity operating partnerships, private investors, and other capital markets.

7.9 Prepare a general financial statement of the project for implementation and the first ten years of operations, indicating capital and operating cash flows, potential income, taxes, and profit or loss.

7.10 Prepare a comprehensive list of suppliers, including potential sources of U.S. equipment and services, and indicate the value of these components.

7.11 Prepare an overall implementation program for the terminal's development.

7.12 The Contractor shall present the findings of the Final Report to the Grantee at the completion of the Feasibility Study. The presentation shall afford an opportunity for final discussions with regard to implementing the recommended terminal development.

Deliverable #7: Preparation, submission, and presentation of the Final Report.

Notes:

(a) The Final Report and all deliverables shall be provided to the Grantee in both English and Spanish. USTDA shall be provided an English version. Electronic versions of each report shall be provided.

(b) The Contractor is responsible for compliance with U.S. export licensing requirements, if applicable, in the performance of the Terms of Reference.

(c) The Contractor and the Grantee shall be careful to ensure that the public version of the Final Report contains no security or confidential information.

(d) The Grantee and USTDA shall have an irrevocable, worldwide, royalty-free, non-exclusive right to use and distribute the Final Report and all work products that are developed under these Terms of Reference.

M. BUDGETS

The DM Consultant has developed budgets based on the Scope of Work, Tasks, and specialized qualifications needed to do the work for each of the proposed grants. The budgets include an estimate of the main expense, showing the number of trips and other expenses.

These budgets assume the Grantee will engage a single firm to carry out the Study. They will either provide all of the talent from within the firm or engage sub-consultants as necessary. Each activity will be under the direction of a Project Manager. The Project Manager will guide the assignment and is the point of contact between the Contractor, the Grantee, and TDA. The budgets are based on working days, including time for review by the Grantee, before the interim presentation.

M.1 Budget – Cartagena / Contecar Central Security & Customs Facility

Project duration of five to six months is anticipated. Three trips to Colombia are anticipated by the project manager, senior security expert, and senior terminal engineer. The budget breakdown is shown in Table M.1, Budget - Cartagena / Contecar Central Security & Customs Facility.

The Project Manager will guide the assignment, and will have at least 15 years of background and experience with container terminal operations and design. He will be a key participant in evaluating and developing the alternatives, recommendations, and preparing the final report and presentation. It is estimated that 88 days will be required at a daily rate of US$1,200. The rate includes a base salary of $570 ($150,000/year), fringe benefits of 40% and overhead of 50%.

The Senior Security Expert will be responsible for developing the security alternatives and performance specification for alternatives of the central facility, final recommendations, and performance specifications. He will have 10 to 15 years background and experience in developing container security procedures and systems... It is estimated that 88 days will be required at a daily rate of US$1,000. The rate includes a base salary of $475 (125K/yr), fringe benefits of 40% and overhead of 50%.

The Senior Terminal Engineer will be responsible for developing the central facility and transport corridor alternatives, final recommendations, and performances specifications. He will have 10 to 15 years background and experience in container terminal and transport evaluation and design. It is estimated that 63 days will be required at a daily rate of US$1,000. The rate includes a base salary of $475 (125K/yr), fringe benefits of 40% and overhead of 50%.

The Security Associate and Civil/Port Engineer will assist the senior staff in analyzing and developing alternatives and recommendations, and preparing the reports. The Security Associate's effort is estimated at 45 days and the Civil/Port Engineer at 35 days. They will have 5 to 10 years of experience and their daily rate is US$800. The rate includes a base salary of $380 (100K/yr), fringe benefits of 40% and overhead of 50%.

The Support and Technical Assistance are junior engineers, draftspersons, technicians, and support personnel necessary for project development. It is estimated that 100 days will be required at a daily rate of US$350, calculated with an average base salary of $165 (43K/yr) and includes a fringe benefit rate of 40% and an overhead rate of 50%.

Travel and other expenses are indicated as a footnote to Table M.1 indicating the number and duration of trips and the personnel expected to participate.

M.2 Budget – Buenaventura Operational & Security Enhancement

Project duration of four to five months is anticipated. Three trips to Colombia are anticipated by the project manager, senior security specialist, and senior navigation specialist. The budget breakdown is shown in Table M.2, Budget - Buenaventura Operational & Security Enhancement.

The Project Manager / Terminal Operations Manager will guide the assignment, and will have at least 20 years of background and experience with terminal operations, customs procedures, and facility security. He will be a key participant in evaluating the overall requirements and recommendations for the short term and long-term objectives. It is estimated that 83 days will be required at a daily rate of US$1,500. The rate includes a base salary of $700 ($185,000/year), fringe benefits of 40% and overhead of 50%.

The Senior Security Specialist will be responsible developing the alternatives and performance specification for container scanners, computer monitoring security system, applicable to container handling and terminals. He will have 15 years background and experience in security design and operations. It is estimated that 77 days (one or two individuals) will be required at a daily rate of US$1,200. The rate includes a base salary of $570 ($150,000/year), fringe benefits of 40% and overhead of 50%.

The Senior Navigation Expert will be responsible for developing the VTS alternatives, final recommendations, and performances specifications. He will have 10 to 15 years background and experience in terminal VTS design and application. It is estimated that 47 days will be required at a daily rate of US$1,000. The rate includes a base salary of $475 (125K/yr), fringe benefits of 40% and overhead of 50%.

The Senior Terminal Engineer will be responsible for developing the OCR alternatives, final recommendations, and performances specifications. He will have 10 to 15 years background and experience in container terminal and transport evaluation and design. It is estimated that 63 days will be required at a daily rate of US$1,000. The rate includes a base salary of $475 (125K/yr), fringe benefits of 40% and overhead of 50%.

The Security Associate and Civil/Port Engineer will assist the senior staff in analyzing and developing alternatives and recommendations, and preparing the reports. The Security Associate's effort is estimated at 50 days and the Civil/Port Engineer at 25 days. They will have 5 to 10 years of experience and their daily rate is US$800. The rate includes a base salary of $380 (100K/yr), fringe benefits of 40% and overhead of 50%.

The Support and Technical Assistance are junior engineers, draftspersons, technicians, and support personnel necessary for project development. It is estimated that 60 days will be required at a daily rate of US$350, calculated with an average base salary of $165 (43K/yr) and includes a fringe benefit rate of 40% and an overhead rate of 50%.

Travel and other expenses are indicated as a footnote to Table M.2 indicating the number and duration of trips and the personnel expected to participate.

M.3 Budget – Multipuerto Terminal at Salgar

Project duration of five to six months is anticipated. Three trips to Colombia are anticipated by the project manager, senior market economist, senior port engineer, and senior marine engineer. The budget breakdown is shown in Table M.1, Budget - Multipuerto Terminal at Salgar.

The Project Manager will guide the assignment, and will have at least 15 years of background and experience with port and terminal development, operations and design. He will be a key participant in evaluating and developing the alternatives, recommendations, and preparing the final report and presentation. It is estimated that 73 days will be required at a daily rate of US$1,200. The rate includes a base salary of $570 ($150,000/year), fringe benefits of 40% and overhead of 50%.

The Senior Market Economist will be responsible for evaluating the market potential for the terminal and for shallow draft barge transportation. He will have 10 to 15 years background and experience in transport economics, including bulk, container, and general cargos. It is estimated that 56 days will be required at a daily rate of US$1,000. The rate includes a base salary of $475 (125K/yr), fringe benefits of 40% and overhead of 50%.

The Senior Port Engineer will be responsible for evaluating the rehabilitation and expansion of the physical plant facilities and cargo handling requirements, developing the alternatives, final recommendations, and performances specifications. He will have 10 to 15 years background and experience in multipurpose terminal and transport evaluation and design. It is estimated that 58 days will be required at a daily rate of US$1,000. The rate includes a base salary of $475 (125K/yr), fringe benefits of 40% and overhead of 50%.

The Senior Marine Engineer will be responsible for evaluating the navigational and terminal aspects of transporting cargos by barge. He will have 10 to 15 years background and experience with river navigational issues and barge terminals. It is estimated that 48 days will be required at a daily rate of US$1,000. The rate includes a base salary of $475 (125K/yr), fringe benefits of 40% and overhead of 50%.

The Market Economist will assist in reviewing and developing the commodity forecasts and market potential. The Civil/Mariner Engineer will assist the senior staff in analyzing and developing alternatives and recommendations, and preparing the reports. The Market Economist's effort is estimated at 15 days and the Civil/Marine Engineer at 50 days. They will have 5 to 10 years of experience and their daily rate is US$800. The rate includes a base salary of $380 (100K/yr), fringe benefits of 40% and overhead of 50%.

The Support and Technical Assistance are junior engineers, draftspersons, technicians, and support personnel necessary for project development. It is estimated that 105 days will be required at a daily rate of US$350, calculated with an average base salary of $165 (43K/yr) and includes a fringe benefit rate of 40% and an overhead rate of 50%.

Travel and other expenses are indicated as a footnote to Table M.3 indicating the number and duration of trips and the personnel expected to participate.

Table M.1 Budget - Cartagena / Contecar Central Security & Customs Facility

		Project Manager		Sr. Security Expert		Sr. Terminal Engineer		Security Associate		Civil/ Port Engineer		Support & Tech Assist		TASK COST
	Daily Rate	$1,200		$1,000		$1,000		$800		$800		$350		
TASK	TASK DESCRIPTION													
		Col	US	Col	US	Col	US	Col	US	Col	US	Col	US	
1	Review Existing Security & Customs Sys.	10		10		10							10	$35,500
2	Evaluate & Identify Cent. Sec. & Cust. Fac.		30		30		15		15		15		30	$115,500
3	Interm Presentation Meeting	5		5		5							10	$19,500
4	Perform. Spec. & Implementation Plan		20		20		10		20		10		20	$85,000
5	Development Impacts on Colombia		3		3		3						5	$11,350
6	Final Report & Presentation	5	15	5	15	5	15		10		10		25	$88,750
	Personnel Subtotal													$355,600
	Total US Personnel Time	20	68	20	68	20	43	0	45	0	35	0	100	419
	Time of US Personnel in Colombia	20		20		20								60
	EXPENSES													
	Travel (1)									9		$2,000		$18,000
	Hotel & Expenses (Per Diem) (2)									75		$220		$16,500
	Local Transportation (3)									Lump Sum				$3,000
	Communication & Miscellaneous (4)									Lump Sum				$2,000
	Reports & Translations									Lump Sum				$5,000
	Expense Subtotal													$44,500
														$400,100
		RECOMMENDED STUDY BUDGET												**$400,000**

(1) Project Manager, Sr. Security Expert, & Sr. Terminal Engr. makes three (3) trips.
(2) Three 2 weeks stays, six one week stays
(3) Local transportation includes U.S. and trips to Cartagena
(4) Comm. & Misc. includes telephone, copying, DBA & Medex insurance, visa fees, etc.

Table M.2 Budget - Buenaventura Operational & Security Enhancement

		Project Manager		Sr. Security Expert		Sr.Navigation Expert		Sr. Terminal Engineer		Security Associat		Civil/ Port Engineer		Support & Tech Assist		TASK COST
	Daily Rate	$1,200		$1,000		$1,000		$1,000		$800		$800		$350		
TASK	TASK DESCRIPTION															
		Col	US	Col	US	Col	US	Col	US	Col	US	Col	US	Col	US	
1	Data Collection & Review Exixting.	10		10		10									10	$35,500
2	Develop Vessel Traffic System		10				20				10		5		10	$47,500
3	Develop Optical Character Recognition		5						10		10		5		10	$31,500
4	Develop Computer Monitoring Security		10		20				10		10		5		10	57500
5	Develop Cargo Scan. & Improve Insp.		25		25				10		10				5	$74,750
6	Interim Report	5		5		5										$16,000
7	Development Impacts on Colombia		3		2		2		2						5	$11,350
8	Final Report & Presentation	5	10	5	10	5	10		10		10		10		10	$77,500
	Personnel Subtotal															$351,600
	Total US Personnel Time	20	63	20	57	20	32	0	42	0	50	0	25	0	60	389
	Time of US Personnel in Colombia	20		20		20		0								60
	EXPENSES															
	Travel (1)											9		$2,000		$18,000
	Hotel & Expenses (Per Diem) (2)											80		$220		$17,600
	Local Transportation (3)											Lump Sum				$6,000
	Communication & Miscellaneous (4)											Lump Sum				$2,000
	Reports & Translations											Lump Sum				$5,000
	Expense Subtotal															$48,600
																$400,200
		RECOMMENDED STUDY BUDGET														**$400,000**

(1) Based on Project Manager, Sr. Security Specialist, Sr. Navigation Expert making three (3) trips.
(2) Based on three 2 weeks stays, and six one week stays
(3) Includes local transportation in U.S., Bogota, and Buenaventura
(4) Communications & Miscellaneous includes telephone, copying, DBA & Medex insurance, visa fees, etc.

Table M.3 Budget – Multipuerto Terminal at Salgar

		Manager		Economist		Engineer		Engineer		Economist		Engineer		Tech Assist		COST
	Daily Rate	$1,200		$1,000		$1,000		$1,000		$800		$800		$350		
TASK	TASK DESCRIPTION															
		Col	US	Col	US	Col	US	Col	US	Col	US	Col	US	Col	US	
1	Review Existing Conditions	10				10		10							10	$35,500
2	Comdy. Forecast & Market Analysis	5	5	15	15						15				15	$59,250
3	Evaluation of Tug & Barge Reqs.				5				20				15		10	$40,500
4	Prepare Alter. Conceptual Dev.		25				25						35		30	$93,500
5	Interim Presentation Meeting	5		5		5		5							10	$24,500
6	Development Impacts on Colombia		5		3										5	$10,750
7	Final Report & Presentation	3	15	3	10	3	15	3	10						25	$74,350
	Personnel Subtotal															$338,350
	Total US Personnel Time	23	50	23	33	18	40	18	30	0	15	0	50	0	105	405
	Time of US Personnel in Colombia	23		23		18		18								82
	EXPENSES															
	Local Assistance & Testing											Lump Sum		$15,000		$15,000
	Travel (1)											12		$2,000		$24,000
	Hotel & Expenses (Per Diem) (2)											95		$220		$20,900
	Local Transportation (3)											Lump Sum				$5,000
	Communication & Miscellaneous (4)											Lump Sum				$4,000
	Reports & Translations											Lump Sum				$7,000
	Expense Subtotal															$75,900
																$414,250
		RECOMMENDED STUDY BUDGET														**$415,000**

(1) Project Manager, Sr. Marine Engr., Sr. Port Engr., & Sr. Market Economist make three (3) trips
(2) Two 3 weeks stays, Two 2 week stay, & three one week stays
(3) Includes local transportation in the U.S. and trip to Buenaventura, Cartagena, and Salgar
(4) Comm. & Misc. includes telephone, copying, DBA & Medex insurance, visa fees, etc.

O. RECOMMENDATIONS

It is the recommendation of the DM Consultant that USTDA provides three separate grants for the following projects.

O.1 Cartagena / Contecar Central Security & Customs Facility

To the Sociedad Portuaria Regional de Cartagena (SPRC) a grant of US$400,000 for a feasibility study to assess and recommend a Central Security and Custom Facility as outlined in the Term of Reference (Section L.1). The responsibility for the feasibility study can be directed by a single U.S. firm, experienced in port and transport development, operations, and security issues.

The result of implementing the anticipated central facility has potential U.S. exports of US$14 million. The bulk of the potential exports are related to security and cargo inspection issues at the central facility and along the transport corridor from the terminals at Cartagena and Contecar. A central facility, meeting the objectives of SPRC, and serving both port locations, will enhance the competitive position of SPRC by lowering overall costs and providing more choices for shippers.

The port of Cartagena, through previous efforts and support from USTDA, has received CSI designation, providing container inspection and security clearance at the source rather than being processed in the United States upon arrival. CSI designation is an advantage to the shippers by expediting their consignments through U.S. customs and security upon arrival.

Implementation of a central facility, requiring additional cargo inspection equipment is an opportunity for U.S. suppliers. Additionally, the challenges of maintaining the security of the container along the transport corridor and monitoring the entire operations are areas where U.S. firms have the expertise and components to realize a high level of performance.

O.2 Buenaventura Operational & Security Enhancement

To the Sociedad Portuaria Regional de Buenaventura (SPRBun) a grant of US$400,000 for a feasibility study, as outlined in the Terms of Reference (Section L.2), to assess and recommend the installation of a Vessel Traffic System (VTS) and determine the proper implementing agency. Optical Character Recognition (OCR) equipment at the terminal's gates, and computer monitoring assistance for the terminal's security CCTV and sensors are included in the study's scope. In addition, the study will assess cargo inspection improvements by implementing a container scanning facility and associated facilities and changes in procedures and/or implementation of additional equipment and systems. The responsibility for the feasibility study can be directed by a single U.S. firm, experienced in port development, container terminals, and security issues. Additional expertise from maritime sources may be added under the direction of the selected U.S. firm.

The result of implementing all of the subprojects of the feasibility study has potential U.S. exports of US$19 million. The bulk of the potential exports are related to security matters including the implementation of a container scanning facility and associated facilities, where the U.S. is a major international supplier of these systems, although competitors are in Europe and China. Development of computer monitoring of the ports extensive security camera installation (more than 330 CCTVs) as an adjunct to the present monitoring activities is a large project. The second largest subproject is implementing a Vessel Traffic System (VTS) to monitor the increased vessel activity at SPRBun and the new terminals scheduled for Buenaventura. SPRBun is striving to improve its competitiveness, and the OCR as the gates will improve the processing of containers and security of personnel and vehicles entering and leaving the terminal.

The market potential for adopting computer monitoring of a terminal's extensive security systems of CCTV and sensors is attractive when the areas are large. Continuous manual monitoring requires a large staff, extensive set up of visual monitors, constant shifting of areas under active surveillance, and the need to avoid complacency. A computer monitoring system is attentive 24 hours a day, seven days a week and can have fail safe backup systems. U.S. firms are leading the way to employ this technology to a terminal's land and water areas.

All these issues relate to improving cargo inspection, which is an objective of the government agencies supervising the port concessionaires, the terminal operators, and most importantly, the customers.

O.3 Multipuerto Terminal at Salgar

To the Sociedad Portuaria Multimodal del Rio Magdalena S.A. (MultiPuerto) a grant of US$415,000 for a feasibility study, as outlined in the Terms of Reference (Section L.3), to develop a rehabilitated river terminal at Salgar on the Rio Magdalena. The work involves inspection of the existing facilities and recommendations for upgrading, assessing the commodities and market demand for the terminal, and evaluating improvement of the river, tugs, and barges. The responsibility for the project can be directed by a single U.S. firm with experience in commodity forecasting, marine terminal design, cargo handling, and barge transportation. Additional expertise from maritime sources may be added under the direction of the selected U.S. firm to develop the tugs, barges, and river navigation improvements.

The result of implementing the project has potential U.S. exports of US$14 million, including improvements to the terminal and the barges and tugs. The main U.S. exports are concentrated in the river transport improvements for barges, tugs, and navigational components. Other exports include systems and components for cargo handling at the terminal.

A longer term benefit to the U.S. export market is the opportunity to sell greater volumes of grains due to a lower delivered cost, using river transport.

The project has strong government support, considering the economic benefits and the goal to diversify away from road transport. A vibrant river terminal will encourage new

industrial and commercial development in the surrounding areas that are now less competitive due to unavailable and high road transport.

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APPENDIX A

FIGURES AND ILLUSTRATIONS

Figure B.1.1 Overall Layout of the Bay of Cartagena A-1
Figure B.1.2 Existing Facilities Cartagena Port A-1
Figure B.1.3 SPRC Phase III Expansion A-2
Figure B.1.4 Contecar – Present Condition A-3
Figure B.1.5 Contecar – Phase I Development A-3
Figure B.1.6 Contecar – Proposed Development A-3
Figure B.2.1 Buenaventura Port - Overall View A-4
Figure B.3.1 Magdalena River A-5
Figure B.3.2 Layout of Salgar A-6
Figure B.3.3 Existing Salgar Facilities A-6

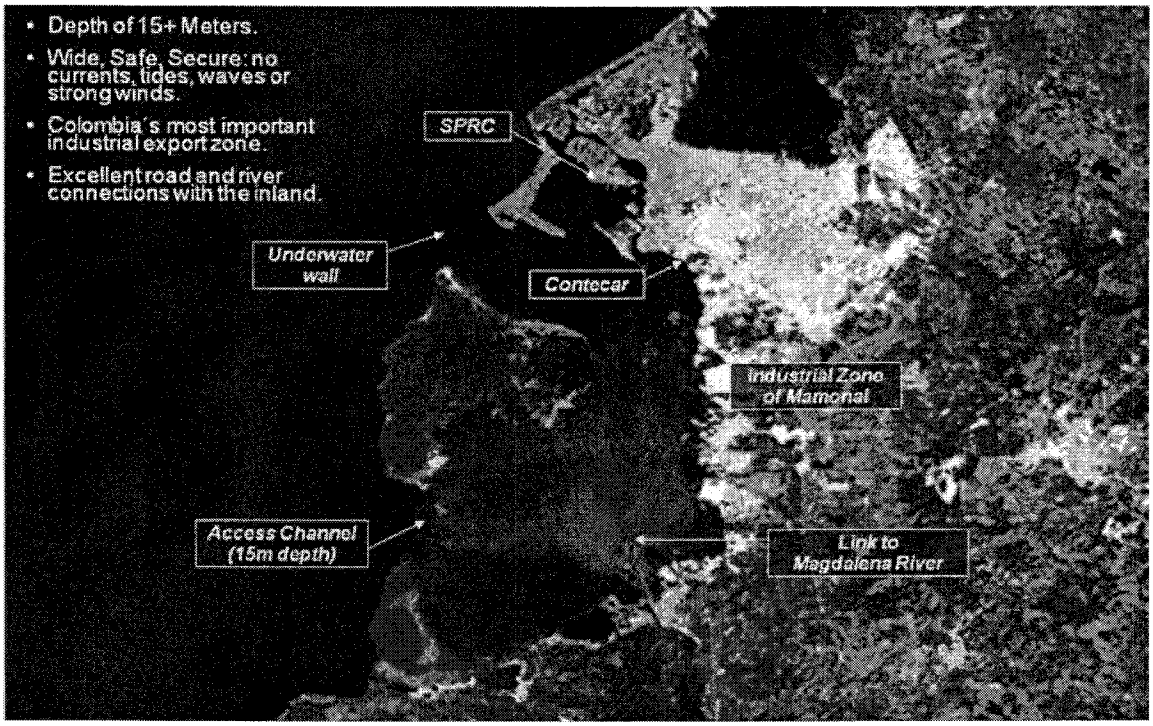


Figure B.1.1 Overall Layout of the Bay of Cartagena

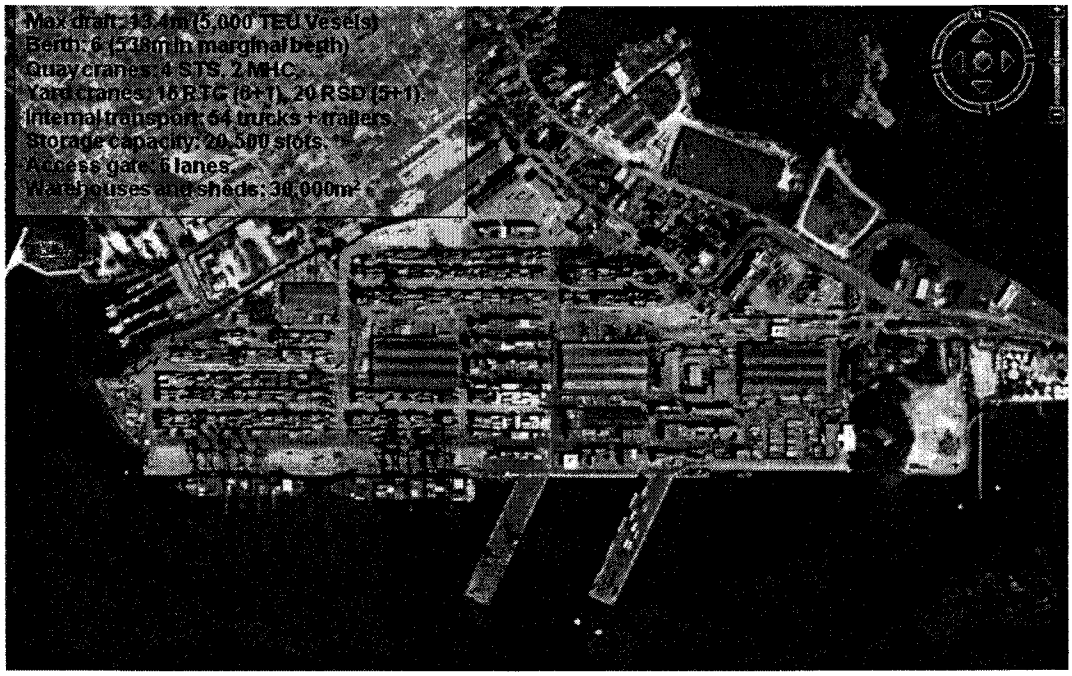


Figure B.1.2 Existing Facilities Cartagena Port

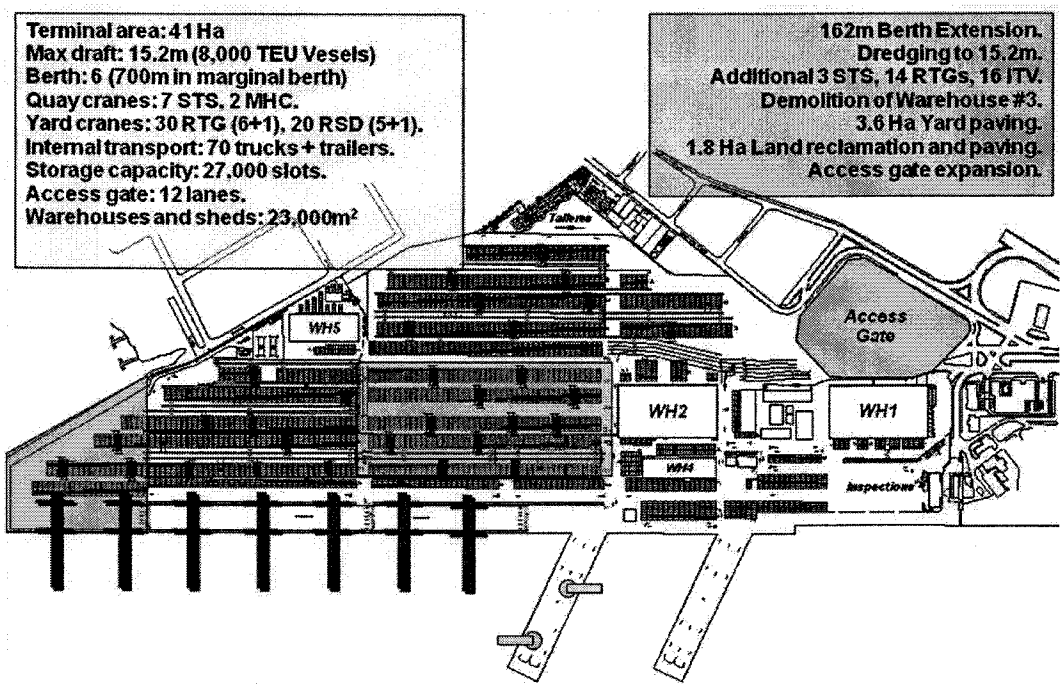


Figure B.1.3 SPRC Phase III Expansion

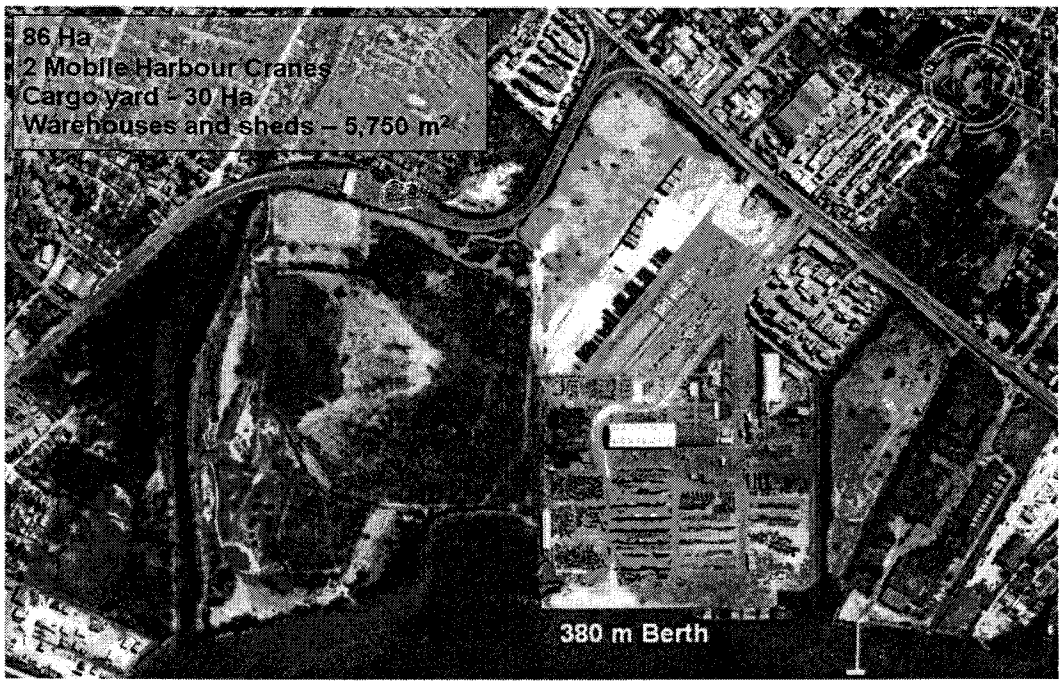
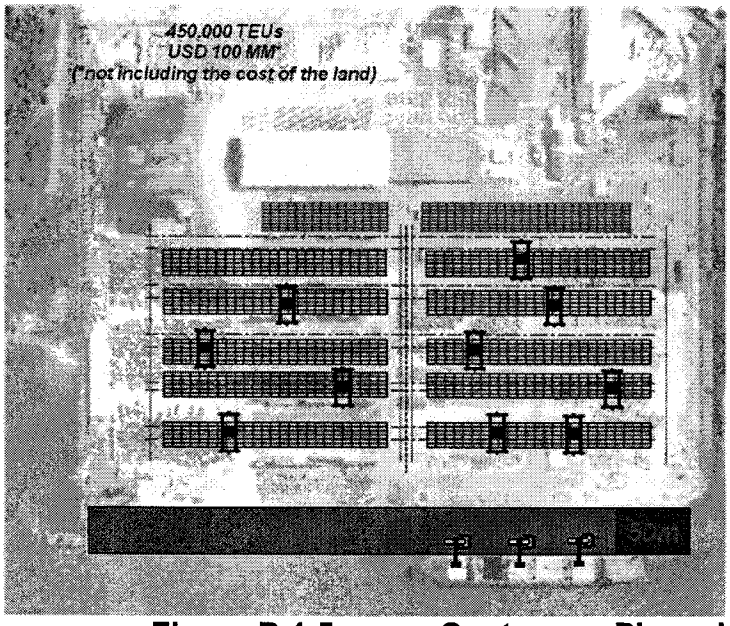


Figure B.1.4 Contecar – Present Condition



3 STS Quay Cranes
3 Mobile Harbour Cranes

9.000 RTG slots (10 Ha)

12 RTG Cranes

2.250 MTY slots
3 Empty Handlers

26 trucks and chassis

50m south berth extension

Figure B.1.5 Contecar – Phase I Development

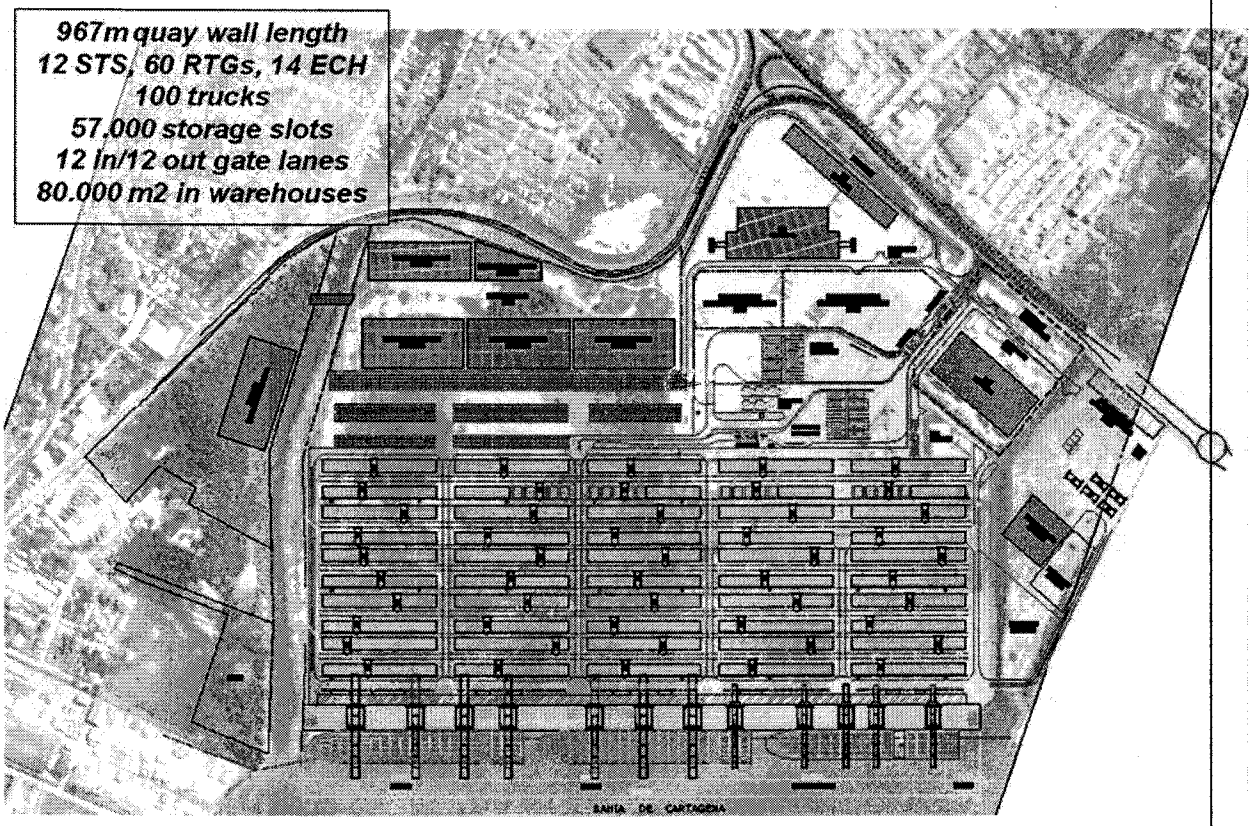
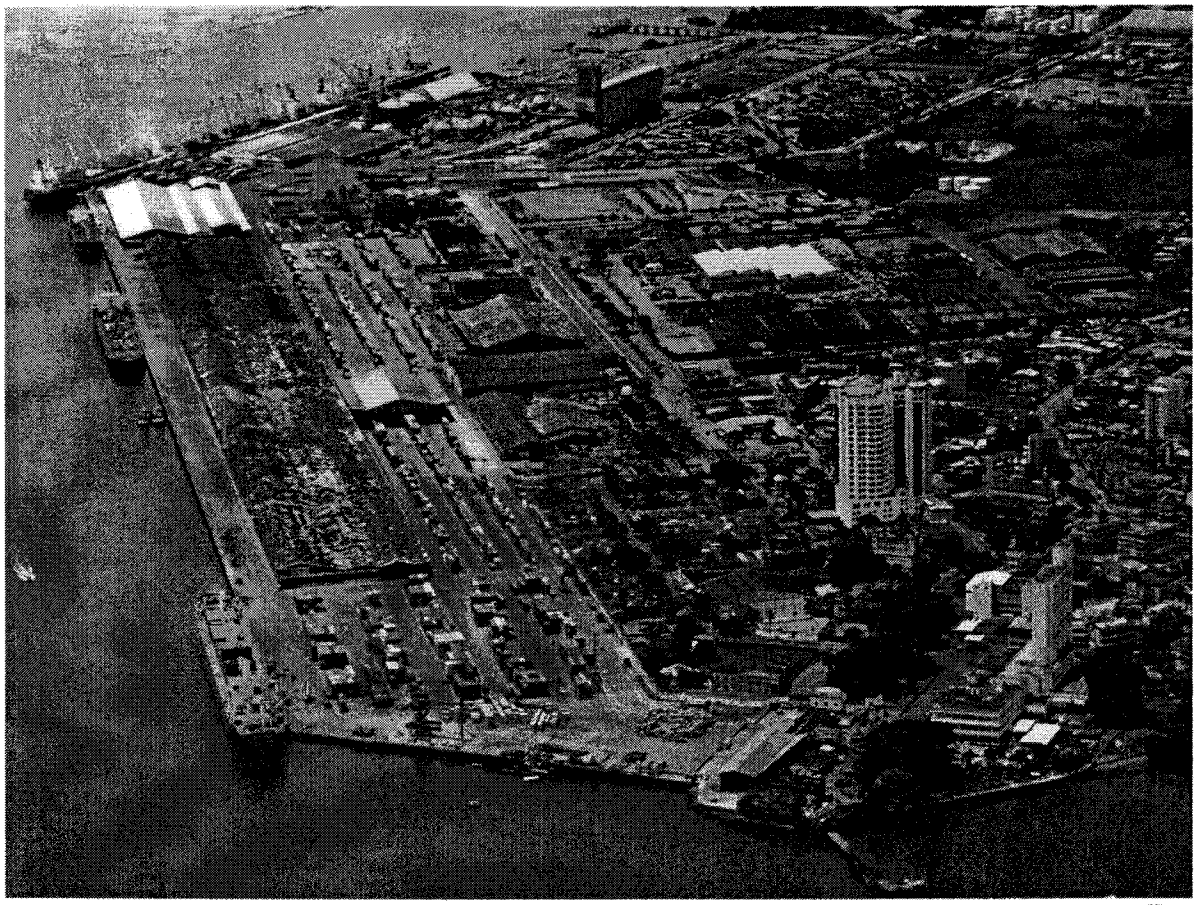


Figure B.1.6 Contecar – Proposed Development



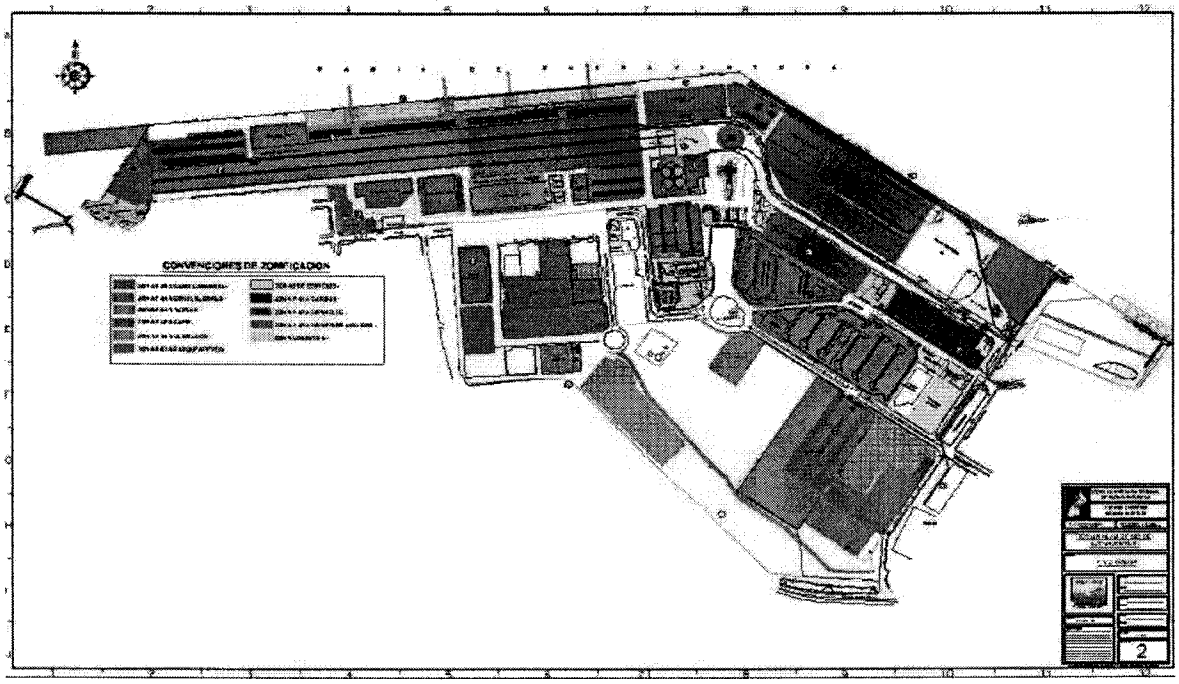


Figure B.2.1 Buenaventura Port - Overall View

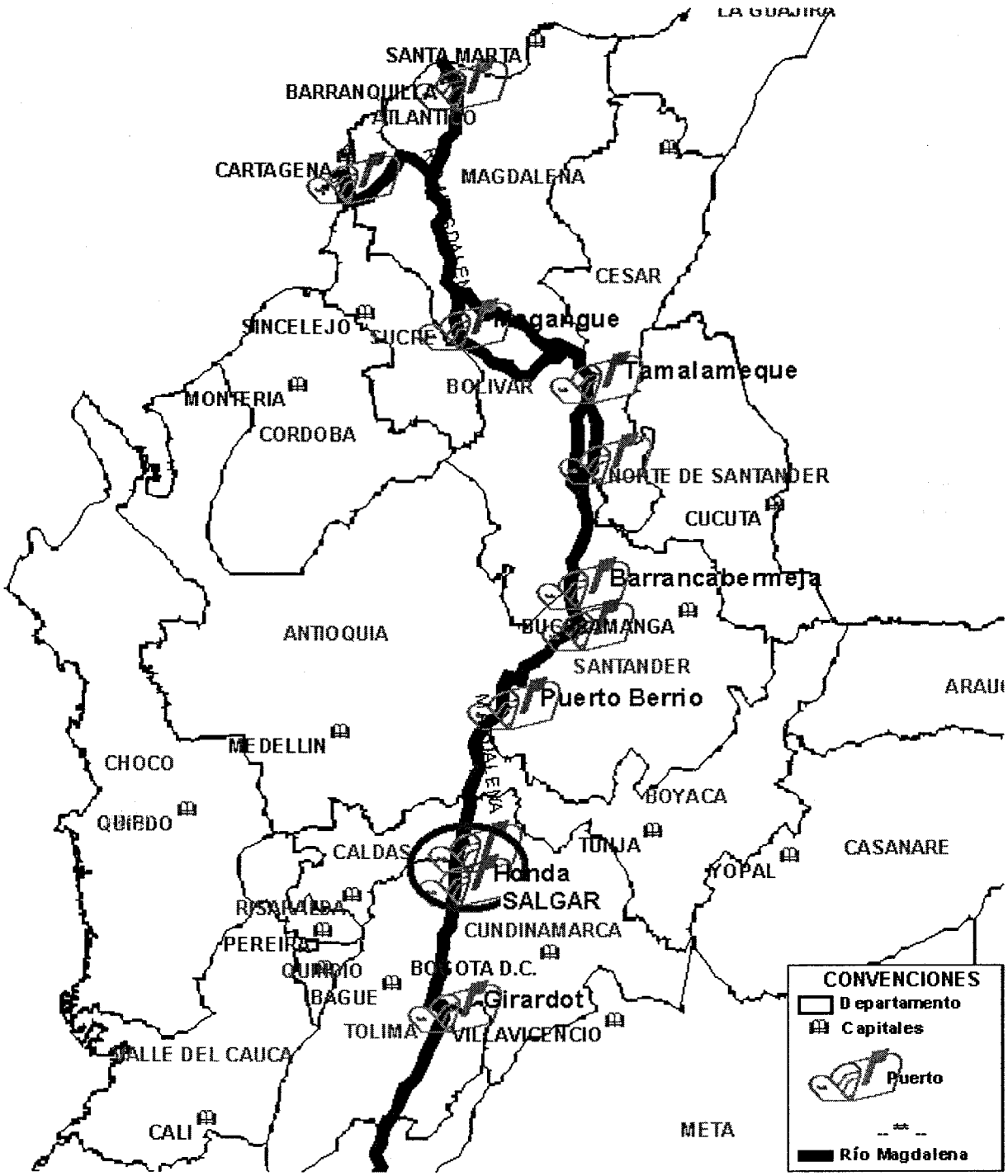


Figure B.3.1 Magdalena River

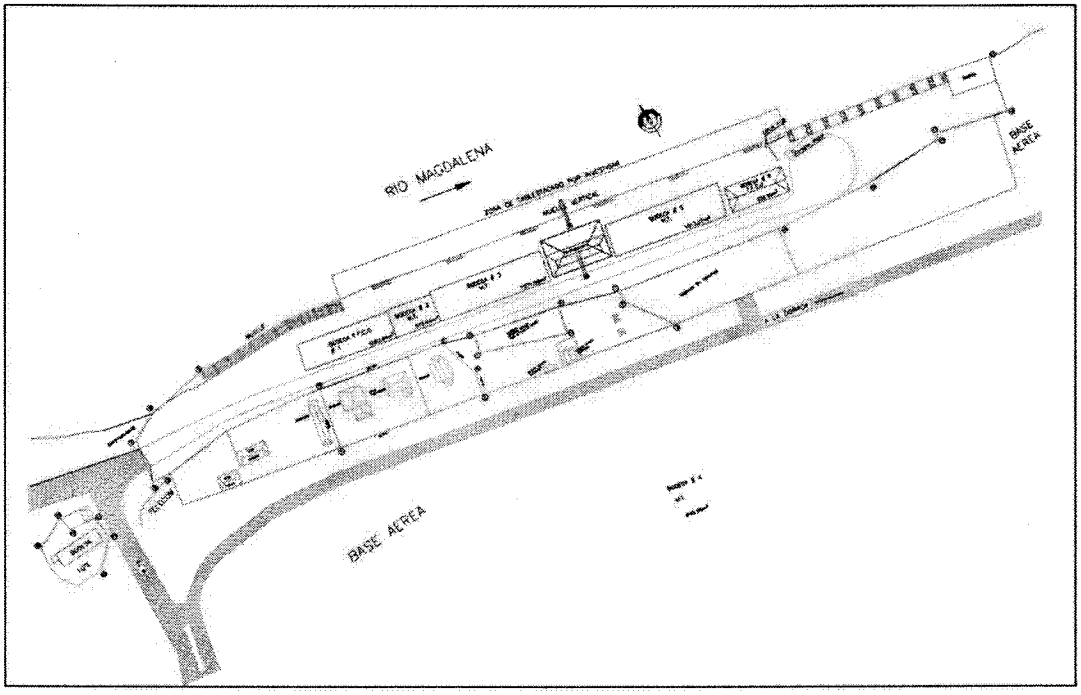


Figure B.3.2 Layout of Salgar

Figure B.3.3 Existing Salgar Facilities

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 Sociedad Portuaria Regional de Buenaventura ("Grantee"). USTDA agrees to provide the Grantee under the terms of this Agreement US$400,000.00 ("USTDA Grant") to fund the cost of goods and services required for a feasibility study ("Study") on the proposed Port of Buenaventura Operational and Security Enhancement Project ("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 Study ("Contract"). Payment to the Contractor will be made directly by USTDA on behalf of the Grantee with the USTDA Grant funds provided under this Grant Agreement.

2. Terms of Reference

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

3. Standards of Conduct

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

4. Grantee Responsibilities

The Grantee shall undertake its best efforts to provide reasonable support for the

Contractor, such as local transportation, office space, and secretarial support.

5. USTDA as Financier

(A) USTDA Approval of Competitive Selection Procedures

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

(B) USTDA Approval of Contractor Selection

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

(C) USTDA Approval of Contract Between Grantee and Contractor

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

(D) USTDA Not a Party to the Contract

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

Contractor, or relieve the Contractor of any liability which the Contractor might otherwise have to the Grantee or USTDA.

(E) Grant Agreement Controlling

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

6. Disbursement Procedures

(A) USTDA Approval of Contract Required

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

(B) Contractor Invoice Requirements

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

7. Effective Date

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

8. Study Schedule

(A) Study Completion Date

The completion date for the Study, which is December 31, 2010, is the date by which the parties estimate that the Study will have been completed.

(B) Time Limitation on Disbursement of USTDA Grant Funds

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

9. USTDA Mandatory Clauses

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

10. Use of U.S. Carriers

(A) Air

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

(B) Marine

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

11. Nationality, Source and Origin

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

12. Taxes

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

13. Cooperation Between Parties and Follow-Up

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

14. Implementation Letters

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

15. Recordkeeping and Audit

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

16. Representation of Parties

For all purposes relevant to the Grant Agreement, the Government of the United States of America will be represented by the U. S. Ambassador to Host Country or USTDA and Grantee will be represented by the General Manager. 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: Sociedad Portuaria Regional de Buenaventura
Avenida Portuaria
Edificio Administracion
Buenaventura, Colombia

Phone: (57-2) 241-0710
Fax: (57-2) 242-2700

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

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

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

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

Appropriation No.: 119/101001
Activity No.: 2009-51005A
Reservation No.: 2009510008
Grant No.: GH2009510004

18. Termination Clause

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

19. Non-waiver of Rights and Remedies

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

20. U.S. Technology and Equipment

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

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

For the Government of the United States of America

By: _____

Date: 25/3/09

Witnessed:

By: _____

Nathan D. Young

For the Sociedad Portuaria Regional de Buenaventura

By: _____

Date: 25/3/09

Witnessed:

By: _____

Annex I -- Terms of Reference

Annex II -- USTDA Mandatory Clauses

Annex I

Terms of Reference

Overview:

The purpose of this feasibility study (Study) is to assess a proposed Operational and Security Enhancement Project (Project) for the Sociedad Portuaria Regional de Buenaventura (SPRBun). SPRBun intends to use the Study to implement operational and security improvements at the Port of Buenaventura. As part of the Study, the Contractor shall:

- Develop a Vessel Traffic System in order to improve the safety and security of navigation and the monitoring of all vessels near Buenaventura's coastline and in its main shipping channel due to the expanded capacity of SPRBun's facilities and planned new terminals.

- Develop an Optical Character Recognition (OCR) system in order to record truck designations and the container markings, as well as to improve efficiency at the container gates. SPRBun plans to integrate this information with its Terminal Operating System (TOS) and install OCR equipment at all container entry and exit gates (fourteen gates in total).

- Review cargo inspection procedures, practices, facilities, equipment, and reporting systems.

- Develop a Computer Monitoring Security System in order to monitor both SPRBun's Closed Circuit Television (CCTV) network and access control network (covering both the port facility's perimeter fencing and waterfront). The Computer Monitoring Security System is intended to supplement the existing visual procedures and programs and detect, on a real-time basis, either improper intrusions or unauthorized access.

Task 1 : Data Collection and Review of Existing Conditions

The Contractor shall:

1.1 Visit the terminal to observe SPRBun's daily operations and procedures.

1.2 Conduct a survey of the immediate area for the purpose of locating radars and other components of a Vessel Traffic System. The survey shall include site conditions, access, security provisions and availability of ancillary facilities and utilities.

1.3 Perform a detailed observation of the existing operations and procedures at entrance and exit gates. The Contractor shall review in detail existing procedures, data collection activities, and processing practices for vehicles or personnel passing through these gates, as well as any databases used in connection with such

activities.

1.4 Identify the location and coverage of present CCTVs and intrusion sensors, and determine their zones of coverage. The characteristics of the CCTVs shall be checked for 24-hour operational suitability. In reviewing SPRBun's current security monitoring system, the Contractor shall consider the potential impact of adding computer monitoring technologies to some sections of the security monitoring system.

1.5 Review the procedures and requirements of Dirección de Impuestos y Aduanas Nacionales (DIAN) and other agencies with responsibilities of cargo inspection and movement. The Contractor shall review the locations for SPRBun cargo inspection, assess the movement of containers within the facility, observe the personnel involved in cargo inspection and movement, and document any time delays due to container inspection.

Deliverable #1: The Contractor shall prepare a report detailing the Contractor's Task 1 observations and data collection findings. The Task 1 report shall be submitted to SPRBun for review and comments. The Task 1 report shall form the foundation for subsequent tasks in this Study.

Task 2: Develop a Vessel Traffic System

The Contractor shall identify and develop at least two alternatives for implementing a Vessel Traffic System that will cover SPRBun's maritime terminals, access channel, surrounding coastline, and proposed new terminals at Buenaventura. In developing such alternatives, the Contractor shall:

2.1 Prepare a layout for the location of all radars, sensors, television cameras, radio communications, towers, utilities, and ancillary facilities to implement the Vessel Traffic System;

2.2 Prepare an illustrative description of the components needed for the Vessel Traffic System and make technology recommendations for each major component;

2.3 Compare at least two alternative Vessel Traffic Systems and recommend one alternative for implementation;

2.4 For the selected alternative, the Contractor shall:

- i Provide performance specifications for each major component of the Vessel Traffic System;
- ii Provide performance specifications or criteria for the supporting auxiliary facilities and utilities needed for the proposed Vessel Traffic System.
- iii. Prepare the procurement documentation for the purchase and installation of the Vessel Traffic System including equipment, IT systems, structures, buildings, supporting infrastructure, utilities, and ancillary facilities. The documentation shall include a list of items as well as general performance and technical specifications for carrying out the work;
- iv. Prepare a scope of work for purchase and installation of the Vessel Traffic System, listing items included and technical specifications;

v. Prepare a final capital cost estimate of the Vessel Traffic System with a breakdown of the major civil, structural, mechanical, and electrical, IT, management and operational systems, and security provisions;
vi. Prepare operating cost estimates for the Vessel Traffic System;
vii. Prepare an implementation schedule.

Deliverable #2: The Contractor shall prepare a report containing the Contractor's evaluation of alternatives, recommendations, illustrative materials, performance specifications, procurement documentation, scope of work, cost estimates, and implementation schedule for a Vessel Traffic System.

Task 3: Develop an Optical Character Recognition System

The Contractor shall develop at least two alternatives for implementing an OCR system at all of SPRBun's gates that handle containers. In developing such alternatives, the Contractor shall:

3.1 Prepare of a layout of the OCR system at each gate, showing the location and arrangement of key components, including scanners and radiation detection;
3.2 Prepare illustrative description of the components needed for the OCR system, and make technology recommendations for each major component;
3.3 Describe requirements for integrating the OCR system into SPRBun's Terminal Operating System (TOS), and recommend any necessary changes or additions;
3.4 Compare OCR system technology alternatives and recommend one alternative for implementation;
3.5 For the selected alternative, the Contractor shall:
i. Prepare a template for a vehicle and personnel database that could expedite processing of containers at the gates;
ii. Provide performance specifications for each major component of the OCR system;
iii. Provide performance specifications or criteria for the supporting auxiliary facilities and utilities needed for the proposed OCR system;
iv. Prepare the procurement documentation for the purchase and installation of the OCR system including equipment, IT systems, structures, buildings, supporting infrastructure, utilities, and ancillary facilities;
v. Prepare a scope of work for purchase and installation of the OCR system, listing items included and technical specifications;
vi. Prepare a final capital cost estimate of the OCR system with a breakdown of the major civil, structural, mechanical, and electrical, IT, management and operational systems, and security provisions;
vii. Prepare operating cost estimates for the OCR System;
viii. Prepare an implementation schedule.

Deliverable #3: The Contractor shall prepare a report containing the Contractor's evaluation of alternatives, recommendations, illustrative materials, performance specifications, procurement documentation, scope of work, cost estimates, and

implementation schedule for an OCR system.

Task 4: Develop a Computer Monitoring Security System

The Contractor shall identify and develop at least two alternatives for implementing a computer monitoring security system to supplement SPRBun's present security monitoring system. In order to implement a computer monitoring security system of the Port of Buenaventura's 330 CCTVs and other intrusion detection devices, the Contractor shall:

4.1. Review the present subsystem of CCTVs, access control network, and intrusion detection devices;
4.2. Analyze present arrangements and subsystems for adaptability to supplemental computer monitoring;
4.3. Prepare recommendations of the subsystems and monitoring procedures that SPRBun can adapt to a computer monitoring security system;
4.4. Prepare illustrative description of typical programs and components needed to implement the computer monitoring security system, compare respective programs and components and make a recommendation for the selection of each major component;
4.5. Indicate how the computer monitoring security system will be integrated into SPRBun's security program, and make recommendations of changes or additional security components;
4.6. Compare computer monitoring security system alternatives and recommend one alternative for implementation;
4.7. For the selected alternative, the Contractor shall:
   i. Prepare performance specifications for each major component of the computer monitoring security system, including software;
   ii. Prepare performance specifications or criteria for the supporting auxiliary facilities and utilities needed for the proposed computer monitoring security system;
   iii. Prepare the procurement documentation for the purchase and installation of the OCR system including equipment, IT systems, structures, buildings, supporting infrastructure, utilities, and ancillary facilities;
   iv. Prepare a scope of work for purchase and installation of the computer monitoring security system, listing items included and technical specifications;
   v. Prepare a final capital cost estimate of the computer monitoring security system with a breakdown of the major civil, structural, mechanical, and electrical, IT, management and operational systems, and security provisions;
   vi. Prepare operating cost estimates for the computer monitoring security system;
   vii. Prepare an implementation schedule.

Deliverable #4 The Contractor shall prepare a report containing the Contractor's

evaluation of alternatives, recommendations, illustrative materials, performance specifications, procurement documentation, scope of work, cost estimates, and implementation schedule for a computer monitoring security system.

Task 5: Review of Cargo Inspection

The Contractor shall review the cargo inspection procedures considering the regulations and procedures of DIAN, agricultural and other authorities. The review shall analyze present practices and procedures, as well as proposed additional measures the authorities and SPRBun intend to implement. The Contractor shall prepare recommendations for improving or upgrading cargo inspection. The recommendations shall address procedural, record-keeping and reporting practices. The Contractor shall also assess cargo inspection facilities, equipment, and systems.

Deliverable #5: The Contractor shall prepare a report containing the Contractor's review, including all suggestions, recommendations, and assessments of the cargo inspection.

Task 6: Interim Presentation

The Contractor shall perform an interim presentation to SPRBun and other project stakeholders. The purpose of the interim presentation is for the Contractor to present its findings and recommendations of Tasks 2-5 and receive suggestions and comments from SPRBun and other stakeholders. At the conclusion of the interim meeting, the Contractor and SPRBun shall prepare a summary of the meeting's conclusions and any issues requiring further elaboration or refinement. The Contractor shall use the summary as a basis for preparation of final Study recommendations.

Deliverable #6: The Contractor shall perform an interim Study presentation and prepare a meeting summary jointly with SPRBun.

Task 7: Development and Environmental Impacts

The Contractor shall:

7.1 Provide an analysis of key host country development impacts. These development impact factors are intended to provide the Project's decision-makers and interested parties with a broader view of the Project's potential effects on the Host Country. The analysis shall focus on what development impact is likely if the Project is implemented according to the Study recommendations. The Contractor shall specifically focus on examples of impacts from the categories listed below, and develop a methodology for assessing these impacts over time. While specific focus shall be paid to the immediate impact of the Project, analysis shall include any additional developmental benefits that may result from the Project's implementation, including spin-off and demonstration effects. The analysis shall include an assessment of each of the following categories with respect to the Project's potential development impact:

i Infrastructure: Provide a statement on the physical or financial infrastructure improvements that may result if the Project were implemented and an estimate of the scale of construction / installation expected.

ii Market Oriented Reform: Discuss any market-oriented reforms that may be recommended to facilitate implementation of the Project, or may result from implementation of the Project. This may include any policy changes, which result in the increase in trade flow, or increase in competition in a given sector.

iii Human Capacity Building: Estimate the number and type of jobs that may be created during the installation/construction phase if the Project were implemented as recommended. Provide separate estimates of the number of jobs that may be created or sustained once installation is complete (or the number of jobs that may be lost due to labor saving technology). Comment on any prospective training recommended in the Study, including an estimate of the number of persons to be trained, type of training needed, and the desired outcome of the training.

iv Technology Transfer and Productivity Enhancement: Provide a description of any advanced technologies/processes that may be introduced as a result of the Project, and a description of any efficiency that would be gained.

v Other: Describe any other developmental impacts or benefits that may result from the Project, for example, follow-on or replication projects, improved governance, or enhanced revenue flows to the Host Country.

7.2 Conduct a preliminary review of the Project's environmental impact with reference to local requirements and those of relevant multilateral lending agencies, such as the World Bank. This review shall identify potential negative impacts, discuss the extent to which they can be mitigated, and develop plans for a full environmental impact assessment in anticipation of the Project moving forward to the implementation stage.

i. Prepare an outline of the required environmental licensing procedures and a preliminary assessment of the terminal's impact and appropriate mitigating measures to take.

Deliverable #7: The Contractor shall prepare a Development Impact Report and Environmental Impact Report.

Task 8 : Final Report and Presentation

The Contractor shall prepare and deliver to SPRBun and USTDA a substantive and comprehensive final report of all work performed under these Terms of Reference (Final Report). The Contractor shall organize the Final Report according to the above tasks, and shall include an Executive Summary and all deliverables and documents that the Contractor has provided to SPRBun. The Final Report shall be prepared and delivered to USTDA in accordance with Clause I of Annex II of the Grant Agreement. The Final Report shall be prepared and delivered to SPRBun as follows:

i. One (1) copy of the Final Report in English;
ii. One (1) copy of the Final Report in Spanish;

In preparing the Final Report, the Contractor shall also:

8.1 Prepare an outline of potential financing options and sources to implement the Project's components, including SPRBun's resources, governmental agencies, development bank financing (national, bilateral and multilateral), commercial bank financing, and other forms of capital markets financing;

8.2 Identify the availability of prospective U.S. sources of supply, including the value of specific components. Business name, point of contact, address, telephone and fax numbers shall be included for each commercial source.

The Contractor shall present the findings of the Final Report to SPRBun at the completion of the Study. The presentation shall afford an opportunity for final discussions with regard to implementing the recommended components of the project's development.

Deliverable #8: Preparation, Submission and Presentation of the Final Report.

Notes:

(a) The Contractor is responsible for compliance with U.S. export licensing requirements, if applicable, in the performance of the Terms of Reference.

(b) The Contractor and the SPRBun shall be careful to ensure that the public version of the Final Report contains no security or confidential information.

(c) SPRBun and USTDA shall have an irrevocable, worldwide, royalty-free, non-exclusive right to use and distribute the Final Report and all work product that is developed under these Terms of Reference.

Annex II

USTDA Mandatory Contract Clauses

A. USTDA Mandatory Clauses Controlling

The parties to this contract acknowledge that this contract is funded in whole or in part by the U.S. Trade and Development Agency ("USTDA") under the Grant Agreement between the Government of the United States of America acting through USTDA and Sociedad Portuaria Regional de Buenaventura ("Client"), dated _____ ("Grant Agreement"). The Client has selected _____ ("Contractor") to perform the feasibility study ("Study") for the Port of Buenaventura Operational and Security Enhancement Project ("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 Study and shall not be construed as making USTDA a party to the contract. The parties hereto understand and agree that USTDA may, from time to time, exercise the foregoing approval rights, or discuss matters related to these rights and the Project with the parties to the contract or any subcontract, jointly or separately, without thereby incurring any responsibility

or liability to such parties. Any approval or failure to approve by USTDA shall not bar the Client or USTDA from asserting any right they might have against the Contractor, or relieve the Contractor of any liability which the Contractor might otherwise have to the Client or USTDA.

C. Nationality, Source and Origin

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

D. Recordkeeping and Audit

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

E. U.S. Carriers

(1) Air

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

(2) Marine

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

F. Workman's Compensation Insurance

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

G. Reporting Requirements

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

H. Disbursement Procedures

(1) USTDA Approval of Contract

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

(2) Payment Schedule Requirements

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

(3) Contractor Invoice Requirements

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

(a) Contractor's Invoice

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

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

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

(ii) For contract performance milestone payments:

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

(iii) For final payment:

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

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

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

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

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

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

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

(c) USTDA Address for Disbursement Requests

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

(4) Termination

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

I. USTDA Final Report

(1) Definition

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

(2) Final Report Submission Requirements

The Contractor shall provide the following to USTDA:

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

and

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

and

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

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

(3) Final Report Presentation

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

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

> "This report was funded by the U.S. Trade and Development Agency (USTDA), an agency of the U. S. Government. The opinions, findings, conclusions or recommendations expressed in this document are those of the author(s) and do not necessarily represent the official position or policies of

USTDA. USTDA makes no representation about, nor does it accept responsibility for, the accuracy or completeness of the information contained in this report."

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

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

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

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

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

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

J. Modifications

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

K. Study Schedule

(1) Study Completion Date

The completion date for the Study, which is December 31, 2010, is the date by which the parties estimate that the Study will have been completed.

(2) Time Limitation on Disbursement of USTDA Grant Funds

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

L. Business Practices

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

M. USTDA Address and Fiscal Data

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

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

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

Fiscal Data:
Appropriation No.: 119-101001
Activity No.: 2009-51005A
Reservation No.: 2009-510008
Grant No.: GH2009510004

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

Overview:

The purpose of this feasibility study (Study) is to assess a proposed Operational and Security Enhancement Project (Project) for the Sociedad Portuaria Regional de Buenaventura (SPRBun). SPRBun intends to use the Study to implement operational and security improvements at the Port of Buenaventura. As part of the Study, the Contractor shall:

- Develop a Vessel Traffic System in order to improve the safety and security of navigation and the monitoring of all vessels near Buenaventura's coastline and in its main shipping channel due to the expanded capacity of SPRBun's facilities and planned new terminals.

- Develop an Optical Character Recognition (OCR) system in order to record truck designations and the container markings, as well as to improve efficiency at the container gates. SPRBun plans to integrate this information with its Terminal Operating System (TOS) and install OCR equipment at all container entry and exit gates (fourteen gates in total).

- Review cargo inspection procedures, practices, facilities, equipment, and reporting systems.

- Develop a Computer Monitoring Security System in order to monitor both SPRBun's Closed Circuit Television (CCTV) network and access control network (covering both the port facility's perimeter fencing and waterfront). The Computer Monitoring Security System is intended to supplement the existing visual procedures and programs and detect, on a real-time basis, either improper intrusions or unauthorized access.

Task 1 : Data Collection and Review of Existing Conditions

The Contractor shall:

1.1 Visit the terminal to observe SPRBun's daily operations and procedures.

1.2 Conduct a survey of the immediate area for the purpose of locating radars and other components of a Vessel Traffic System. The survey shall include site conditions, access, security provisions and availability of ancillary facilities and utilities.

1.3 Perform a detailed observation of the existing operations and procedures at entrance and exit gates. The Contractor shall review in detail existing procedures, data collection activities, and processing practices for vehicles or personnel passing through these gates, as well as any databases used in connection with such

activities.

1.4 Identify the location and coverage of present CCTVs and intrusion sensors, and determine their zones of coverage. The characteristics of the CCTVs shall be checked for 24-hour operational suitability. In reviewing SPRBun's current security monitoring system, the Contractor shall consider the potential impact of adding computer monitoring technologies to some sections of the security monitoring system.

1.5 Review the procedures and requirements of Dirección de Impuestos y Aduanas Nacionales (DIAN) and other agencies with responsibilities of cargo inspection and movement. The Contractor shall review the locations for SPRBun cargo inspection, assess the movement of containers within the facility, observe the personnel involved in cargo inspection and movement, and document any time delays due to container inspection.

Deliverable #1: The Contractor shall prepare a report detailing the Contractor's Task 1 observations and data collection findings. The Task 1 report shall be submitted to SPRBun for review and comments. The Task 1 report shall form the foundation for subsequent tasks in this Study.

Task 2: Develop a Vessel Traffic System

The Contractor shall identify and develop at least two alternatives for implementing a Vessel Traffic System that will cover SPRBun's maritime terminals, access channel, surrounding coastline, and proposed new terminals at Buenaventura. In developing such alternatives, the Contractor shall:

2.1 Prepare a layout for the location of all radars, sensors, television cameras, radio communications, towers, utilities, and ancillary facilities to implement the Vessel Traffic System;

2.2 Prepare an illustrative description of the components needed for the Vessel Traffic System and make technology recommendations for each major component;

2.3 Compare at least two alternative Vessel Traffic Systems and recommend one alternative for implementation;

2.4 For the selected alternative, the Contractor shall:

- i Provide performance specifications for each major component of the Vessel Traffic System;
- ii Provide performance specifications or criteria for the supporting auxiliary facilities and utilities needed for the proposed Vessel Traffic System.
- iii. Prepare the procurement documentation for the purchase and installation of the Vessel Traffic System including equipment, IT systems, structures, buildings, supporting infrastructure, utilities, and ancillary facilities. The documentation shall include a list of items as well as general performance and technical specifications for carrying out the work;
- iv. Prepare a scope of work for purchase and installation of the Vessel Traffic System, listing items included and technical specifications;

v. Prepare a final capital cost estimate of the Vessel Traffic System with a breakdown of the major civil, structural, mechanical, and electrical, IT, management and operational systems, and security provisions;
vi. Prepare operating cost estimates for the Vessel Traffic System;
vii. Prepare an implementation schedule.

Deliverable #2: The Contractor shall prepare a report containing the Contractor's evaluation of alternatives, recommendations, illustrative materials, performance specifications, procurement documentation, scope of work, cost estimates, and implementation schedule for a Vessel Traffic System.

Task 3: Develop an Optical Character Recognition System

The Contractor shall develop at least two alternatives for implementing an OCR system at all of SPRBun's gates that handle containers. In developing such alternatives, the Contractor shall:

3.1 Prepare of a layout of the OCR system at each gate, showing the location and arrangement of key components, including scanners and radiation detection;
3.2 Prepare illustrative description of the components needed for the OCR system, and make technology recommendations for each major component;
3.3 Describe requirements for integrating the OCR system into SPRBun's Terminal Operating System (TOS), and recommend any necessary changes or additions;
3.4 Compare OCR system technology alternatives and recommend one alternative for implementation;
3.5 For the selected alternative, the Contractor shall:
i. Prepare a template for a vehicle and personnel database that could expedite processing of containers at the gates;
ii. Provide performance specifications for each major component of the OCR system;
iii. Provide performance specifications or criteria for the supporting auxiliary facilities and utilities needed for the proposed OCR system;
iv. Prepare the procurement documentation for the purchase and installation of the OCR system including equipment, IT systems, structures, buildings, supporting infrastructure, utilities, and ancillary facilities;
v. Prepare a scope of work for purchase and installation of the OCR system, listing items included and technical specifications;
vi. Prepare a final capital cost estimate of the OCR system with a breakdown of the major civil, structural, mechanical, and electrical, IT, management and operational systems, and security provisions;
vii. Prepare operating cost estimates for the OCR System;
viii. Prepare an implementation schedule.

Deliverable #3: The Contractor shall prepare a report containing the Contractor's evaluation of alternatives, recommendations, illustrative materials, performance specifications, procurement documentation, scope of work, cost estimates, and

implementation schedule for an OCR system.

Task 4: Develop a Computer Monitoring Security System

The Contractor shall identify and develop at least two alternatives for implementing a computer monitoring security system to supplement SPRBun's present security monitoring system. In order to implement a computer monitoring security system of the Port of Buenaventura's 330 CCTVs and other intrusion detection devices, the Contractor shall:

4.1. Review the present subsystem of CCTVs, access control network, and intrusion detection devices;
4.2. Analyze present arrangements and subsystems for adaptability to supplemental computer monitoring;
4.3. Prepare recommendations of the subsystems and monitoring procedures that SPRBun can adapt to a computer monitoring security system;
4.4. Prepare illustrative description of typical programs and components needed to implement the computer monitoring security system, compare respective programs and components and make a recommendation for the selection of each major component;
4.5. Indicate how the computer monitoring security system will be integrated into SPRBun's security program, and make recommendations of changes or additional security components;
4.6. Compare computer monitoring security system alternatives and recommend one alternative for implementation;
4.7. For the selected alternative, the Contractor shall:
   i. Prepare performance specifications for each major component of the computer monitoring security system, including software;
   ii. Prepare performance specifications or criteria for the supporting auxiliary facilities and utilities needed for the proposed computer monitoring security system;
   iii. Prepare the procurement documentation for the purchase and installation of the OCR system including equipment, IT systems, structures, buildings, supporting infrastructure, utilities, and ancillary facilities;
   iv. Prepare a scope of work for purchase and installation of the computer monitoring security system, listing items included and technical specifications;
   v. Prepare a final capital cost estimate of the computer monitoring security system with a breakdown of the major civil, structural, mechanical, and electrical, IT, management and operational systems, and security provisions;
   vi. Prepare operating cost estimates for the computer monitoring security system;
   vii. Prepare an implementation schedule.

Deliverable #4 The Contractor shall prepare a report containing the Contractor's

evaluation of alternatives, recommendations, illustrative materials, performance specifications, procurement documentation, scope of work, cost estimates, and implementation schedule for a computer monitoring security system.

Task 5: Review of Cargo Inspection

The Contractor shall review the cargo inspection procedures considering the regulations and procedures of DIAN, agricultural and other authorities. The review shall analyze present practices and procedures, as well as proposed additional measures the authorities and SPRBun intend to implement. The Contractor shall prepare recommendations for improving or upgrading cargo inspection. The recommendations shall address procedural, record-keeping and reporting practices. The Contractor shall also assess cargo inspection facilities, equipment, and systems.

Deliverable #5: The Contractor shall prepare a report containing the Contractor's review, including all suggestions, recommendations, and assessments of the cargo inspection.

Task 6: Interim Presentation

The Contractor shall perform an interim presentation to SPRBun and other project stakeholders. The purpose of the interim presentation is for the Contractor to present its findings and recommendations of Tasks 2-5 and receive suggestions and comments from SPRBun and other stakeholders. At the conclusion of the interim meeting, the Contractor and SPRBun shall prepare a summary of the meeting's conclusions and any issues requiring further elaboration or refinement. The Contractor shall use the summary as a basis for preparation of final Study recommendations.

Deliverable #6: The Contractor shall perform an interim Study presentation and prepare a meeting summary jointly with SPRBun.

Task 7: Development and Environmental Impacts

The Contractor shall:

7.1 Provide an analysis of key host country development impacts. These development impact factors are intended to provide the Project's decision-makers and interested parties with a broader view of the Project's potential effects on the Host Country. The analysis shall focus on what development impact is likely if the Project is implemented according to the Study recommendations. The Contractor shall specifically focus on examples of impacts from the categories listed below, and develop a methodology for assessing these impacts over time. While specific focus shall be paid to the immediate impact of the Project, analysis shall include any additional developmental benefits that may result from the Project's implementation, including spin-off and demonstration effects. The analysis shall include an assessment of each of the following categories with respect to the Project's potential development impact:

i Infrastructure: Provide a statement on the physical or financial infrastructure improvements that may result if the Project were implemented and an estimate of the scale of construction / installation expected.

ii Market Oriented Reform: Discuss any market-oriented reforms that may be recommended to facilitate implementation of the Project, or may result from implementation of the Project. This may include any policy changes, which result in the increase in trade flow, or increase in competition in a given sector.

iii Human Capacity Building: Estimate the number and type of jobs that may be created during the installation/construction phase if the Project were implemented as recommended. Provide separate estimates of the number of jobs that may be created or sustained once installation is complete (or the number of jobs that may be lost due to labor saving technology). Comment on any prospective training recommended in the Study, including an estimate of the number of persons to be trained, type of training needed, and the desired outcome of the training.

iv Technology Transfer and Productivity Enhancement: Provide a description of any advanced technologies/processes that may be introduced as a result of the Project, and a description of any efficiency that would be gained.

v Other: Describe any other developmental impacts or benefits that may result from the Project, for example, follow-on or replication projects, improved governance, or enhanced revenue flows to the Host Country.

7.2 Conduct a preliminary review of the Project's environmental impact with reference to local requirements and those of relevant multilateral lending agencies, such as the World Bank. This review shall identify potential negative impacts, discuss the extent to which they can be mitigated, and develop plans for a full environmental impact assessment in anticipation of the Project moving forward to the implementation stage.

i. Prepare an outline of the required environmental licensing procedures and a preliminary assessment of the terminal's impact and appropriate mitigating measures to take.

Deliverable #7: The Contractor shall prepare a Development Impact Report and Environmental Impact Report.

Task 8: Final Report and Presentation

The Contractor shall prepare and deliver to SPRBun and USTDA a substantive and comprehensive final report of all work performed under these Terms of Reference (Final Report). The Contractor shall organize the Final Report according to the above tasks, and shall include an Executive Summary and all deliverables and documents that the Contractor has provided to SPRBun. The Final Report shall be prepared and delivered to USTDA in accordance with Clause I of Annex II of the Grant Agreement. The Final Report shall be prepared and delivered to SPRBun as follows:

i. One (1) copy of the Final Report in English;
ii. One (1) copy of the Final Report in Spanish;

In preparing the Final Report, the Contractor shall also:

8.1 Prepare an outline of potential financing options and sources to implement the Project's components, including SPRBun's resources, governmental agencies, development bank financing (national, bilateral and multilateral), commercial bank financing, and other forms of capital markets financing;

8.2 Identify the availability of prospective U.S. sources of supply, including the value of specific components. Business name, point of contact, address, telephone and fax numbers shall be included for each commercial source.

The Contractor shall present the findings of the Final Report to SPRBun at the completion of the Study. The presentation shall afford an opportunity for final discussions with regard to implementing the recommended components of the project's development.

Deliverable #8: Preparation, Submission and Presentation of the Final Report.

Notes:

(a) The Contractor is responsible for compliance with U.S. export licensing requirements, if applicable, in the performance of the Terms of Reference.

(b) The Contractor and the SPRBun shall be careful to ensure that the public version of the Final Report contains no security or confidential information.

(c) SPRBun and USTDA shall have an irrevocable, worldwide, royalty-free, non-exclusive right to use and distribute the Final Report and all work product that is developed under these Terms of Reference.