

REQUEST FOR PROPOSALS

TECHNICAL ASSISTANCE FOR THE

**RIO DE JANEIRO STATE AIRPORTS AND HELIPORTS MODERNIZATION
PROJECT**

Submission Deadline: **1:00 PM**
LOCAL TIME
FRIDAY, JUNE 29, 2012

Submission Place: Secretaria de Estado de Transportes (SETRANS)
Ricardo Lucas
Av. N.S. de Copacabana, 493 – Andar G3 Protocolo- Copacabana
Rio de Janeiro, RJ, Brazil, 22-031-000
Phone: 011 55 (21) 2333-8643

SEALED PROPOSALS SHALL BE CLEARLY MARKED AND RECEIVED PRIOR TO THE TIME AND DATE SPECIFIED ABOVE. PROPOSALS RECEIVED AFTER SAID TIME AND DATE WILL NOT BE ACCEPTED OR CONSIDERED.

REQUEST FOR PROPOSALS

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Section 1: INTRODUCTION

The U.S. Trade and Development Agency (USTDA) has provided a grant in the amount of US\$485,000 to the Rio de Janeiro State Government, acting through its State Transport Secretariat (SETRANS) (the “Grantee”) in accordance with a grant agreement dated March 28th, 2012 (the “Grant Agreement”). USTDA will fund the cost of goods and services required for the preparation of a technical assistance ("Technical Assistance") on the proposed Rio de Janeiro State Airports and Heliports Modernization Project ("Project") in Brazil ("Host Country"). The Grant Agreement is attached at Annex 4 for reference. The Grantee is soliciting technical proposals from qualified U.S. firms to provide expert consulting services to perform the Technical Assistance.

1.1 BACKGROUND SUMMARY

The State of Rio de Janeiro is the second largest in Brazil in terms of economic output and third in terms of population. The capital city of Rio is the largest tourist destination in the country, and with a population of over 6.3 million, it suffers from some of the worst traffic congestion in Brazil. Additionally, Rio will be hosting the 2014 World Cup and 2016 Olympics Games. These factors, coupled with recent oil discoveries and a surge in air passenger travel, have created an urgent need to expand the state's underdeveloped aviation network.

SETRANS is responsible for the planning, coordination, supervision, control, and implementation of all transport projects in the state, including airport and heliport infrastructure. In Brazil, the states independently develop their Statewide Airport Plans which are then approved by the federal Civil Aviation Secretariat (SAC).

SETRANS views the Airport Plan as a means to attract economic development, particularly to areas which are not easily accessible and/or removed from the major developed markets. Night operations and improved communications at regional airports would have multiple developmental benefits, including increased access for passengers, and supporting perishable cargo service, medevac services, donor organ shipment programs, and forest fire safety.

This technical assistance will assist SETRANS in updating the State of Rio de Janeiro's statewide airport plan and develop a funding strategy to modernize and expand the state's airport and heliport networks.

This project is a priority for SETRANS, and it is also expected to contribute with the federal government's effort to increase airport capacity in the country. Portions of a background Definitional Mission is provided for reference in Annex 2.

1.2 OBJECTIVE

The technical assistance shall cover several critical areas for SETRANS. First, it will provide recommendations for modernizing existing airports in Rio de Janeiro state, focusing on investments needed in the near term. This includes the development of traffic forecasts, evaluation of the latest technologies for navigation and communications systems, and

determination of appropriate facilities to handle the growing domestic regional passenger traffic. Second, the technical assistance will address the need for new airport and heliport development in the state.

In addition to developing specifications for the recommended equipment needed at the existing airports, this technical assistance will develop traffic forecasts and conceptual plans for up to two new airports and up to four heliports in the state. The technical assistance shall also develop a fast-track implementation approach for the design and construction of two heliports in the metropolitan area, as well as prepare an RFP for implementation. The Terms of Reference (TOR) for this Technical Assistance are attached as Annex 5.

1.3 PROPOSALS TO BE SUBMITTED

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

The amount for the contract has been established by a USTDA grant of US\$485,000. **The USTDA grant of US\$485,000 is a fixed amount. Accordingly, COST will not be a factor in the evaluation and therefore, cost proposals should not be submitted.** Upon detailed evaluation of technical proposals, the Grantee shall select one firm for contract negotiations.

1.4 CONTRACT FUNDED BY USTDA

In accordance with the terms and conditions of the Grant Agreement, USTDA has provided a grant in the amount of US\$485,000 to the Grantee. The funding provided under the Grant Agreement shall be used to fund the costs of the contract between the Grantee and the U.S. firm selected by the Grantee to perform the TOR. The contract must include certain USTDA Mandatory Contract Clauses relating to nationality, taxes, payment, reporting, and other matters. The USTDA nationality requirements and the USTDA Mandatory Contract Clauses are attached at Annexes 3 and 4, respectively, for reference.

Section 2: INSTRUCTIONS TO OFFERORS

2.1 PROJECT TITLE

The project is called Rio de Janeiro State Airports and Heliports Modernization Project.

2.2 DEFINITIONS

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

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

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

2.3 DEFINITIONAL MISSION REPORT

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

2.4 EXAMINATION OF DOCUMENTS

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

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 Technical Assistance.

2.5 PROJECT FUNDING SOURCE

The Technical Assistance will be funded under a grant from USTDA. The total amount of the grant is not to exceed US\$485,000.

2.6 RESPONSIBILITY FOR COSTS

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

2.7 TAXES

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

2.8 CONFIDENTIALITY

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

2.9 ECONOMY OF PROPOSALS

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

2.10 OFFEROR CERTIFICATIONS

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

2.11 CONDITIONS REQUIRED FOR PARTICIPATION

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

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

2.12 LANGUAGE OF PROPOSAL

All proposal documents shall be prepared and submitted in English, and Portuguese languages. Annex 6 does not need to be translated into Portuguese.

2.13 PROPOSAL SUBMISSION REQUIREMENTS

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

**Secretaria de Estado de Transportes (SETRANS)
Ricardo Lucas
Av. N.S. de Copacabana, 493 – Andar G3 Protocolo- Copacabana
Rio de Janeiro, RJ, Brazil, 22-031-000
Phone: 011 55 (21) 2333-8643**

An Original in English and Portuguese, one (1) copy in English, and three (3) copies in Portuguese of your proposal as well as a CD or Flash Drive with an electronic copy of your proposal in both languages must be received at the above address no later than Wednesday, 1:00 pm (local time), on Friday, June 29th, 2012.

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

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

2.14 PACKAGING

The original and each copy of the proposal must be sealed to ensure confidentiality of the information. The proposals should be individually wrapped and sealed, and labeled for content including the name of the project and designation of "original" or "copy number x." The originals **in English and Portuguese, one (1) copy in English, and three (3) copies in Portuguese** as well as the CD or Flash Drive should be collectively wrapped and sealed, and clearly labeled, including the contact name and the name of the project.

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

2.15 OFFEROR'S AUTHORIZED NEGOTIATOR

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

2.16 AUTHORIZED SIGNATURE

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

2.17 EFFECTIVE PERIOD OF PROPOSAL

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

2.18 EXCEPTIONS

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

2.19 OFFEROR QUALIFICATIONS

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

2.20 RIGHT TO REJECT PROPOSALS

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

2.21 PRIME CONTRACTOR RESPONSIBILITY

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

2.22 AWARD

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

2.23 COMPLETE SERVICES

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

2.24 INVOICING AND PAYMENT

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

Section 3: PROPOSAL FORMAT AND CONTENT

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

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

The proposal shall consist of a technical proposal only. A cost proposal is NOT required because the amount for the contract has been established by a USTDA grant of US\$485,000, which is a fixed amount.

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

Each proposal must include the following:

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

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

3.1 EXECUTIVE SUMMARY

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

3.2 U.S. FIRM INFORMATION

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

3.3 ORGANIZATIONAL STRUCTURE, MANAGEMENT, AND KEY PERSONNEL

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

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

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

3.4 TECHNICAL APPROACH AND WORK PLAN

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

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

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

3.5 EXPERIENCE AND QUALIFICATIONS

Provide a discussion of the Offeror's experience and qualifications that are relevant to the objectives and TOR for the Technical Assistance. If a subcontractor(s) is being used, similar

information must be provided for the prime and each subcontractor firm proposed for the project. The Offeror shall provide information with respect to relevant experience and qualifications of key staff proposed. The Offeror shall include letters of commitment from the individuals proposed confirming their availability for contract performance.

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

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

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

Section 4: AWARD CRITERIA

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

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

- **Staff Technical Experience – Statewide Airport Planning (20 points):** Team's experience (including detailed resumes showing language capabilities and specific projects in the main study areas that are the objective of this Technical Assistance). Staff expertise and qualifications should specifically demonstrate experience in statewide aviation planning, including previous experience in development of regional, general aviation, and heliports; and experience in runway lighting, navigational aids and GNSS systems, airport planning and design, technical specification development, procurement and cost estimating for airport investments. Knowledge and familiarity with ICAO, FAA and TSA regulations must also be demonstrated. The team should also demonstrate experience working on statewide airport development programs, involving Federal, State and local officials.

- **Staff Technical Experience – Heliport and Airport Facility Planning and Development (10 points):** Team's experience (including detailed resumes showing capabilities) in heliport and

airport infrastructure development, private sector approaches to heliport and airport facility development, and implementation and financing of airport and heliport projects. Experience in preparing an RFP for a Design-Build or DBO contract is also desirable.

- **Staff Financial, Economic and Environment Analysis Experience (20 points):** Team's experience in financial, economic and environment analysis for airports, project financing, development of statewide capital investment programs for airport and infrastructure projects, and development impacts of regional airport projects. Specific experience with financing mechanisms for airport projects in Brazil and Latin American markets is desired. Previous experience in airport and/or heliport concession and privatization should also be demonstrated.

- **Staff Air Transport Market Analysis Experience (10 points):** Team should have experience in demand analysis, market research and market assessments for commercial and general aviation, and heliport projects including prior experience developing such facilities to handle both passengers and cargo.

- **Work Plan and Methodology (25 points):** Adequacy of the proposed work plan and suggested overall approach to address the Terms of Reference and the different Technical Assistance objectives. Approaches to the consultation process with SETRANS as well as reasonableness of technical approach and staff utilization schedule. The specific study areas methodology, the proposed team organization to achieve the objectives, and the overall work plan to produce the products to be delivered will be evaluated.

- **Firm's Technical and Regional Experience (15 points):** Firm prior experience in statewide aviation planning, airport and heliport facility development, and airport/heliport feasibility studies is required. Familiarity with the aviation sector in Brazil and South America, mainly related to general aviation and commuter airlines, should be demonstrated.

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

Price will not be a factor in contractor selection.

ANNEX 1

Ricardo Lucas, SETRANS, Av. N.S. de Copacabana, 493 – Andar G3 Protocolo-Copacabana, Rio de Janeiro, RJ, Brazil, 22031-000, Phone: 011 55 (21) 2333-8643

B – Brazil: Rio de Janeiro State Airports and Heliports Modernization Project

POC: Anthony O’Tapi, USTDA, 1000 Wilson Boulevard, Suite 1600, Arlington, VA 22209-3901, Tel: (703) 875-4357, Fax: (703) 875-4009. RIO DE JANEIRO STATE AIRPORTS AND HELIPORTS MODERNIZATION PROJECT. The Grantee invites submission of qualifications and proposal data (collectively referred to as the "Proposal") from interested U.S. firms that are qualified on the basis of experience and capability to develop technical assistance to update the State of Rio de Janeiro's statewide airport plan and develop a funding strategy to modernize and expand the state's airport and heliport networks. The Terms of Reference (TOR) for this Technical Assistance are attached as Annex 5.

The U.S. firm selected will be paid in U.S. dollars from a \$485,000 grant to the Grantee from the U.S. Trade and Development Agency (USTDA).

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

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

Interested U.S. firms should submit their Proposal in English directly to the Grantee by 1:00 pm (Local time), June 29th, 2012 at the above address. Evaluation criteria for the Proposal are included in the RFP. Price will not be a factor in contractor selection, and therefore, cost proposals should NOT be submitted. The Grantee reserves the right to reject any and/or all Proposals. The Grantee also reserves the right to contract with the selected firm for subsequent work related to the project. The Grantee is not bound to pay
for
any costs associated with the preparation and submission of Proposals.

ANNEX 2

BRAZIL AIRPORT SECTOR OPPORTUNITIES DEFINITIONAL MISSION

CONTRACT No. TDA-CO201151096

FINAL REPORT

JANUARY 5, 2012

APPENDIX I: RIO DE JANEIRO STATE – AIRPORTS & HELIPORTS TECHNICAL ASSISTANCE

PREPARED BY:



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Executive Summary

In April 2011, the United States Trade and Development Agency (USTDA) engaged Ascendant Program Services, LLC (Ascendant) to carry out a Definitional Mission (DM) for evaluating airport sector project opportunities in Brazil.

One of the three highest ranked projects is the Technical Assistance Program in the State of Rio de Janeiro to pursue airport and heliport improvements. The project sponsor for this Technical Assistance is the Rio de Janeiro State Transportation Secretariat (SETRANS). The purpose of this Technical Assistance is to support the Transportation Secretariat, and consider priority needs as input to the update of the Statewide Airport Plan.

This Appendix to the DM report provides all the information to prospective bidders, in the event that USTDA decides to approve a grant to the Rio de Janeiro State Transportation Secretariat. After this introduction, this Appendix will briefly describe the Brazilian economy, the airport sector, the Rio State economy and the proposed project. Other sections of the Appendix cover all the topics required under the USTDA guidelines for Definitional Mission Reports, including the criteria that were considered in ranking the project, i.e. project sponsor capability, availability of implementation financing, US export potential, foreign competition, impacts, and justification for USTDA funding. In addition, the Appendix describes the qualifications needed for the US firm to carry out the scope, as well as a description of the scope (TOR), proposed study budget, and recommendations. Contact information for US companies and Brazilian officials is included in the last section.

Project Background and Objectives

Brazil is a large and populous country with over 180 million inhabitants. It has been growing at a fast pace for the last two decades, propelling the country to become the world's seventh largest economy with a GDP of US\$2.2 trillion at current exchange rates. Airport infrastructure is in urgent need of investment to sustain the anticipated growth in traffic. The Government of Brazil has recently significantly restructured the airport sector. A new Secretariat of Civil Aviation (SAC) under the Presidency with Ministerial rank was created. It is tasked to lead all Federal activities in airport infrastructure investments in the country, while increasing the role and facilitating State and local involvement in airport development. The Federal Government will continue having a strong role in the country's major airports, but a concession program is being pursued to attract private investment and increase private sector involvement in airport operations. Further, the funds obtained through the large airport concession program will be partly used to further develop regional airports.

The State of Rio de Janeiro is the second largest in Brazil in terms of economic output. The city of Rio de Janeiro is the capital of the State and the second largest city in Brazil, with a population of over 6.3 million. The city will be hosting the 2014 World Cup and

2016 Olympics. The State of Rio is also in the center of the ongoing offshore oil exploration and development near the coast of Brazil.

Under Brazilian law, every State independently develops Statewide Airport Plans which are negotiated with and approved by SAC. The Rio de Janeiro State Transport Secretariat (SETRANS) is in the process of updating the State's Plano Aeroviario (Statewide Airport Plan), which was prepared in 2002 to develop a modern State Airport and Heliport network, equipped with latest technology for navigation and communications systems, with appropriate facilities to handle the growing domestic regional passenger services as well as to support the upcoming 2014 World Cup and 2016 Olympics Games and the ongoing offshore oil exploration and development program.

The proposed Technical Assistance will consider a funding strategy to modernize and expand the State's Airport System, including heliports. Study areas include equipment needs for night operations, the feasibility of proposed new airports and heliports to serve the rapidly expanding offshore oil exploration and local business needs, the conceptual plan for two new heliports in the Rio de Janeiro Metropolitan Area, as well as the need for new technologies for navigation and traffic control in the congested air spaces near the State's Coast that attract heavy helicopter use.

Implementation Financing

The State of Rio de Janeiro has access to a number of dedicated sources of funding that can be used to finance the proposed airport and heliport program. First, the Statewide Air Transportation Program which USTDA would support through this technical assistance would provide access to the R\$100 million PROFEE program of the Brazilian federal Government. In addition, the Federal Government has announced its intention to use some of the funds from the concession of the large INFRAERO airports for regional airport development through a new fund known as FNAC. However the sources and uses of this fund aren't presently known.

A third source is the State of Rio de Janeiro's own funds which are budgeted every year for air transport infrastructure improvements and expansion. In 2011 that budget line was of R\$33.3 million. A fourth source which would directly benefit US exporters is the US Export-Import Bank (Ex-Im) which recently signed a US\$1 billion Preliminary Commitment with the State of Rio de Janeiro targeting infrastructure development. Ex-Im expressed great interest in supporting airport and heliport infrastructure in the State. OPIC could also support US investors in case some of the proposed investments were executed as a Private Public Partnership, which will be specifically considered in the Technical Assistance for new heliports.

Potential to Generate US Exports

The selection and scope of projects to be studied has considered the likelihood of near term project implementation, so that US exports can be generated, as well as the type of goods and services that will need to be procured and can be competitively provided by US exporters. An estimated US\$19.750 million could be sourced by US exporters as a direct result of the projects to be implemented in the State of Rio de Janeiro which will be supported by the USTDA Technical Assistance Program.

In order to facilitate the involvement of US exporters in the projects to be studied, several tasks have been included in the proposed scope, e.g. the development of specifications that can be used by the Project Sponsor or prime contractors to acquire equipment, the development of an RFP for a design-build contract to construct the two new heliports in the Rio Metropolitan Area, a one-page project brief describing the equipment to be acquired, the procurement process to be followed, as well as the export financing available to US exporters so it can be distributed by USTDA and US Department of Commerce to interested US exporters, etc. The USTDA funded Technical Assistance would also assemble brochures, technical booklets, specs, and other relevant information on US exporters to be provided to the Project Sponsor.

Justification

The request for Technical Assistance in the updating of the Rio de Janeiro State Airport Plan is justified for the following main reasons:

- 1) *Export Potential is significant.* The estimates of US exports indicate that the potential value of the exports is much greater than the funding assistance for the Technical Assistance.
- 2) *Major Ongoing Infrastructure Investments Underway.* The State of Rio de Janeiro is going through a major economic expansion with significant investments in infrastructure, particularly in airports and heliports in preparation for the upcoming World Cup games in 2014 and the 2016 Summer Olympics (for which the two new heliports in the Rio Metropolitan Area can be important), but also for the ongoing expansion in offshore oil exploration and development.
- 3) *Potential for US firm participation in Heliport Development.* The new heliports can potentially be developed through a fast track contracting approach which could benefit from experienced international firms involvement collaborating with local firms.
- 4) *Potential for US Exporters Involvement as Airport Navigation, Communications, and Lighting Equipment Providers.* The equipment needs to improve and modernize navigation, communications and airfield lighting in the Rio State

airports is a market where US companies compete and several exporters are already involved.

- 5) *Foreign Competition.* European, Chinese, Japanese and other foreign competitors are actively involved in the Brazilian airport market. The involvement of USTDA through this Technical Assistance can help promote US company involvement with the Project Sponsors and encourage use of US sourced equipment and services.
- 6) *Large Upcoming Brazilian National Airport Investment Program.* The Brazilian government's investment in airports is anticipated to grow rapidly, including a program to concession the major airports in the country. This Technical Assistance can then also help US exporters to increase their presence and experience in Brazil, and thereby improve their competitiveness as the large upcoming investments are implemented.

Recommendations

A USTDA grant for US\$485,000 is recommended to fund an eight-month Technical Assistance Program to support the Rio de Janeiro State Secretariat in updating the State Airport Plan. This Technical Assistance shall develop traffic forecasts as a basis to updating the State Air Plan, consider the need for air navigation, communications and other equipment to expand and modernize existing airports. It would also consider the need for new airports and heliports in the State, including evaluating sites and developing conceptual plans for up to two new airports and up to four heliports. In addition, it would develop a fast-track implementation approach to the design and construction of two new heliports in the Rio de Janeiro Metropolitan Area. The Technical Assistance shall also include the preparation of specifications for equipment to be acquired in the near term and an RFP for the implementation of the two new heliports in the Rio Metropolitan Area. The Technical Assistance shall consider financial viability, funding sources, priorities, project impacts, and include several activities to facilitate the involvement of US exporters as the projects are implemented.

The Study approach and budget has been developed based on the Project Sponsor identifying site alternatives for new heliports and airports and making available all needed information and data for the site evaluation and conceptual facility planning. It is recommended that USTDA clearly establish a deadline for the Project Sponsor to identify alternative sites and provide all needed information and data to the US Firm that will conduct the Technical Assistance. Preferably, the Project Sponsor should provide all needed information to the US Firm at no cost to the US Firm by the time the project starts, including property status and boundaries for each site. To assure the most effective utilization of resources, any data not available at the start of the project should be provided no later than 2 weeks after the start of the project. The Project Sponsor should also name a Project Coordinator to assure all needed feedback and decisions are

provided to the US Firm in a timely manner, so as to comply with the recommended schedule.

Project Description

INTRODUCTION

The United States Trade and Development Agency (USTDA) has engaged Ascendant Program Services, LLC (Ascendant) to carry out a Definitional Mission (DM) for evaluating airport sector project opportunities in Brazil. Projects were initially proposed by three agencies, the Rio de Janeiro State Transportation Secretariat, the Paraná State Transportation Secretariat, and the Brasilia Federal District. As the Definitional Mission started, USTDA also requested that three other potential projects be considered: a statewide program for improving the airports in the State of Bahia, a study of the feasibility for improving the airport at Rio Negrinho in Santa Catarina State, and a study of the feasibility of building a new airport in Americana, near Campinas in the State of Sao Paulo.

Americana subsequently withdrew their request for USTDA assistance and Ascendant concluded that the improvements at Rio Negrinho airport would not justify a specific USTDA study while the project of a second airport for the Brasilia Federal District needs to mature further before it can become eligible for USTDA financing. After the TORs were prepared for the Parana Technical Assistance Program, the State of Paraná also decided to not proceed at this time. In the case of Rio de Janeiro, the State proposed additional study areas, which have merit and will also be discussed in this report.

In selecting the projects recommended for inclusion in USTDA technical assistance, Ascendant carried out an evaluation of all the submitted projects in terms of their potential to meet USTDA guidelines based mainly on the following criteria:

- i) projects that have a high priority and strong commitment from the State and local communities,
- ii) projects that can and are likely to be ready for implementation in the near term (three to five years),
- iii) projects which have a high probability of obtaining the needed financing (because they are eligible to utilize available funding sources, and the costs are within range of annual budgets of involved programs and agencies), and
- iv) projects that require equipment and/or services where US companies are presently involved in the Brazilian market and already generating US exports, or where US companies compete successfully in worldwide markets and have expressed interest in selling their products and services in Brazil.

Based on this evaluation, Ascendant prepared Terms of Reference (TOR) and budgets for the three highest-ranked projects in terms of their ability to meet guidelines for USTDA funding. One of the three highest ranked projects is the Technical Assistance Program in

the State of Rio de Janeiro to pursue airport and heliport improvements that are not owned and operated by INFRAERO, i.e. State and/or locally-sponsored projects.

The project sponsor for this Technical Assistance is the Rio de Janeiro State Transportation Secretariat (SETRANS). The purpose of this Technical Assistance is to support the Transportation Secretariat, and consider priority needs as input to the update of the Statewide Airport Plan. The Technical Assistance Program will also consider a funding strategy to modernize and expand the State's Airport System, including heliports. Study areas include equipment needs for night operations, the feasibility of proposed new airports and heliports to serve the rapidly expanding offshore oil exploration and local business needs, the conceptual plan and implementation approach for two new heliports in the Rio de Janeiro Metropolitan Area, as well as the need for new technologies for navigation and traffic control in the congested air spaces near the State's Coast that attract heavy helicopter use.

This report provides all the information to prospective bidders, in the event that USTDA decides to approve a grant to the Rio de Janeiro State Transportation Secretariat. After this introduction, this report will briefly describe the Brazilian economy, the airport sector, the Rio State economy and the proposed project. Other sections of the report cover the topics required under the USTDA guidelines for Definitional Mission Reports, including the criteria that were considered in ranking the project, i.e. project sponsor capability, availability of implementation financing, US export potential, foreign competition, development and US labor impact, environmental impact, and justification for USTDA funding. In addition, the report describes the qualifications needed for the firm to carry out the scope, as well as a description of the scope (TOR), proposed study budget, and recommendations. Contact information for US companies and Brazilian officials is included in the last section.

BRAZIL ECONOMY AND THE AIRPORT SECTOR

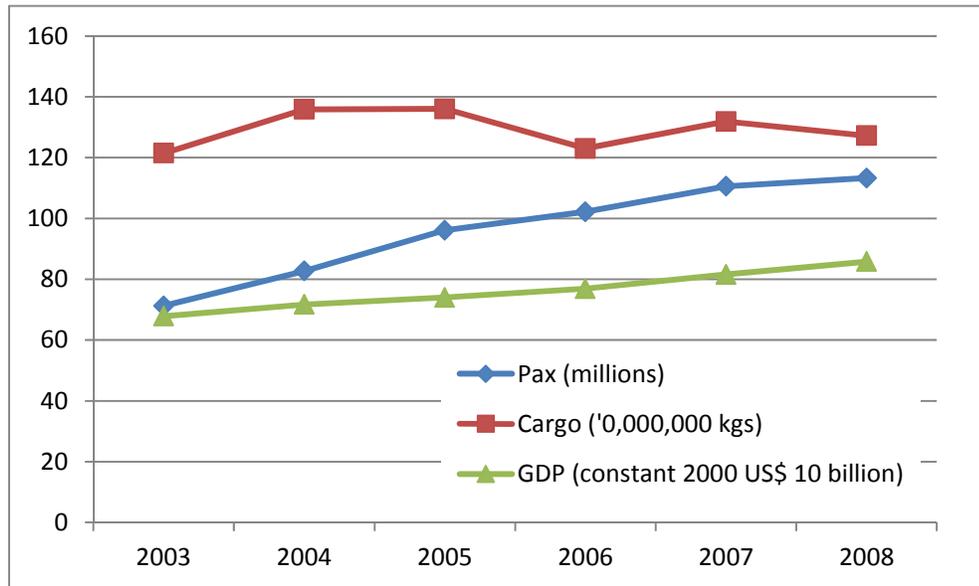
Brazil is a large and populous country with over 180 million inhabitants. It has been growing at a fast pace for the last two decades, propelling the country to become the world's seventh largest economy with a GDP of US\$2.2 trillion at current exchange rates.

The country withstood the impact of the 2008–2010 global recession and continues to grow at an average rate of approximately 4% per year. This growth appears sustainable in the future as the country is poised to take advantage of the increasing demand for its vast natural resources, its agriculture as well as its industrial sector. Production in all sectors is due to continue to increase rapidly with important new discoveries in the oil sector and technologically-advanced export industries.

In the past 40 years, Brazilian air passenger traffic grew at a rate of close to 8% per year, freight at a rate of 6.5% while the economy grew at a rate of 2.5% per annum. In spite of these relatively high growth rates, air transport still has much room to grow. By way of comparison, twice the

amount of passenger and 3.5 times the amount of freight are transported by air in the United States per unit of GDP than in Brazil. Consequently, sustained growth rates of 10% per annum for passengers and cargo should be expected in the medium to long-term in Brazil.

Brazil Air Transport



Note: Represents Infraero Airports only. Cargo figures do not include mail.
 Source: BNDES, Base de Dados dos Passageiros

Airport infrastructure in Brazil is in urgent need of investment to sustain this foreseeable growth in traffic. By way of comparison, the US has 424 airports with runways over 2,438 m, Brazil has only 35 such airports. Apart from the major airports located in the state capitals, most local airports require major improvements and investments including a wide array of equipment manufactured in the United States such as Nav aids, lighting for night operations, weather stations, passenger and cargo terminal equipment and other equipment such as fuel distribution, fire trucks, etc.

Until recently, airport infrastructure in Brazil was managed and controlled by the Ministry of Defense through INFRAERO, an organization that historically has been responsible for developing and operating the airports in Brazil. Several efforts have been underway to decentralize the sector and increase the role of the private sector, as the need for improved efficiency and large investments is clear.

In response to this situation, the Government of Brazil has recently significantly restructured the airport sector. A new Secretariat of Civil Aviation (SAC) under the Presidency with Ministerial rank was created. It is tasked to lead all Federal activities in airport infrastructure investments in the country, while increasing the role and facilitating State and local involvement in airport development. The Federal Government will

continue having a strong role in the country's major airports, but a concession program is being pursued to attract private investment and increase private sector involvement in airport operations. Further, the funds obtained through the large airport concession program will be partly used to further develop regional airports.

Under Brazilian law, every State independently develops Statewide Airport Plans which are negotiated with and approved by SAC. Every airport or group of airports are the object of a Convenio signed between the State and SAC which defines the general purpose and modalities of operation (INFRAERO, State or Municipal Operation or Concession) of the airport. Airports not included in the State Plan and not the object of a signed Convenio cannot operate as public (commercial) airports nor are they eligible for Federal financial support.

Regulations specifying airport infrastructure requirements and their enforcement are the responsibility of the National Civil Aviation Agency (ANAC). US exporters need to be mindful of ANAC's regulations which, while complying with ICAO norms and standards and often also similar to FAA standards, also incorporate other requirements.

Sixty six airports (the major airports and a number of secondary airports) are operated by INFRAERO whose role is now transitioning to airport operator. At the same time, the program to concession some of these airports (mainly the terminal side) is being formulated. A tender process for the concession of a new airport in Natal has been underway and a successful bidder has recently been announced. Three major airports have been designated for at least partial privatization by the President: Guarulhos in São Paulo, Viracopos near Campinas and Brasilia. It appears that Galeão in Rio de Janeiro and Belo Horizonte will soon follow.

While the Federal Government has recently adopted measures aimed at boosting investment by the private sector, this concession program of INFRAERO airports will only affect investments in existing or new major terminals. The development of regional airports will be entirely left to the states and municipalities who will shoulder investments either directly or through their own privatization initiatives with some federal support through the PROFAA program as well as any additional funding that may become available from the concessions of the INFRAERO airports, through the newly created National Fund for Civil Aviation (FNAC).

In the recent past, most federal support for state-operated regional airports has been provided by the PROFAA fund that includes revenues from landing fees and other airport generated income. Amounts distributed by the Government to the States aren't significant relative to the country's needs, amounting to a little over R\$100 million per year in the recent past. States with ready projects and strong political support for their projects often can capture a large share of these funds.

RIO DE JANEIRO STATE ECONOMY AND AIRPORT SECTOR

The State of Rio de Janeiro is located in Southeastern Brazil. It is bordered to the North by the States of Minas Gerais and Espírito Santo, to the southwest by the State of São Paulo and by the Atlantic Ocean to the East.

The State is populated by more than 15 million inhabitants, including densely populated urban areas. Rio de Janeiro, on the southeastern coast of the state, is the capital and the second largest city in Brazil, with a population of over 6.3 million. Other major cities are São Gonçalo, Duque de Caxias, Nova Iguaçu with populations between 500,000 and 1,000,000. Other cities with populations between 300,000 and 500,000 include Belford Roxo, Niterói, São João de Meriti, Campos dos Goytacazes and Petrópolis.

Rio de Janeiro is the second largest state in Brazil in terms of economic output with a Gross Domestic Product of approximately R\$ 343 billion (US\$145 billion) representing 11% of Brazil's GDP. The state's economy is more or less equally dominated by the industrial and service sectors, which represent 52% and 47.5% of the economy, respectively. Although agricultural production represents less than one percent of GDP, the state does produce goods such as sugar cane, oranges and coffee beans.

The state's most significant exports are petroleum, fuel, iron and steel. Rio is the largest oil-producing state in the country, responsible for approximately 80 percent of Brazil's total production. In addition, a large share of the country's natural gas production is located in the Campos Basin offshore of Rio de Janeiro. In 2007-2008 discoveries of the significant Tupi and Jupiter oil fields, also offshore in the Santos Basin located to the southeast of Rio de Janeiro, have significantly increased the estimates of offshore oil reserves. It is expected that offshore production will significantly grow as these fields are developed over the next decade. Petrobras expects to double its oil production by 2020.

With 635 kilometers of coastline, Rio de Janeiro also serves as a popular tourist destination. The state's road system, which connects all major cities of the State, comprises about 6,000 km of highway, most of which is paved and in good condition. Rio is also served by a 47-km underground mass transit rail network divided into two lines and 35 stations.

An extensive rail network connects the Ports at Angra dos Reis, Mangaratiba, Sepetiba, Rio and Niterói with the northern and western parts of the State.

Rio serves as the headquarters for major companies such as Petrobras and Vale and as a home to several universities and institutes, is the second largest research and development center in Brazil.

All the above combined with fast growing economy and a cosmopolitan setting make Rio de Janeiro one of Brazil's ideal destinations for investment. The State economy has been experiencing impressive growth; between 2004 and 2008 average annual growth was

11%. Many international corporations are increasingly opening offices in Rio as they expand in Brazil.

There are a total of 27 airports in the State of Rio de Janeiro, 18 are publicly owned and operated (including five military airports) and nine are private airports. Four of the public operated airports are operated by INFRAERO (including the two commercial airports in the Rio Metropolitan Area, Galeão and Santos Dumont, the GA airport in Jacarepaguá, as well as the airport serving Macaé). Three are presently under construction or being improved (Cabo Frio, privately operated under concession with municipality, Vale do Aço, new airport being built by the State, and Angra dos Reis, being improved by the State). All three airport projects are using public financing, mainly Federal funds, but the State government, the municipalities and private enterprises (Cabo Frio operated by Costa do Sol, and Angra Airports) also share the costs.

There are also a large number of heliports in the State of Rio de Janeiro, many located in the Rio Metropolitan Area and vicinity, where helicopter transportation is important for business and VIP's since traffic congestion can cause significant delays in local trips. Many of the large banks, financial institutions, and other large commercial centers in Rio (Banco do Brasil, Banco Itaú, Bolsa, Centro Empresarial Mourisco) operate their own heliports on their premises. Helicopter tours are also an important market for tourism development. Two heliports, Sugar Loaf and Lagoa, are used for tours to view scenic Rio from the air. All of these heliports are privately operated, except for two located at Lagoa (one is used mainly by the city and the other is operated by the State for Police and Firemen services). There is also a publicly owned heliport in Niteroi operated by the Military Police.

PROJECT DESCRIPTION AND OBJECTIVES

The Rio de Janeiro State Transport Secretariat (SETRANS) is developing a modern State Airport and Heliport network, equipped with latest technology for navigation and communications systems, with appropriate facilities to handle the growing domestic regional passenger services as well as to support the upcoming World Cup and Olympics Games and the ongoing offshore oil exploration and development program.

The Rio State Transport Secretariat is in process of updating the State's Plano Aeroviário (Statewide Airport Plan), which was prepared in 2002. The State Transport Secretariat has requested Technical Assistance from USTDA to update its plan, so as to include the latest technology available, utilize appropriate market analysis to define project needs and priorities, modernize the available infrastructure and equipment, as well as comply with appropriate international norms and standards.

Besides airports, there is also a need to consider the opportunities to expand and improve the heliport network through the Technical Assistance Program, particularly to review the proposed heliports requested by the municipalities in the State. At this time, there are seven municipalities seeking to build heliports. The State of Rio provides

assistance for these investments and had also considered heliport needs in the prior 2002 Plano Aeroviario. The heliports analysis shall consider strategic locations, technology options, and investment needs to serve the State's businesses and key industries. Many of the needs for new heliports in the State of Rio de Janeiro are associated with the offshore oil exploration and production facilities. There are now three major offshore platforms in the State which are used to bring supplies and transport workers to the platforms. Technological improvements to increase safety and facilitate the use of helicopter services also shall be evaluated. The Technical Assistance Program would identify needed investments to deploy new technology and expand the heliport network in the State.

The State of Rio de Janeiro objectives include developing a Program to modernize its airports as well as build new airports and heliports in areas where such new airports and heliports can support the state and local economic development objectives. Project needs and priorities shall be identified based on appropriate market analysis and international and ANAC norms and standards. Specific objectives to be addressed during the Technical Assistance Program are as follows:

- 1) Carry out a Demand Analysis for Tourism and Business Regional Commercial Aviation Services (Airlines and Helicopter Services) over the next 20 years, including the demand associated with the rapidly expanding oil exploration and development.
- 2) Update the Airport and Heliport Statewide Plan and Program, including needed improvements (infrastructure and equipment), originally prepared in 2002, in order to modernize and expand commercial as well as general aviation facilities and add new airports and heliports to meet projected demand, in accordance with international norms and standards, particularly to incorporate three immediate priorities:
 - a. Needed improvements and priorities to develop Airport Night Operations at General Aviation Airports, in accordance with international and domestic (ANAC) safety norms and the Statewide Airport Plan policies,
 - b. Other needed investments to upgrade existing facilities and develop needed new airports and heliports, and
 - c. Feasibility Analysis for two new heliports to serve:
 - i. tourism and Business needs, and
 - ii. the expanding offshore oil exploration and development industry, one in the center of Rio de Janeiro, and another in Jacaraguá/Barra da Tijuca, including site evaluation and conceptual plans.

- 3) Implementation approaches and specifications for two new heliports in the Rio Metropolitan Area and the navigation, communications, and lighting equipment at priority airports.

The intent is to develop a regional airport and heliport network with modern equipment and services that complements the INFRAERO Airports. Although the airports operated by INFRAERO have not been included in the Technical Assistance, the US Firm should take into account the existing and planned facilities at INFRAERO airports in terms of how they may affect needs at other airports in the State that are included in this Technical Assistance. The airports included in the Technical Assistance are mainly small regional and general airports which are important for local markets, but they are operated separately from the larger INFRAERO airports. The projects are all intended to generate economic development as well as support local business needs, including supporting the upcoming 2014 World Cup and 2016 Olympics and the ongoing offshore oil exploration and development programs in the State of Rio de Janeiro.

The Technical Assistance effort shall produce the following products:

- 1) Technical and economic feasibility analysis, as well as facility requirements for planning of new airports and heliports intended to support further tourism and development of the oil and gas offshore industry.
- 2) Technical inputs for the updating process of the Statewide Airport Plan of the State of Rio de Janeiro (PAERJ), prepared in 2002, in order to consider increases in demand for air traffic, passengers, and cargo as well as needed navigation and communications equipment to comply with the State's policies and international and Brazilian norms. SETRANS would incorporate the results into its Plan for submission to ANAC for approval.
- 3) Implementation Approach and Specifications for equipment acquisition as well as the development of two new heliports in the Rio Metropolitan Area.

After the TORs were developed in accordance with the above objectives and priorities, the State of Rio requested the addition of several tasks either as separate efforts or as additional tasks in this Technical Assistance, as follows:

- 1) A study of the potential market for an airline hub in Galeão Airport in Rio
- 2) An Economic Impact Study of the impact of Galeão Airport on the economy of the State in terms of jobs, taxes, and economic activity.
- 3) Final design of two new heliports in the Rio de Janeiro Metropolitan Area

The first two items are not directly related to the scope of this Technical Assistance, although both appear reasonable and appropriate for USTDA consideration. It was not possible to fully address them in this Technical Assistance due to the timing of the

request. It is recommended that USTDA consider them further in greater detail in the near future.

The request for final design of two heliports in the Rio Area is directly related to the rest of this Technical Assistance. Further, advancing these two new heliports beyond the planning stage would clearly move them forward towards implementation and increase the potential for US exports resulting from this project in the near term. Accordingly, this request was added to the scope of the Technical Assistance, but in light of the uncertainties as to the size and location, financing, and procurement method to be used for the heliports, the tasks to do the conceptual design are best defined once the sites are selected. The TORs have included sufficient analysis and work beyond conceptual planning to develop a request for bids from selected contractors, so these two heliports can be fast tracked as requested, thereby achieving SETRANS objectives.

Project Sponsor Capability and Commitment

The Project Sponsor will be SETRANS which is the highest level organizational unit responsible for the planning, coordination, supervision, control, and implementation of all transport projects in the State, including airport infrastructure as well as cargo and logistics projects. SETRANS' mission also includes statewide transport policy development to assure an efficient and integrated transport infrastructure for all modes, including airports. The responsibilities of SETRANS include, amongst others, the following:

- Define statewide transport policy,
- Promote the development, expansion and integration of the State's transport infrastructure.
- Conduct surveys and planning studies to consider user needs and improve social and economic mobility.
- Encourage institutional arrangements to better integrate the Metropolitan Area Transportation System at the municipal and State levels.
- Administer State airports and heliports thru concessions and agreements based on authority from the responsible Federal agencies.
- Operate, control, supervise, negotiate agreements and participate in appropriate councils and other organizations to further the organization's objectives.

Within SETRANS, the Program shall be coordinated through the Subsecretaria de Estado dos Transportes, which includes the airport, cargo, terminals, and related programs. The Subsecretaria includes a staff composed of engineers, architects, economists, and administrators, with post graduate degrees, who regularly manage large complex infrastructure development projects. The Superintendent of Cargo and Logistics, as well as the Coordinator for Air Transport, the Coordinator for Cargo and Logistics and the Advisor for Air Transport Coordination shall all be involved as needed in providing

information and overseeing the Technical Assistance Program. The Subsecretaria is responsible for the implementation of airport programs, as well as the implementation of technical-economic-environmental studies and engineering design for airport projects aimed at the development, construction, rehabilitation, expansion, operation, and maintenance of the State's Airport System.

SETRANS recognizes that air transportation has an important role in the State's economic growth and the regional development of the State, particularly to support the tourism industry, business needs, and the offshore oil exploration and development. For the regional and general aviation airports and heliports, the facilities are a factor in attracting economic development, particularly those areas not easily accessible and/or far away from the major developed markets. SETRANS is committed to developing the improved infrastructure, including the two new heliports in the Rio Metropolitan Area, as well as the improvements, modernization and expansion of airport infrastructure identified in the State Airport Plan.

Implementation Financing

The State of Rio de Janeiro has access to a number of dedicated sources of funding that can be used to finance the proposed airport and heliport program.

First, the Statewide Air Transportation Program which USTDA would support through this technical assistance would provide access to the R\$100 million PROFAA program described in Section II.B above.

In addition, the Federal Government has announced its intention to use some of the funds from the concession of the large INFRAERO airports for regional airport development through a new fund known as FNAC. However the sources and uses of this fund aren't presently known.

A third source is the State of Rio de Janeiro's own funds which are budgeted every year for air transport infrastructure improvements and expansion. In 2011 that budget line was of R\$33.3 million.

A fourth source which would directly benefit US exporters is the US Export-Import Bank (Ex-Im) which recently signed a US\$1 billion Preliminary Commitment with the State of Rio de Janeiro targeting infrastructure development. Ex-Im expressed great interest in supporting airport and heliport infrastructure in the State.

The project was discussed with other organizations which are also potential sources of additional financing which were identified during the Definitional Mission: the Brazilian Development Bank (BNDES), private sector funding potentially secured with assistance

from the International Finance Corporation, the Inter-American Development Bank (IDB), and the U.S. Overseas Private Investment Corporation (OPIC).

Human resources dedicated to the funding of airport projects at BNDES are going to be severely taxed in the coming years with the expansion and privatization of Brazil's large airports and the bank did not express great interest in supporting smaller operations at this time, such as the secondary airports and heliports in the State of Rio de Janeiro. The IDB has the additional constraint that it does not engage in sub-sovereign operations without approval at the federal level. While the inclusion of the new airport in the Air Sector Plan for Rio de Janeiro is a step towards such an approval, the Ministry of Planning would still need to agree that IDB funds be dedicated to this purpose, a process that will likely take significant time.

The IFC's main interest is airport concessions. The IFC is not currently involved in the announced privatization of major airports in Brazil but it does have a working agreement with BNDES and hopes to be involved in future operations. While it is less interested in smaller airports it would be open for discussions of PPP operations. In particular, some members of the IFC expressed interest in exploring the possibility of financing safety improvements at a number of airports through availability payments backing supplier's credit. Such a scheme could be of interest to vendors who would have the opportunity to bid the furnishing, installation and maintenance of safety, navigation and/or communications improvements at several airports. Such an approach would make the transaction more interesting to suppliers and could potentially result in reduced costs for the State of Rio.

OPIC would support US investors in case some of the proposed investments were executed as PPPs.

The development of new airports or heliports improvements may be funded by a combination of PROFAA, the State, municipality, or by the private sector. State, Municipal or Private Sector funding can play an important role in any development of new airports and heliports. TDA discussions with the State of Rio de Janeiro should include confirmation of the sources of funding for the projects as well as the ownership and availability of the land for the proposed airports or heliports, particularly those selected to carry out conceptual planning and/or approaches for fast track implementation.

US Export Potential

APPROACH

The approach to estimate US export potential was tied closely to the selection of study areas for inclusion in the Technical Assistance Program. One of the main criteria for inclusion of study areas in the TOR for the Study was to select projects that require equipment and/or services where US companies are presently involved in the Brazilian

market already generating US exports, or where US companies compete successfully in worldwide markets and have expressed interest in selling their products and services in Brazil.

The State of Rio de Janeiro has developed a Program to modernize its airports as well as build new airports and heliports in areas of the State where such new airports and heliports can support the State's and the Area's business, tourism and oil industry development objectives. The overall objective of the Technical Assistance is to support an update of the State Airport Plan. Several major Rio airport and heliport projects and statewide airport issues were considered for USTDA support. The selected study areas for the Technical Assistance Program reflected the priorities of the Project Sponsor as well as the US Export Potential.

Three additional tasks were proposed by the Project Sponsor after this export potential analysis was completed. All the requested additional tasks merit consideration and appear to meet the USTDA guidelines for funding. Two of these additional tasks are not included in the proposed TOR and study budget at this time. These two tasks, an analysis of the potential to develop an airline hub in Galeão Airport and a study of the economic impact of such a Rio Airport Hub on the State's economy, are not directly related to the scope of this Technical Assistance. They should be considered separately for possible future funding. The third task, to design two new heliports in the Rio Metropolitan Area, was considered as an addition to the proposed scope. In light of the uncertainties regarding the site location, ownership, availability and funding sources, an approach is proposed that would expedite these projects and eliminate the need to do the design as a separate task at this time. The TOR does incorporate the objective to proceed with the two helicopters on a fast-track basis.

In summary, the selection and scope of projects to be studied has considered the likelihood of near term project implementation, so that US exports can be generated, as well as the type of goods and services that will need to be procured and can be competitively provided by US exporters.

METHODOLOGY

To develop an estimate of the potential to generate US exports as a result of the implementation of the projects proposed for study, US manufacturing companies that supply the type of equipment and services to be acquired were contacted. For each of the investment categories to be studied, several exporters were contacted and asked to respond to a number of questions to assess their prior involvement in supplying Brazil airports with equipment, whether they presently have a representative in Brazil or a staff person responsible for marketing in Brazil, and further to determine their interest in the Brazilian market and the proposed projects. Exporters were also asked to state what they needed to facilitate their involvement in these projects.

INVESTMENTS THAT HAVE THE POTENTIAL TO GENERATE US EXPORTS

The Technical Assistance Program to study needed investments at various Rio de Janeiro State Airports provides an opportunity to promote US exports in the development of the priority projects.

The development of a statewide plan for airports and heliports is required by Brazilian legislation in order for the investments to secure the necessary operating licenses as well as to be eligible for federal (PROFAA) funding. The scope of the proposed Rio de Janeiro State Airports and Heliports Technical Assistance Program is likely to result in the following investments that have the potential to generate US exports:

- 1) Airport Lighting and other Equipment for Night Operations (estimated to be needed at four existing airports and two new airports)
 - a. Angra dos Reis
 - b. Cabo Frio (expansion of taxiway)
 - c. Maricá
 - d. Resende
 - e. Vale de Aço (new airport already receiving PROFAA funding)
 - f. New Cantagalo Airport
- 2) RESA at Angra dos Reis, Navigation Aids, Weather Observation Stations, Radio Communication and other Equipment at all airports listed above.
- 3) Fuel Distribution, Crash Fire Rescue and other vehicles at all airports listed above.
- 4) Heliport systems (seven planned, two of which will be in Rio Metropolitan Area)
- 5) Heliport services and/or management contracts at two heliports
- 6) GNSS System to control helicopter and small aircraft in the southern part of State to be located at Angra dos Reis.

US EXPORT POTENTIAL

Based on the list of projects that have been selected to be the focus of the Technical Assistance Program as described above, estimates of Export Potential were prepared for each investment category. The following table summarizes the estimate of US export potential in each category.

An estimated US\$19.750 million could be sourced by US exporters as a direct result of the projects to be implemented in the State of Rio de Janeiro which will be supported by the USTDA Technical Assistance Program. A significant part of the export potential is related to the helicopter services contract. Most US helicopter services companies involved in the US Gulf of Mexico Coast oil development and exploration program are also involved in some manner in Brazil. Heliports in Brazil must be operated by an airport operator meeting specific requirements. US companies can provide technical support even where the main operator is a Brazilian company or a joint venture set up with a US company as a Brazilian enterprise. USTDA assistance for the proposed projects can

support expansion of those services (e.g. ERA Helicopters is associated in that capacity with a Brazilian operator).

Estimate of US Export Potential by Investment Category

<i>Investment Need</i>	<i>Cost per Airport (\$000)</i>	<i>Number</i>	<i>Total Cost (\$000)</i>
Aircraft Lighting for Night Operation	\$750	6	\$4,500
Nav aids (VOR, VHF Radio, PAPI)	\$100	6	\$600
RESA	\$100	1	\$100
AWOS	\$100*	13	\$1,300
Heliport lighting systems	\$150#	7	\$1,050
Helicopter service contract**	\$5,000	2	\$10,000
GNSS Traffic Control Equipment	\$1,000	1	\$1,000
Other (trucks, fuel distribution, etc.)	\$200	6	\$1,200
Total			\$19,750

* Also includes heliports

per heliport

** Assumes \$1million per year five-year contract

One of the US helicopter companies interviewed (PHI) which is presently operating in the US Gulf Coast supporting off shore oil operations, expressed interest in being involved in Brazil. PHI has already been in contact with potential partners locally in Brazil. It noted that international oil companies place emphasis on safety, pilot training and experience (often requiring at least 1,000 hours of offshore flying), and with the latest modern equipment. Further, PHI is willing to invest to build a heliport if they have an operating contract for a base traffic level. The State of Rio could consider a scenario where the State buys the land, provides access and infrastructure connections, and a private concession involving a US partner provides the technical expertise and experience.

Further, Rio de Janeiro State is a center for tourism as well as the oil industry. The proposed helicopter development program can result in exports for US companies selling heliport systems and services as well as manufacturers of helicopters.

It should be noted that the exposure of US manufacturers and exporters to the Brazilian aviation sector which will result from the USTDA Technical Assistance will also better position them to participate in a large number of projects which are not specifically included in the Technical Assistance identified by this Definitional Mission. Notably, there is significant potential for US exporters to participate in the ongoing program to improve the largest airports in the country being led at the national level by the new Secretariat of Civil Aviation (SAC). The SAC concession program will involve the largest INFRAERO Airports, including Guarulhos and Viracopos Airports in São Paulo State, Brasília Airport in DF, Galeão Airport in Rio de Janeiro State and Belo Horizonte in Minas Gerais State. Additionally, a very significant development of Brazil's regional airport sector is expected

throughout the country in the near term. While these indirect export potential volumes are not included in the estimates presented in this document, the Technical Assistance tasks are designed to maximize the impact of the exposure.

PROPOSED APPROACH TO FACILITATE US EXPORTERS INVOLVEMENT IN PROJECT IMPLEMENTATION

In order to facilitate the involvement of US exporters in the projects to be studied through the USTDA supported technical assistance program, the TORs have included the following tasks:

- 1) Develop specifications that can be used by the Project Sponsor or prime contractors to acquire equipment.
- 2) Develop an RFP for a design-build contract to construct two new heliports in the Rio Metropolitan Area.
- 3) Contact US manufacturers of needed equipment and provide a list of suppliers interested in sourcing needed equipment to project sponsors.
- 4) Contact US service providers for i) Design-Build Heliport contracts, ii) Heliport Operations services, iii) Planning and Engineering services, and iv) Program Management services, as well as provide a list of interested companies to project sponsors.
- 5) Develop a one-page project brief that describes the equipment to be acquired, the procurement process to be followed, as well as the export financing available to US exporters. This can be included as an Appendix to Final Report as well as be available to be distributed by USTDA and US Department of Commerce to interested US exporters.
- 6) Develop a summary of the process to be followed to procure equipment, develop heliports, etc., including steps to register US companies with the procurement agencies.
- 7) Develop a list of contacts in Brazil that can help US exporters, including the main Brazilian contractors that may serve as prime contractors and may therefore, acquire some of the equipment, the Brazilian companies that can serve as distributors of the US equipment, and other information that can be distributed to interested exporters to maximize the potential involvement of US exporters in project implementation.
- 8) Require that brochures, technical booklets, specs, and other relevant info regarding equipment recommended to be acquired or services to be procured to be included as annex to Final Report
- 9) Require that a copy of the relevant sections of report describing equipment to be acquired and services to be procured should also be provided to all firms contacted that expressed interest in supplying the sponsor with the needed equipment.
- 10) Include a small task to assist in the follow-up export promotion activities after completion of the Final Report. US consultant firms should be willing to provide this additional service at minimal cost as it will provide them an opportunity to

remain in touch with the project sponsors and also a way to assist them in the intended project implementation.

It is also proposed that the follow-up evaluation include contacting US exporters that expressed interest in supplying equipment and/or services, not only to determine their volume of exports associated with the project, but also by updating the project information prepared during the Technical Assistance Program. The potential exporters would then receive latest information on Brazilian local Procurement Agencies, the timing on anticipated procurements, etc. At the same time, the Project Sponsor would get latest information on the interested US exporters, their available equipment, services, brochures, etc., tailored specifically to any upcoming procurements.

Foreign Competition and Market Entry Issues

Brazilian (e.g. Combratel and Metrol), as well as Foreign firms, mostly European (e.g. Siemens, Thorn, Sterela, Hella, ERNI AGL, etc.), Korean (Youyang), and Japanese (Mitsubishi), but increasingly for selected products also Chinese, (e.g. Shanghai Nanhua Electronics Co, Ltd. and Shenzhen Ruibi Tech. Co. Ltd.), compete to provide many of the products listed in the Export Potential section above. Several large contractors with international operations are based in Brazil (Odebrecht, Andrade Gutierrez, Camargo Correa, etc.) and other large foreign engineering companies, service providers, and contractors also compete in the Brazil market (Hochtief, Aeroports de Paris, Ineco, Vinci, etc.)

Notwithstanding, the high quality and advanced technology of US products and services enable US firms to successfully compete in these markets. Further, the selection of equipment suppliers may also be affected by financing terms and the local service available to maintain and repair equipment, as well what the warranty covers. Currency exchange can also affect competitiveness for US products and services. The Brazilian Real has been strong in the recent past, but the dollar has strengthened in the past few months. The relationship with other currencies used by main competitors for the business, such as the Euro, can also affect bid results. These currency exchange factors will vary over time.

Financing by some Brazilian entities such as BNDES may include some restrictions on eligible products. Although there have been historical obstacles for foreign companies to enter the Brazilian market where Brazilian products and services are available, Brazil has been recently encouraging foreign investment and the introduction of the latest technological advances to improve its airport infrastructure, including the process underway to concession airports. USTDA has a rich and successful experience in Brazil. Evaluations of past assistance such as the 2006 Intelligent Transportation project or the 2009 Ceará Government Communications network project demonstrate that US firms are able to successfully compete in the market. Availability of ExIm Bank funds through the preliminary commitment signed with the State of Rio de Janeiro also can facilitate vendor

financing for certain equipment purchases or for the new heliports in the Rio Metropolitan Area.

Because of market entry and various legal and regulatory issues, most US firms competing in the Brazilian market need to associate and establish relationships with Brazilian companies. This is similar to the approach most firms use when entering a market in most countries, and Brazil is no exception. In the construction sector, there are many very large contractors in Brazil who have traditionally teamed up with US firms for projects outside of Brazil. Equipment manufacturers and companies that manufacture products in Brazil often also have licensing agreements or relationships with US firms which provide the opportunity for US firms to expand their market reach. Most US companies contacted in this DM noted that they already have or have been in the process of negotiating agreements with local Brazilian firms. There are then many opportunities for US firms to successfully compete in the projects that are being supported in this USTDA Technical Assistance Program.

Development Impact

The likely development impacts from the projects supported by the Technical Assistance will be discussed from the two perspectives, Primary Development Benefits and Alternatives, considering the definitions established for USTDA support.

PRIMARY DEVELOPMENT BENEFITS

TDA considers primary development benefits in four categories, i.e. Infrastructure, Human Capacity Building, Technology Transfer and Productivity Improvements, and Market Oriented Reforms. Each of these items will be discussed for the main projects being considered for the Technical Assistance. In general, all the projects being considered can be expected to have positive economic development impacts and facilitate economic growth in the State.

Infrastructure

The project would help define equipment needs to improve safety and services through night operations and improved communications and navigation equipment at several airports. As such, these projects can improve security for the population in the airport's hinterland and increase availability and service level for emergency medical services. Similarly, the two new heliports in the Rio Metropolitan Area can provide an improved level of transportation within the congested Rio Area. The availability of increased helicopter services and additional transportation choices whether for meeting business needs or serving tourists in an area where tourism is a major contributor to the area's economy, are important additions to the area's infrastructure. Further, the heliports and airports that will serve as cargo/logistics bases for the offshore oil industry will benefit

from the navigation equipment and the State will have better infrastructure to support the growing industry.

Human Capacity Building

All study areas of the Technical Assistance will promote the creation of more skilled jobs as equipment is introduced and airports as well as heliports are expanded. Further, the new heliports are important to support major growth industries in the State, which will create a large number of permanent jobs in the coming decade, through the 2014 World Cup, the 2016 Olympics and the offshore oil development. Although the training will not be carried out through this USTDA Technical assistance, the new navigation and communications equipment being considered will also require some job training for its operation as well as maintenance and repair specialists training. The heliports operation will also require training of additional staff in heliport operations. Additional jobs will also be created in construction, although those will not be permanent jobs.

Technology Transfer and Productivity Improvement

While the projects are not expected to transfer new technologies that are not presently available in the State of Rio de Janeiro, the introduction of new equipment in certain areas will transfer new technologies into new uses and additional areas of the state. The addition of improved navigation and communications equipment as well as the availability of open airports and/or additional heliports at night or in additional areas of the State can enhance productivity for business users and can increase the efficiency of use the facilities or the overall transportation system.

Market Oriented Reform

The project will consider the involvement of the private sector in the development and operation of the two new heliports in the Rio Metropolitan Area. Potential vendor financing will also be considered for equipment acquisition. The State of Rio has traditionally developed and operated its airports through public sector institutions. It has recently used public-private partnerships for airport improvements. This project will consider extending this approach to new heliports and airports, which if accepted, could complement the ongoing efforts to privatize major airports in Brazil.

ALTERNATIVES

The main alternative that exists is to continue with the status quo, without the new airports and heliports or the improved navigation and communications equipment. This base alternative will increase the potential for accidents, and result in a lower level of services to businesses and the local population, as well as visitors and tourists. The alternative to only pursue some of the airports and heliports can also be considered through the feasibility analysis and other impact studies which will be carried out.

Impact on the Environment

It is expected that some of the proposed projects resulting from the Technical Assistance may pose potential impacts to the surrounding environment, either through the expansion of existing infrastructure or construction of new airports and/or heliports. Air and noise pollution may be possible impacts in both the construction and operation phases of the proposed developments. There may also be social impacts related to communities residing on or nearby proposed sites for new airfield developments. In general though, many of the projects involving relatively small investments at existing airports may have minimal impacts. Even in the case of new heliports, depending on the site selected, the negative impacts may be small. Further, some social impacts will be positive, such as the improvements associated with night operations, the new communications and navigation equipment, and the new heliports (which can be important for emergency medical services).

In all cases, the Project Sponsor is required to develop the projects following environmental regulations and permitting procedures. In order to appropriately identify the potential impacts associated with the projects developed as part of the Technical Program, the US Firm shall undertake a preliminary review of the impacts of the recommended projects on the environment, consistent with local environmental requirements and standards established by international financing institutions. This review shall identify any potential negative impacts and discuss the extent to which they can be minimized. Areas to be considered include noise, air quality, erosion control, and other potential impacts, with the intent to identify areas where these impacts should be mitigated at various stages of project development. In most cases, particularly considering the scale of the proposed projects, airport improvements or new facilities can be designed and built to mitigate many of the adverse impacts that may result.

Brazil has a very developed environmental code that provides for protection of fragile environments and the mitigation of impacts caused by new airport or heliport projects such as those being considered in this Technical Assistance. Under the existing regulations, no work can take place unless the significant negative impacts on the environment have been considered and mitigated. In Rio, the State Secretary of the Environment (Secretaria de Estado do Ambiente - SEA) is the agency responsible for developing and coordinating state policies for the protection and conservation of the environment and management of water resources with the aim of promoting sustainable development in the State of Rio de Janeiro. The Projects that result from the Technical Assistance will need to obtain necessary approvals and permits from SEA in conformance with state and federal environmental laws.

Impact on US Labor

There is no reason to believe that this project would have any negative impact on US jobs. Specifically:

- The proposed investments do not provide financial incentives to any US firm to relocate to the State of Rio de Janeiro.
- There are no known violations of internationally-recognized workers' rights in the State of Rio de Janeiro and the proposed investments do not induce or support such activities.
- The proposed investments do not provide direct assistance for expanding the production of any commodity for exports.

The project is expected to have a positive impact on US exports directly and indirectly as follows:

- The export potential described in Section V.d above will generate jobs with US manufacturers and exporters, and
- The continuation and strengthening of Brazil's development will provide additional opportunities for US businesses. It should be noted that the growth of Brazil's economy is strongly and positively correlated with US exports, which increased almost three-fold between 2002 and 2010 (from \$12.3 billion to \$35.4 billion according to the US Census Bureau).

Qualifications to Conduct Study

The selection of a US Firm firm to carry out this Technical Assistance Program should be based on the following criteria:

- **Staff Technical Experience – Statewide Airport Planning (20 points):** Team's experience (including detailed resumes showing language capabilities and specific projects in the main study areas that are the objective of this Technical Assistance Program). Staff expertise and qualifications should specifically demonstrate experience in statewide aviation planning, including previous experience in development of regional, general aviation, and heliports; and experience in runway lighting, navigational aids and GNSS systems, airport planning and design, technical specification development, procurement and cost estimating for airport investments. Knowledge and familiarity with ICAO, FAA and TSA regulations must also be demonstrated. The team should also demonstrate experience working on statewide airport development programs, involving Federal, State and local officials.
- **Staff Technical Experience – Heliport and Airport Facility Planning and Development (10 points):** Team's experience (including detailed resumes showing capabilities) in heliport and airport infrastructure development, private sector approaches to heliport and airport facility development, and implementation and financing of airport and heliport projects. Experience in preparing an RFP for a Design-Build or DBO contract is also desirable.

- **Staff Financial, Economic and Environment Analysis Experience (20 points):** Team's experience in financial, economic and environment analysis for airports, project financing, development of statewide capital investment programs for airport and infrastructure projects, and development impacts of regional airport projects. Specific experience with financing mechanisms for airport projects in Brazil and Latin American markets is desired. Previous experience in airport and/or heliport concession and privatization should also be demonstrated.
- **Staff Air Transport Market Analysis Experience (10 points):** Team should have experience in demand analysis, market research and market assessments for commercial and general aviation, and heliport projects including prior experience developing such facilities to handle both passengers and cargo.
- **Work Plan and Methodology (25 points):** Adequacy of the proposed work plan and suggested overall approach to address the Terms of Reference and the different Technical Assistance Program objectives. Approaches to the consultation process with SETRANS as well as reasonableness of technical approach and staff utilization schedule. The specific study areas methodology, the proposed team organization to achieve the objectives, and the overall work plan to produce the products to be delivered will be evaluated.
- **Firm's Technical and Regional Experience (15 points):** Firm prior experience in statewide aviation planning, airport and heliport facility development, and airport/heliport feasibility studies is required. Familiarity with the aviation sector in Brazil and South America should be demonstrated.

Justification for USTDA Funding

The request for Technical Assistance in the updating of the Rio de Janeiro State Airport Plan is justified for the following main reasons:

- 7) *Export Potential is significant.* The estimates of US exports indicate that the potential value of the exports is much greater than the funding assistance for the Technical Assistance. Further, many of the needed investments are to be implemented in the near term, increasing the potential for US exports.
- 8) *Major Ongoing Infrastructure Investments Underway.* The State of Rio de Janeiro is going through a major economic expansion with significant investments in infrastructure, particularly in airports and heliports. These investments are not only related to the upcoming World Cup games in 2014 and the 2016 Summer Olympics (for which the two new heliports in the Rio Metropolitan Area can be important), but also for the ongoing expansion in offshore oil exploration and development.

- 9) *Potential for US firm participation in Heliport Development.* The new heliports can potentially be developed through a fast track contracting approach which could benefit from experienced international firms involvement collaborating with local firms. The heliport projects aimed at serving the cargo and logistical needs of the offshore oil program can benefit from the experience of US contractors, particularly heliport operators and helicopter services providers that have been involved in the US Gulf Coast offshore oil program. Several US firms are known to be involved already with local Brazilian firms and are exploring the helicopter and heliport markets in Brazil. The Technical Assistance Program will develop the procurement approach and financial plan for the contracts for the development of two heliports in the Rio Metropolitan Area.
- 10) *Potential for US Exporters Involvement as Airport Navigation, Communications, and Lighting Equipment Providers.* The equipment needs to improve and modernize navigation, communications and airfield lighting in the Rio State airports is a market where US companies compete and several exporters are already involved. The Technical Assistance Work Program has been structured to involve potential exporters so they can obtain early information on upcoming procurements. A larger joint procurement program for several airports can increase the potential for US exporters competitiveness. The Technical Assistance Program will develop specifications for some of the equipment to be procured in the near term.
- 11) *Foreign Competition.* European, Chinese, Japanese and other foreign competitors are actively involved in the Brazilian airport market. The involvement of USTDA through this Technical Assistance can help promote US company involvement with the Project Sponsors and encourage use of US sourced equipment and services.
- 12) *Large Upcoming Brazilian National Airport Investment Program.* The Brazilian government's investment in airports is anticipated to grow rapidly, including a program to concession the major airports in the country. A new terminal at Natal Airport has already been concessioned. The process to concession Brasilia, Sao Paulo Guarulhos, and Campinas (Viracopos) has been announced. Other major airports will follow, including Galeão Airport in Rio de Janeiro State and Belo Horizonte in Minas Gerais State. The Brazilian government has also announced the creation of a new fund to finance regional airport investments around the country. Many US companies are positioning themselves to participate in these upcoming programs. This Technical Assistance can then also help US exporters to increase their presence and experience in Brazil, and thereby improve their competitiveness as the large upcoming investments are implemented.

Terms of Reference

PURPOSE AND OBJECTIVE

The Rio de Janeiro State Transport Secretariat (SETRANS) is developing a modern State Airport and Heliport network, equipped with latest technology for navigation and communications systems, with appropriate facilities to handle the growing domestic regional passenger services as well as to support the upcoming World Cup and Olympics Games and the ongoing offshore oil exploration and development program.

There are a total of 27 airports in the State of Rio de Janeiro, 18 are publicly owned and operated (including five military airports) and nine are private airports. Four of the publicly operated airports are operated by INFRAERO (including the two commercial airports in the Rio Metropolitan Area, Galeão and Santos Dumont, the GA airport in Jacarepaguá, as well as the airport serving Macaé). Three are presently under construction or being improved (Cabo Frio, privately operated under concession with the municipality; Vale do Aço, a new airport being built by the State; and Angra dos Reis, being improved by the State). All three airport projects are using public financing, mainly Federal funds (about R\$20 million for Cabo Frio and Angra dos Reis), but the State government, the municipalities and private enterprises (Cabo Frio operated by Costa do Sol, and Angra Airports) also share the costs. Other airport improvements are being planned for Resende and Paraty Airports, and new heliports are being constructed in Visconde de Mauá (Resende), Três Rios, Pétropolis, and Teresópolis. The 2002 State Airport Plan proposed investments of R\$300 million, with R\$210 million provided by the Federal government and the rest by the State.

There are also a large number of heliports in the State of Rio de Janeiro, many located in the Rio Metropolitan Area and vicinity, where helicopter transportation is important for business and VIP's since road congestion can cause significant delays in local trips. Many of the large banks, financial institutions, and other large commercial centers in Rio (Banco do Brasil, Banco Itaú, Bolsa, Centro Empresarial Mourisco) operate their own heliports on their premises. Helicopter tours are also an important market for tourism development. Two heliports, Sugar Loaf and Lagoa, are used for tours to view scenic Rio from the air. All of these heliports are privately operated, except for two located at Lagoa (one is used mainly by the city and the other is operated by the State for Police and Firemen services). There is also a publicly owned heliport in Niteroi operated by the Military Police.

The Rio State Transport Secretariat is in process of updating the State's Plano Aeroviario (Statewide Airport Plan), which was prepared in 2002. The State Transport Secretariat has requested Technical Assistance from USTDA to update its plan, so as to include the latest technology available, utilize appropriate market analysis to define project needs and priorities, modernize the available infrastructure and equipment, as well as comply with appropriate international norms and standards.

Besides airports, there is also a need to consider the opportunities to expand and improve the heliport network through the Technical Assistance Program, particularly to review the proposed heliports requested by the municipalities in the State. At this time, there are seven municipalities seeking to build heliports. The State of Rio provides assistance for these investments and had also considered heliport needs in the prior 2002 Plano Aeroviario. The heliports analysis shall consider strategic locations, technology options, and investment needs to serve the State's businesses and key industries. Many of the needs for new heliports in the State of Rio de Janeiro are associated with the offshore oil exploration and production facilities. There are now three major offshore platforms in the State which are used to bring supplies and transport workers to the platforms. Technological improvements to increase safety and facilitate the use of helicopter services also shall be evaluated. The Technical Assistance Program would identify needed investments to deploy new technology and expand the heliport network in the State.

The State of Rio de Janeiro's objectives include developing a Program to modernize its airports as well as build new airports and heliports in areas of the State where such new airports and heliports can support the State's and the area's economic development objectives. Project needs and priorities shall be identified based on appropriate market analysis and international and ANAC norms and standards. Specific objectives to be addressed during the Technical Assistance Program are as follows:

- 1) Carry out a Demand Analysis for Tourism and Business Regional Commercial Aviation Services (Airlines and Helicopter Services) over the next 20 years, including the demand associated with the rapidly expanding oil exploration and development.
- 2) Update the Airport and Heliport Statewide Plan and Program, including needed improvements (infrastructure and equipment), originally prepared in 2002, in order to modernize and expand commercial as well as general aviation facilities and add new airports and heliports to meet projected demand, in accordance with international norms and standards, particularly to incorporate three immediate priorities:
 - a. Needed improvements and priorities to develop Airport Night Operations at General Aviation Airports, in accordance with international and domestic (ANAC) safety norms and the Statewide Airport Plan policies,
 - b. Other needed investments to upgrade existing facilities and develop needed new airports and heliports, including site evaluation and conceptual plans for selected airports and heliports, and
 - c. Feasibility Analysis for proposed investments, with special attention to two new heliports to serve:

- i. tourism and Business needs, and
- ii. the expanding offshore oil exploration and development industry,

one in the center of Rio de Janeiro, and another in Jacaraguá/Barra da Tijuca, including considering fast track implementation.

The intent is to develop a regional airport and heliport network with modern equipment and services that complements the INFRAERO Airports. Although the airports operated by INFRAERO have not been included in the Technical Assistance, the US Firm should take into account the existing and planned facilities at INFRAERO airports in terms of how they may affect needs at other airports in the State that are included in this Technical Assistance. The airports included in the Technical Assistance are mainly small regional and general airports which are important for local markets, but they are operated separately from the larger INFRAERO airports. The projects are all intended to generate economic development as well as support local business needs, including supporting the upcoming 2014 World Cup and 2016 Olympics as well as the ongoing offshore oil exploration and development programs in the State of Rio de Janeiro.

The following section describes the Scope of Work, as well as the outputs to be produced as part of the technical assistance to SETRANS.

TECHNICAL ASSESSMENT – SCOPE OF WORK

The Technical Assistance Program is to be carried out within eight (8) months after receiving Notice to Proceed. The work plan to meet the Technical Assistance objectives is organized into three phases, with the first two phases followed by a meeting for presentation of the results and discussion with SETRANS and other appropriate stakeholders.

The US Firm's proposal and work plan shall define the proposed approach to this site analysis and conceptual planning for new airports and heliports, the feasibility analysis of the overall program, as well as the approach to fast track implementation for the two new heliports. The US Firm's work plan and schedule shall be based on its proposed approach to data gathering and SETRANS interaction, and should consider available data.

Required Work Plan Approach

The three-phase approach is intended to ensure close coordination and interaction between the US Firm's project team and the client and other local stakeholders before preparation of the Draft Final Report. As a result of the Initial Project Meeting, the US Firm shall refine the Work Plan, which shall incorporate any necessary changes or adjustments to reflect available data. The refined Work Plan shall also incorporate a detailed schedule, reflecting the actual start date, the submission of the Interim Reports,

the proposed review meetings, as well as the submission date for the Draft Final report. Beginning with these initial meetings and over the study period, the US Firm shall work closely with their counterparts in SETRANS and shall coordinate with them regarding all critical issues for the development of the Technical Assistance.

The US Firm shall organize and program its activities with the help of this work schedule so as to minimize impacts on SETRANS personnel, while assuring their close participation during the Technical Assistance, facilitating periodic work reviews and encouraging feedback. Client approval of interim deliverables is to be provided before following phases begin.

Study Budget

A total budget of \$485,000 is proposed. The Project Manager shall be responsible for the entire Technical Assistance as well as the Site Planning, Conceptual Planning and Feasibility Studies, while the Airport Forecaster, Equipment Specialist and Helicopter Specialist shall have responsibility for those study areas.

Direct Labor

Project Manager - The Project Manager (PM) shall be an Airport Engineer, Architect, or Planner. This individual shall be responsible for the management of the entire Study, including the demand analysis, site planning, conceptual planning, equipment needs assessments, heliport conceptual design, feasibility studies, and the heliport requirements. The PM must have a minimum of 15 years of experience in Airport Planning and Development in progressively responsible positions, with substantial personal involvement in statewide airport and heliport planning, site evaluation, facility planning and development, feasibility studies, master planning, and facility design. The PM's professional experience should include international experience, preferably in Latin America with some involvement in Brazil. The PM should preferably be fluent in Portuguese or as a minimum, in Spanish.

Air Traffic Forecasting Specialist – The Air Forecasting Specialist shall be an economist, planner, or market/business analyst, with a minimum of 10 years professional experience and substantial prior experience in airport forecasting, air service development, and/or airport planning. This Specialist should demonstrate involvement in at least five prior airport demand forecasting assignments in similar airports (with passenger volumes less than 500,000 passengers annually). The specialist should also have been involved in demand forecasting for heliport facilities. Prior Experience in Latin America and Brazil and knowledge of Portuguese and/or Spanish is preferred but not essential.

Airport Planner - The Airport Planner shall be an Airport Planner, Engineer or Architect. This individual shall be responsible for the airport site analysis and evaluation, facility

needs assessments and cost estimates for all airports under study. The Airport Planner shall work closely with the Airport Engineer and the Heliport Specialist regarding the site evaluations. The Airport Planner must have a minimum of 10 years of experience in Airport Planning, and/or Airport Development projects, with substantial personal involvement in site evaluation and airport facility planning. The Airport Planner's professional experience should include international experience, preferably in Latin America. Knowledge of Portuguese or Spanish is preferred, but not essential.

Heliport Specialist – The Heliport Specialist shall be an engineer or facility manager, with a minimum of 15 years professional experience and substantial prior experience in heliport planning, development, and operations. The Specialist should demonstrate involvement in at least five prior heliports, preferably including both stand-alone heliports as well as heliports within an airport. Prior Experience in Latin America and Brazil and knowledge of Portuguese or as a minimum Spanish is preferred.

Financial Analyst/Economist - The Airport Financial Analyst/Economist shall be an economist, financial analyst, or market/business analyst, with a minimum of 15 years professional experience and substantial prior experience in economic analysis, financial analysis, revenue projections, CAPEX for multi-year programs, OPEX estimates, and project finance. This analyst should demonstrate involvement in at least five prior financial and/or economic analysis for transportation projects, preferably airports. The specialist should also have been involved in statewide or multi-year capital programs covering many transportation facilities. Prior Experience in Latin America and Brazil and knowledge of Portuguese and/or Spanish is preferred but not essential.

Airport Engineer - The Airport Engineer shall be a Civil Engineer, who shall be responsible for the airport facility needs assessment and cost estimates for all airports under study, i.e. covering all study areas, including site planning, conceptual facility planning, as well as cost estimates and feasibility studies. The Airport Engineer shall work closely with the Airport Planner, and Heliport Specialist on the site analysis, conceptual planning of new airports and heliports. The Airport Engineer must have a minimum of 10 years of experience in Airport Engineering, Airport Planning, and/or Airport Development projects, with substantial personal involvement in airport site analysis, conceptual planning, equipment needs assessments, and cost estimating. The Airport Engineer's professional experience should include international experience, preferably in Latin America. Knowledge of Portuguese or Spanish is preferred, but not essential.

Airport Equipment Specialist - The Airport Equipment Specialist shall be an Airport Engineer, Mechanical or Electrical Engineer, who shall be responsible for the equipment needs assessment and cost estimates for all airports under study. The Equipment Specialist shall work closely with the Airport Engineer. The Airport Equipment Specialist must have a minimum of 10 years of experience involving airport equipment design, acquisition, installation and/or operation. The Equipment Specialist should demonstrate

substantial personal involvement in airport equipment design, acquisition, installation, and/or operation for at least five equipment acquisition projects, as well as personal experience in putting together specifications for the acquisition of different airport communications, navigation, weather stations, or other airfield equipment. The Airport Equipment Specialist's professional experience should include international experience, preferably in Latin America. Knowledge of Portuguese or Spanish, is preferred, but not essential.

Environmental Specialist - The Environmental Specialist shall be an environmental scientist, environmental planner, or environmental lawyer, with a minimum of 15 years professional experience and substantial prior experience in environmental impacts, regulations, and/or compliance. This specialist should demonstrate involvement in at least five prior environmental assessments, impact statements, and or mitigation or management plans for transportation projects, preferably airports. The specialist should also have been involved in environmental assessments for at least one new airport. Prior Experience in Latin America and Brazil and knowledge of Portuguese and/or Spanish is preferred but not essential.

Project Coordinator - The Project Coordinator shall provide administrative and other support to the Project Manager in managing the project and can be an Engineer, Architect, Planner, or junior professional in any field. This professional shall be responsible for coordination of the Technical Assistance Program, working closely with the Project Manager, as well as all professionals and local sponsor staff. The Project Coordinator must have a minimum of three years of experience in Airport Planning and Development studies or Technical Assistance Programs. The Project Coordinator's professional experience preferably should include international experience or can be a local Brazilian professional. The Project Coordinator must be fluent in Portuguese or as a minimum, in Spanish.

Technical Support – Technical support staff shall assist in developing CADD drawings and cost estimates working for the engineers and other professionals as needed.

Report Production Support - The Report Production staff consists of word processing, translation, and graphics specialists who assist the Project Manager and Project Coordinator in producing the Interim Reports, Draft Final Report and Final Report. The Report Production Support Staff must be fluent in Portuguese and English.

Foreign Travel

The Project Manager, Airport Forecaster, Heliport Specialist, Airport Planner, and Airport Engineer shall travel to Brazil for the Project Initiation Meeting, Site Visits , and Interviews with Key Stakeholders. The Project Manager, Airport Planner and the Heliport Specialist shall travel to Brazil for the Site Planning Evaluation and Conceptual Planning tasks. The Project Manager, the Airport Forecaster, and the Airport Engineer shall also travel to

Brazil for the Consultation Meetings on Interim Report No.1. Further, The Project Manager, the Heliport Specialist and the Financial Analyst/Economist shall travel to Brazil for the Consultation Meetings on Interim Report No. 2.

Project Initiation Meetings – Trip assumed as 10 days for two individuals and five days for three individuals.

Site Planning and Conceptual Planning - Trip assumed as five days for each individual.

Consultation Meeting No. 1 – Trip assumed as five days for each individual.

Consultation Meeting No. 2 – Trip assumed as five days for each individual.

Other Expenses

Communications and Express mail – Includes long distance telephone, roaming charges, express mail, and other similar expenses.

Translation and Report Costs – includes translation of Final Report, other report production, copies, and similar related expenses.

Recommendations

A USTDA grant for US\$485,000 is recommended to fund an eight-month Technical Assistance Program to support the Rio de Janeiro State Secretariat in updating the State Airport Plan (see schedule in Annex II). This Technical Assistance shall develop traffic forecasts as a basis to updating the State Air Plan, consider the need for air navigation, communications and other equipment to expand and modernize existing airports. It would also consider the need for new airports and heliports in the State, including evaluating sites and developing conceptual plans for up to two new airports and up to four heliports. In addition, it would develop a fast track implementation approach to the design and construction of 2 new heliports in the Rio de Janeiro Metropolitan Area. The Technical Assistance shall also include the preparation of specifications for equipment to be acquired in the near term and an RFP for the implementation of the 2 new heliports in the Rio Metropolitan Area. The Technical Assistance shall consider financial viability, funding sources, priorities, project impacts, and include several activities to facilitate the involvement of US exporters as the projects are implemented.

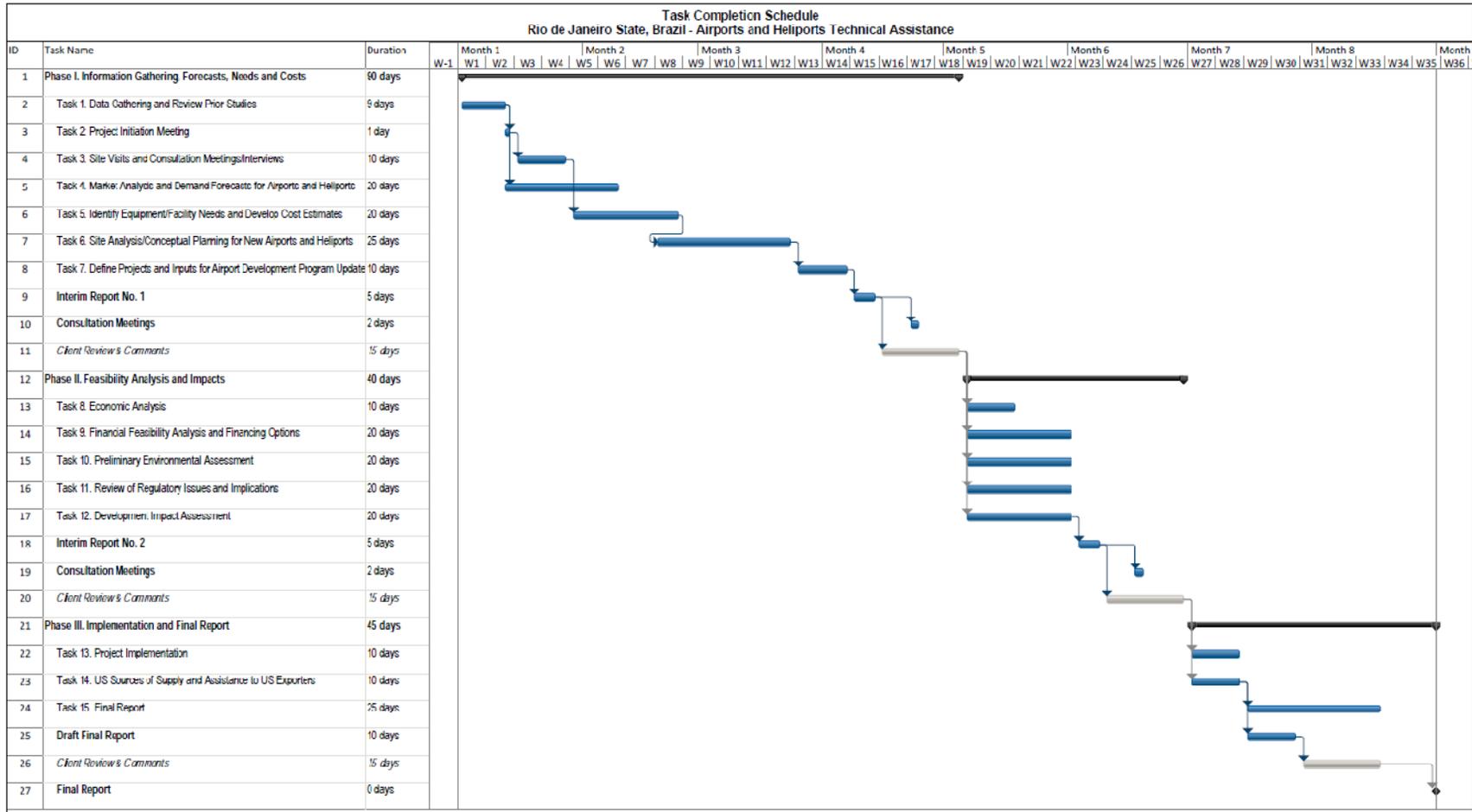
The Study approach and budget has been developed based on the Project Sponsor identifying site alternatives for new heliports and airports and making available all needed information and data for the site evaluation and conceptual facility planning. It is recommended that USTDA clearly establish a deadline for the Project Sponsor to identify alternative sites and provide all needed information and data to the US Firm contracted by USTDA. Preferably, the Project Sponsor should provide all needed information to the

US Firm at no cost to the US Firm by the time the project starts, including property status and boundaries for each site. To assure the most effective utilization of resources, any data not available at the start of the project should be provided no later than 2 weeks after the start of the project. The Project Sponsor should also name a Project Coordinator to assure all needed feedback and decisions are provided to the US Firm in a timely manner, so as to comply with the recommended schedule.

Contacts

A list of individuals contacted during the execution of the Definitional Mission has been provided in Annex II, including addresses, phone and fax numbers and email addresses.

ANNEX I: – Task Completion Schedule



Annex II: List of Contacts

Organization	First Name	Last Name	Title	Address	City	Zip	State	Country	Phone	Fax
US Trade & Development Agency	Gabrielle	Mandel	Country Manager	1000 Wilson Blvd	Arlington	22209	VA	USA	1 703 875 4357	
US Trade & Development Agency	Rodrigo	Mota	Country Representative, Brazil	Consulate General of the USA, Rua Henri Dunant 700	Sao Paulo	04709-110	SP	Brazil	11 51867335	11 51867390
INFRAERO	Eduardo Pires	Ferreira	Aessor Especial da Presidencia	Estrada do Aeroporto Setor de Concessionarias Lote 5 Edificio Sede	Brasilia	71608-900	DF	Brazil	61 33122979	
Federal Aviation Administration	Joao	Silva	Civil Aviation Specialist	SES, Qd 801, Lote 03	Brasilia	70403-900	DF	Brazil	61 33127293	61 33127295
ANAC	Rodrigo	Moser	Department of Airport Infrastructure	SCS Qd 09 Lote C, Ed Pq Cidade Corporate 7 andar	Brasilia	70308-200	DF	Brazil	61 33144248	
Secretaria de Aviacion Civil	Juliano	Noman					DF	Brazil	61 33129002	
Secretaria de Aviacion Civil	Valerio	Menescal	Gerente	Esplanada dos Ministerios Bloco Q 9 andar Sala 944	Brasilia	70049-900	DF	Brazil	61 33124915	61 33124200
Secretaria de Aviacion Civil	Alberto	Sayao		Esplanada dos Ministerios Bloco Q 9 andar Sala 944	Brasilia	70049-900	DF	Brazil		
INFRAERO	Walter Americo	Da Costa Souza	Superintendente de Planejamento Aeroportuario e de Operacoes	SCS Qd 04 Bl A No 58 Ed infraero 3 andar	Brasilia	70304-902	DF	Brazil	61 33123578	61 33122570
ANAC	Dorieldo Luis	Dos Prazeres								
Embassy of the USA	Devin	Rambo	Commercial Attache	SES, Qd 801, Lote 03	Brasilia	70403-900	DF	Brazil	61 33127403	61 33127650
US Department of Commerce	Danielle	Andrews	Commercial Specialist	SES, Qd 801, Lote 03	Brasilia	70403-900	DF	Brazil	61 33127458	61 33127650
IFC	Mauricio Portugal	Ribeiro	Head of Infrastructure for Brazil Public Private Partnerships Advisory Services	Rua Redentor 14 Ipanema	Rio de Janeiro	22421-030	RJ	Brazil	21 25255866	21 25255870
IFC	Gabriel	Goldschmidt	Manager Infrastructure	2121 Pennsylvania Ave	Washington	20433	DC	USA	202-473-7732	
BNDES	Fernando Tavares	Camacho	Gerente Area de Estruturacao de Projetos	Av. Republica do Chile 330 Torre Oeste 14 andar	Rio de Janeiro	20031-170	RJ	Brazil	21 21726509	
BNDES	Henrique Amarante	Da Costa Pinho	Superintendente Area de Estruturacao de Projetos	Av. Republica do Chile 330 Torre Oeste 14 andar	Rio de Janeiro	20031-170	RJ	Brazil	21 21728119	21 21728880
BNDES	Leonardo	Ferreira Leao de Alencar Oliveira	Gerente Area de Estruturacao de Projetos	Av. Republica do Chile 330 Torre Oeste 14 andar	Rio de Janeiro	20031-170	RJ	Brazil	21 21728688	

Organization	First Name	Last Name	Title	Address	City	Zip	State	Country	Phone	Fax
Secretaria de Estado de Transporte de Rio de Janeiro	Delmo	Pinho	Subsecretario de Transportes	Av. Nossa Senhora de Copacabana 493 - 10 andar	Rio de Janeiro	22031-000	RJ	Brazil	21 23338603 x210	21 23338643
Secretaria de Estado de Transporte de Rio de Janeiro	Eduardo	Duprat F. Mello	Superintendente de Logistica de Cargas	Av. Nossa Senhora de Copacabana 493 - 10 andar	Rio de Janeiro	22031-000	RJ	Brazil	21 23338637	21 23338623
Secretaria de Estado de Transporte de Rio de Janeiro	Leonardo	Melo	Coordenador de Logistica de Cargas	Av. Nossa Senhora de Copacabana 493 - 10 andar	Rio de Janeiro	22031-000	RJ	Brazil	21 23338637	21 23338643
Governo do Rio de Janeiro	Marcos Cesar	Da Costa de Oliveira	Subsecretario Adjunto de operacoes Aereas	Av. Borges de Medeiros 1444, Lagoa	Rio de Janeiro	22470-000	RJ	Brazil	21 23322818	21 23322823
ExIm Bank of the United States	Xiomara	Creque-Bromberg	Regional Director Americas/Eastern Europe Global Business Development	811 Vermont Ave, NW	Washington	20571	DC	USA	202 565 3477	202 565 3961
OPIC	Nancy	Rivera	Managing Director Structured Finance	1100 New York Ave, NW	Washington	20527	DC	USA	202 336 8500	202 842 0290
OPIC	Ali	Ayub	Senior Investment	1100 New York Ave, NW	Washington	20527	DC	USA	202 336 8498	202 842 0290
Inter-American Development Bank	Esteban	Diez-Roux	Lead transport Specialist	1300 New York Ave NW	Washington	20577	DC	USA	202 623 3890	

List of US Suppliers Contacted

Organization	First Name	Last Name	Product	Phone	email	Date of Contact	Comments
Bell Helicopters	Gary	Jacobs	Helicopters	+1 817 280 1177	gjacobs@bellhelicopter.textron.com	5/18/2011	Interested under right circumstances. Familiar with TDA, has done study for TDA in India - future contact is: Chuck Marsh, Sales Manager, Latin America 817-280-6876
ADB Airfield Solutions	Alfredo Miguel	Vazquez	Lighting and Current Control Systems	+1 614 452 8157	Miguel.vazquez-lavado@adb-air.com	5/16/2011	Interested. Has a rep in Brazil
HaliBrite	Larry	Loud	Lighting and Airfield Equipment	+1 800 553 6269	loud@halibrite.com	5/16/2011	Interested in Brazil.
Crouse Hinds	Alfredo	Hernandez	Lighting and Electrical Equipment	+1 860 683 4300	alfredo-hernandez@crouse-hinds.com	6/7/2011	Have a large representation in Brazil
Manairco	Joel	Beinbrech	Lighting and Current Control Systems	+1 800 524 2121	joelb@manairco.com	6//8/2011	Interested in Brazil. Some Voltage issues in the past.

Organization	First Name	Last Name	Product	Phone	email	Date of Contact	Comments
MIA Business Ventures	Manny	Gonzalez	Consulting Services	+1 305 869 3880	MJGonzalez@miami-airport.com	7/14/2011	Interested in Brazil. In JV with Odebrecht
Taylor-DeJongh	Paolo	Curiel	Financing	+1-202-777-2117	pcuriel@taylor-dejongh.com	4/21//2011	Interested in Brazil under right circumstances
Alanna Consulting Group	Mark	DeSantis	Airport IT Systems	+1 877 492 9224	mdeantis@alannaconsulting.com		Interested in Brazil
Leigh Fisher	Michael	Tubridy	Consulting Services	+1 703 796 6217	Michael.Tubridy@leighfisher.com	5//18/11	Has been in touch with ANAC, GDF and private companies for new Brasilia Airport. Very interested in Brazil Market
Ghafari Associates	Jim	Jobes	Consulting Services	+1 312 857 2918	jjobes@ghafari.com	5/17//11	Has been following developments in Brazil and has done a proposal for Brasilia Airport. Interested in Brazilian market
Louis Berger	Guillermo	Ubilla	Consulting Services	+1 201 331 7775	gubilla@louisberger.com	9/27/2011	Have been working in Brazil - definitely interested in Brazilian market
PHI	Bruce	Cobb	Helicopter services and Heliports	+1 918 284 1596	alvin.cobb@cox.net	6/20/2011	Interested in Brazil helicopter services and possibly building heliports - mainly to provide technical assistance - has been in contact with possible Brazilian partners -willing to invest in heliports if there is service contract with base traffic level
ERA Helicopters	Robert	Reguero	Helicopter Services	+1 281 899 4826	rreguero@erahelicopters.com	6//16//11	Have been working in Brazil - have local partners. Brazil contacts: Newton Lins, CEO of Aeroleo Taxi Aereo and Era Partner in Brazil and Francisco Ramos, GM of Aeroleo.

Organization	First Name	Last Name	Product	Phone	email	Date of Contact	Comments
Hobeco	Gilson	Feitosa	Automated Weather stations	+55 21 2518 2237	gilson@hobeco.net	6/17/2011	Represent companies for AWS equipment in Brazil - Vaisala
DeVore Aviation	Thomas R.	Littleford	Visual Approach NAVAIDS	+1 50 5345 8713	tlittleford@devoreaviation.com	6/15//11	Interested in Brazil - requested additional info on specific projects
Belfort Instrument Company	Ralph F	Petragnani	Aviation Weather equipment	+1 410 342 2626	rpetragnani@belfortinstrument.com	6/15/2011	Interested in Brazil - requested additional info on specific projects
ICF SH&E	Eliot	Lees	Consulting Services	+1 617 218 2500	Elees@sh-e.com	10/7/2011	Interested in Brazil
Newmark Knight Frank	Carlos	Pacheco	Real Estate development	+55 11 3755889 4	carlos.pacheco@newmarkkf.com.br	6/2/2011	Active in all aspects of real estate development in Brazil
Mentor Radio LLC	Richard	Myers	Communications Equipment	+55 21 6265 2315	rmyers@mentorradio.com	6/16/2011	Interested in Brazil. Small company that can benefit from more information from USTDA if he is to compete.
InnoVest Group LC	Fariba	Nazemi	Consulting Services	+1 703 250 0399	fnazemi@theinnovestgroup.com	4/29/2011	Active in all aspects of project development in Brazil
The Haskell Company	Nandu	Shah	Design-Build Contractor	+1 904 791-4595		10/6/11	Design-Build Contractor active in Latin America and interested in Brazil –only for design-build projects – does not provide financing. Can do design quickly for fast track heliport projects Latin America VP - Contact – Luis Jimenez 1-904-357-4877

ANNEX 3



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

NATIONALITY, SOURCE, AND ORIGIN REQUIREMENTS

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

USTDA STANDARD RULE (GRANT AGREEMENT STANDARD LANGUAGE):

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

NATIONALITY:

1) Rule

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

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

2) Application

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

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

3) Definitions

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

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

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

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

SOURCE AND ORIGIN:

1) Rule

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

2) Application

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

3) Definitions

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

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

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

ANNEX 4

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GRANT AGREEMENT

This Grant Agreement is entered into between the Government of the United States of America, acting through the U.S. Trade and Development Agency ("USTDA") and the Rio de Janeiro State Government, acting through its State Transport Secretariat (SETRANS) ("Grantee"). USTDA agrees to provide to the Grantee under the terms of this Grant Agreement US\$485,000 ("USTDA Grant") to fund technical assistance ("Technical Assistance") on the proposed Rio de Janeiro State Airports and Heliports Modernization Project ("Project") in Brazil ("Host Country"). USTDA will pay the U.S. company directly, and no funds will be transferred to the Grantee.

1. USTDA Funding

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

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 U.S. Firm 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 Technical Assistance.

4. Grantee Responsibilities

The Grantee shall undertake its best efforts to provide reasonable support for the U.S. Firm, such as local transportation, office space and secretarial support.

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5. USTDA as Financier

(A) USTDA Approval of Competitive Selection Procedures

Selection of the U.S. Firm shall be carried out after technical verification of the proposals by the Grantee according to its established procedures 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 U.S. Firm Selection

The Grantee shall notify USTDA at the address of record set forth in Article 17 below upon selection of the U.S. Firm to perform the Technical Assistance. Upon approval of this selection by USTDA, the Grantee and the U.S. Firm shall then enter into an Agreement of Understanding. The Grantee shall notify in writing the U.S. firms that submitted unsuccessful proposals to perform the Technical Assistance that they were not selected.

(C) USTDA Approval of the Agreement of Understanding

The Grantee and the U.S. Firm shall enter into the Agreement of Understanding. The Agreement of Understanding, 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 U.S. Firm 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 Agreement of Understanding or a final negotiated draft version of the Agreement of Understanding.

(D) USTDA Not a Party to the Agreement of Understanding

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 Agreement of Understanding and any amendments thereto, including assignments, the selection of all contractors, the Terms of Reference, the Final Report (as defined in Clause I of Annex II), and any and all documents related to any Agreement of Understanding 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 Technical Assistance and shall not be construed as making USTDA a party to the Agreement of Understanding. 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 Agreement of Understanding or any sub-agreement, jointly or

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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 U.S. Firm, or relieve the U.S. Firm of any liability which the U.S. Firm 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 Agreement of Understanding or any sub-agreement thereunder must be consistent with this Grant Agreement. In the event of any inconsistency between the Grant Agreement and the Agreement of Understanding or any sub-agreement funded by the Grant Agreement, the Grant Agreement shall be controlling.

6. Disbursement Procedures

(A) USTDA Approval of Agreement of Understanding Required

USTDA will make disbursements of USTDA Grant funds directly to the U.S. Firm only after USTDA approves the Agreement of Understanding.

(B) Contractor Invoice Requirements

The Grantee should request disbursement of USTDA Grant funds by USTDA to the U.S. Firm for performance of the Technical Assistance by submitting invoices in accordance with the procedures set forth in the USTDA Mandatory Clauses in Annex II. The Grantee shall not be responsible for any payment to the U.S. Firm under this Grant Agreement.

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.

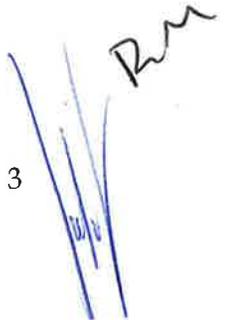
8. Technical Assistance Schedule

(A) Technical Assistance Completion Date

The completion date for the Technical Assistance, which is November 31, 2013, is the date by which the parties estimate that the Technical Assistance will have been completed.



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(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; and (b) all funds made available under the Grant Agreement must be disbursed within four (4) years from the Effective Date.

9. USTDA Mandatory Clauses

The Agreement of Understanding and any other agreement funded under this Grant Agreement shall include the USTDA mandatory clauses set forth in Annex II. All sub-agreements 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 U.S. Firm must be either a U.S. firm or U.S. individual; (b) the U.S. Firm 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 sub-agreement; (c) employees of the U.S. Firm or U.S. subcontractors 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 Technical Assistance 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 Technical Assistance 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.

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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 U.S. Firm 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 this Grant Agreement are accomplished. For five (5) years following receipt by USTDA of the Final Report, the Grantee agrees to respond to any reasonable inquiries from USTDA about the status of the Project.

14. Implementation Letters

To assist the Grantee in the implementation of the Technical Assistance, 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 Technical Assistance and the Grant Agreement adequate to demonstrate implementation of its responsibilities under the Grant Agreement, including on the assessment of technical proposals for the selection of U.S. Firms, receipt and approval of the Agreement of Understanding deliverables, and approval or disapproval of U.S. firm 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 Technical Assistance and the Grant Agreement.

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16. Representation of Parties

For all purposes relevant to this Grant Agreement, the Government of the United States of America will be represented by the U. S. Ambassador to Host Country or USTDA and Grantee will be represented by its State Secretary. The parties hereto may, by written notice, designate additional representatives for all purposes under this 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: Secretaria de Estado de Transportes (SETRANS)
Av. N.S. de Copacabana, 493 - Copacabana
Rio de Janeiro, RJ CEP: 22-031-000

Brazil

Phone: 011 55 (21) 2333-8643

Fax: 011 55 (21) 2333-8643

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.:	1112/131001
Activity No.:	2012-51007A
Reservation No.:	2012100
Grant No.:	GH201251100

18. Termination

Either party may terminate this Grant Agreement by giving the other party thirty (30) days advance written notice. The termination of this Grant Agreement will end any obligations of the parties to provide financial or other resources for the Technical Assistance, 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. In line with the time limitation on disbursement set forth in clause K(2) of the mandatory clauses, this Grant Agreement shall automatically expire on the date that is four (4) years from the Effective Date. USTDA shall have the right to waive the automatic expiration by notice to the Grantee prior to the date of such expiration.

19. Non-waiver of Rights and Remedies

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

20. U.S. Technology and Equipment

By funding this Technical Assistance, 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.

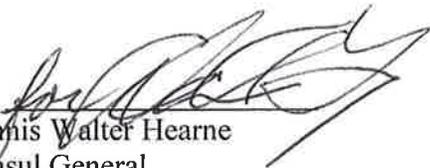
21. Publishing of the Agreement

The Grantee shall publish the Grant Agreement in the state's official press notice (Diário Oficial do Estado - DOERJ) within ten business days following the signing of the Grant.

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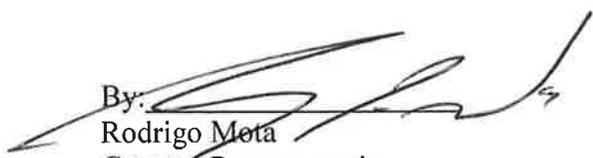
IN WITNESS WHEREOF, the Government of the United States of America and the Grantee, each acting through its duly authorized representative, have caused this Grant Agreement to be signed in the English language in their names and delivered as of the day and year written below. In the event that this Grant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

For the Government of the United States of America

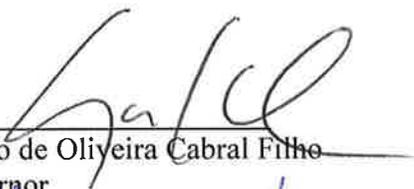
By: 
Dennis Walter Hearne
Consul General
U.S. Consulate General of Rio de Janeiro

Date: 3/28/2012

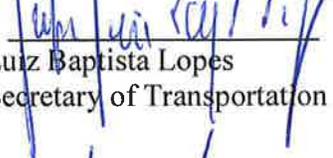
Witnessed:

By: 
Rodrigo Mota
Country Representative
U.S. Trade and Development Agency

For Rio de Janeiro State Transport Secretariat

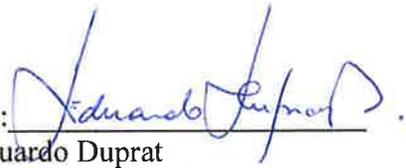
By: 
Sérgio de Oliveira Cabral Filho
Governor

Date: 3/28/2012

By: 
Julio Luiz Baptista Lopes
State Secretary of Transportation

Date: 3/28/2012

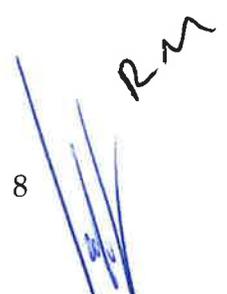
Witnessed:

By: 
Eduardo Duprat
Cargo Logistics Superintendent

Annex I -- Terms of Reference

Annex II -- USTDA Mandatory Clauses



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Annex I

Terms of Reference

Objective

The objective of the Rio de Janeiro State Airports and Heliports Modernization Technical Assistance is to assist the Rio State Transport Secretariat (SETRANS) update its Statewide Airport Plan (*Plano Aeroaviario*). Specific objectives to be addressed during the Technical Assistance are as follows:

- 1) Carry out a Demand Analysis for Tourism and Business Regional Commercial Aviation Services (Airlines and Helicopter Services) over the next 20 years, including the demand associated with the rapidly expanding oil exploration and development; and
- 2) Update the Airport and Heliport Statewide Plan and Program, including needed improvements (infrastructure and equipment), in order to modernize and expand commercial as well as general aviation facilities and add new airports and heliports to meet projected demand, in accordance with international norms and standards, particularly to incorporate three immediate priorities.

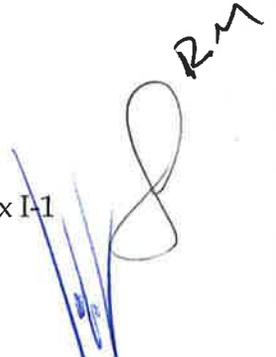
The intent is to develop a regional airport and heliport network with modern equipment and services that complements the INFRAERO Airports. Although the airports operated by INFRAERO have not been included in the Technical Assistance, the U.S. Firm should take into account the existing and planned facilities at INFRAERO airports in terms of how they may affect needs at other airports in the State that are included in this Technical Assistance. The airports included in the Technical Assistance are mainly small regional and general airports which are important for local markets, but are operated separately from the larger INFRAERO airports.

The U.S. Firm's proposal and work plan shall define the proposed approach to the site analysis and conceptual planning for new airports and heliports, the feasibility analysis of the overall program, as well as the approach to fast track implementation for the two new heliports.

The Technical Assistance tasks are as follows:

Task 1: Data Collection and Review

Data provided by SETRANS will likely be in Portuguese and it will be the U.S. Firm's responsibility to translate the information for its use, if necessary.



Upon notice of award, the U.S. Firm shall provide SETRANS with a list of data requirements and request copies of available relevant studies prior to traveling to Brazil for the initial meetings and site visits. The main objectives of this task are:

- i) to define the necessary information for the development of the Technical Assistance, including the site selection and conceptual planning for selected new airports and heliports, as well as the conceptual design and feasibility analysis for two new heliports; and
- ii) to establish the process to obtain all available information to be used by the U.S. Firm over the duration of the project.

Task 2: Kickoff Meeting

Upon notice of award, the U.S. Firm shall schedule a kickoff meeting with SETRANS and other appropriate participants, who will be involved in monitoring, guiding, and reviewing the results of the Technical Assistance. The kickoff meeting shall take place in Rio de Janeiro. The purpose of the kickoff meeting with SETRANS includes:

- Introduction of the U.S. Firm team to SETRANS;
- Review status of the Rio de Janeiro Statewide Airport Plan and Program and proposals for new airports and heliports in the State;
- Identify existing and new airports and heliports with the potential to serve as major cargo/logistics centers for the offshore oil industry that should be further evaluated in this Technical Assistance;
- Clarify the objectives and scope of the Technical Assistance;
- Review the Work Plan and the schedule; and
- Respond to any questions SETRANS may have.

During this meeting, the U.S. Firm shall also make arrangements to gather all available relevant information regarding the operation and current facilities at the Airports, as well as the State's economic base, resources, markets, population, industrial development and transport systems in the airports and heliports current and potential area of influence.

The information shall be obtained from the current Master Plans, the State Transportation Secretariat and Federal databases, the State's Economic Development Plan, the offshore oil industry plans, and from any other sources needed. SETRANS shall provide all needed information for proposed sites to be considered, data for site analysis and conceptual planning for selected new airports and heliports, as well as any other information required to develop procurement documents for fast track implementation of the two new heliports in the Rio Metropolitan Area (including property boundaries and infrastructure connections).

Task 3: Site Visits and Assessment

The U.S. Firm shall visit the proposed airport and heliport locations for selected new facilities (based on available data and discussions with SETRANS at the kickoff meeting). The U.S. Firm shall visit up to two alternative sites for no more than two new airports, and up to two alternative locations for no more than four heliports, including the two new heliports in the Rio Metropolitan Area (in downtown Rio and Jacarepaguá/Barra da Tijuca), as needed for carrying out the scope.

The U.S. Firm shall also visit no more than three other existing airports to evaluate conditions and needs. During these visits the U.S. Firm shall conduct a general assessment of the existing and needed infrastructure and equipment, including:

- 1) Navigation equipment and systems, instrument landing systems, telecommunications systems, meteorological and other equipment required for navigation;
- 2) Lighting systems, pavement markings and guidance signs on runways, taxiways and aprons;
- 3) Terminal building expansion equipment needs, e.g. passenger loading bridges, and other electrical and mechanical installations of the terminal;
- 4) Baggage and cargo handling systems and equipment at the terminal;
- 5) Security equipment (passenger and baggage screening), perimeter and access control systems to restricted areas, etc.;
- 6) Rescue, Fire-fighting and Emergency medical assistance equipment;
- 7) Fuel supply equipment; and
- 8) Any other infrastructure, system, or equipment relevant for the current or future management and operations at the airports.

The U.S. Firm shall take photographs during the on-site visits of the airports and proposed locations for airports and heliports and record any deficiencies encountered or other issues that are identified.

For airports not visited, the U.S. Firm shall obtain similar information from SETRANS regarding equipment available and proposed equipment acquisition for night operations, communications, navigation and other equipment.

In addition to the site visits, the U.S. Firm shall carry out consultation meetings with users, airport officials, government representatives, as well as regional commerce, tourism and industry representatives, particularly regarding the offshore oil industry plans and their needs for cargo and logistical support facilities. These meetings and interviews shall aim to obtain the opinions of each group regarding the current situation, needs and the potential future development of the airports and heliports, and to collect any other available information.

For the offshore oil industry cargo/logistics needs analysis, the U.S. Firm shall hold meetings with Petrobras, economic development officials at the State level and local level, with the greatest potential for becoming a cargo/logistics supply center, based on

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the kickoff meeting and any further discussions held at the outset of the Technical Assistance.

Task 4: Market Analysis and Demand Forecasts for Airports and Heliports

The market analysis shall be carried out for three specific areas: Regional Passenger Commercial Services, Business and General Aviation, and the Cargo/Logistics offshore oil industry support facilities. Emphasis shall be placed on the needed analysis for new airports and heliports, as well as for existing airports in need of near term expansion or improvement. The U.S. Firm shall develop total forecasts of aircraft and helicopter activity for each airport and heliport, based on the demand forecasts for the three market segments.

Regional Passenger Commercial Services

The U.S. firm shall conduct an analysis of the market for passenger and air cargo transport services in the area of influence of the airports under study as a base for the development of forecasts of commercial aircraft activity, air passengers, and cargo. The airports under study serve mainly small local markets, so the analysis should reflect the level of activity. The U.S. Firm shall also review the historical demand for each market segment. The U.S. Firm shall also identify business opportunities for the Airports. In order to best assess the air transport market in the regional airports, the market analysis shall include influencing factors such as:

- The trends in the air transport market in the respective areas and the neighboring regions;
- The relationship to the Rio de Janeiro Metropolitan Airports (including the two commercial airports in the Rio Metropolitan Area, Galeão and Santos Dumont), although these airports serve different markets than the airports under study;
- Prior traffic forecasts and underlying assumptions; and
- Major drivers and potential for growth of business at the airports, where relevant.

In addition, the U.S. Firm shall analyze the historical trends of the composition of the fleet using the airports, where appropriate, to help determine apron requirements. The U.S. Firm shall also define probable development scenarios for forecasting future demand, based on the main drivers of potential demand for regional commercial services, including air taxis or possible airline route development, other near airport land development and business opportunities.

Business and General Aviation

The U.S. Firm shall analyze historical information on based aircraft and air traffic movements of non-commercial aircraft at the State's airports. The U.S. Firm shall then develop forecasts for business and general aviation at these airports, based on historical trends, as well as a review of the recent General Aviation industry development in Brazil and future plans.

Cargo/Logistics Oil Industry Support Facilities

For the Cargo/Logistics oil industry support facilities development, the U.S. Firm shall consider oil industry needs in various areas of the State, considering the location and plans for offshore oil exploration and development. Meetings shall be held with major oil companies involved in offshore exploration and development. The U.S. Firm shall obtain their perspective on the need for support facilities, including facilities to serve the Bacia de Santos oil field. The U.S. Firm shall also consider the interest of private developers to participate in such developments, as well as the interest of cargo and/or helicopter operators and other logistics providers in using an airport in the State or a proposed location as a major center for their operations. Further, the views of SETRANS and the policies articulated in the Statewide Airport Plan shall be considered, as well as those of the State's economic development agencies.

Areas with greatest potential to serve as Cargo/Logistics Support Facilities shall be ranked and evaluated concurrently with the site analysis in Task 5. Based on the analysis of market potential, cargo and passenger volumes shall be estimated for airports and/or heliports that have the potential to serve as cargo/logistics support centers. Three demand scenarios shall be considered: high (optimistic), average (most likely) and conservative (pessimistic). Each of these three scenarios shall be established based on the results of the market potential.

These estimates shall be used as the base for the evaluation of alternative sites for the highest priority locations, which shall be selected based on discussions with SETRANS. The forecasts shall be developed for offshore oil support equipment and other cargo as well as passengers (workers and others).

During the forecast development and analysis, the U.S. Firm shall also consider the sensitivity of demand to different variables as appropriate, to reflect the pace of offshore oil exploration and extraction in Brazil, as well as competitor cargo/logistics oil industry support facilities in other nearby states in Brazil. These variables shall be considered in defining development scenarios to estimate the high, low, and most likely cargo and passenger volume estimates. The passenger and cargo estimates shall be converted to aircraft and/or helicopter flights, based on historical information and reasonable growth assumptions.

Aircraft/Helicopter Movements, Passenger and Cargo Traffic Forecasts

Based on its analysis of all market segments (regional commercial, business and general aviation, and oil industry support needs), the U.S. Firm shall prepare airport and heliport forecasts for based aircraft/helicopters, air traffic movements, passengers, and cargo, for definition of future facility requirements for the Statewide Airport Plan, the financial

analysis and the feasibility analysis to be carried out in subsequent tasks. Forecast aircraft/helicopter movements shall be broken down into the following:

- commercial aviation;
- helicopter;
- cargo;
- general aviation; and
- military aviation.

Where applicable, passenger forecasts shall be broken down into appropriate categories for the feasibility analysis, e.g. arriving and departing. Cargo forecasts shall also be broken down into offshore oil industry equipment and other cargo.

The U.S. Firm shall develop 20-year forecasts by five-year periods for the facility and equipment needs analysis. The U.S. Firm shall prepare annual projections, as needed, for the financial analysis.

The U.S. Firm shall consider three demand scenarios: high (optimistic), average (most likely) and conservative (pessimistic). Each of these three scenarios shall be established based on the results of the market analysis.

For the most likely scenario, the U.S. Firm shall estimate peak period apron aircraft parking needs so as to determine required apron dimensions for conducting feasibility analysis and conceptual planning of selected airports and heliports.

Once these projections have been developed, their reasonability shall be confirmed through consultation with SETRANS, as well as with representatives of air transport and oil companies, which handle import and export and offshore cargo, airlines and/or shipping companies. During the forecast development and analysis, the U.S. Firm shall also consider the sensitivity of demand to different variables to develop the high, low, and most likely forecasts, such as:

- Domestic and State GDP growth;
- Oil price and demand;
- Agricultural and other development; and
- Tourism growth rate.

Task 5: Equipment/Facility Needs and Develop Cost Estimates

This task shall be carried out for the study areas to be considered in this Technical Assistance as part of the Statewide Airport and Heliport Plan Update, including:

- Equipment needs for night operations and communications/navigation equipment at existing airports;
- Airport and heliport equipment/facility needs for all business and tourism airports; and

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- Airport and heliport equipment/facility needs for cargo/logistics oil industry support facilities.

Equipment Needs at Existing Regional Airports

The U.S. Firm shall analyze current and near term equipment needs at all airports, particularly improvements needed for night operations, communications and navigation, as well as safety equipment. The night operations and equipment requirements shall be based on the review of available equipment at each airport as provided by SETRANS, the policies established in the Statewide Airport Plan as well as the International Civil Aviation Organization (ICAO) and Federal Aviation Administration (FAA) international, the Brazilian National Civil Aviation Agency (ANAC), and other industry standards. Equipment needs should specifically include:

- 1) Navigation equipment and systems;
- 2) Telecommunications systems;
- 3) Meteorological equipment;
- 4) GPS and other equipment to increase safety; and
- 5) Lighting system and signs for runway, taxiways and aprons.

The U.S. Firm shall also specifically consider the establishment of a Global Navigation Satellite System (GNSS) operation at the Angra dos Reis Airport, serving both aircraft and helicopters operating offshore in the Bacia de Santos oil field, in light of the climatic conditions in the area.

SETRANS anticipates that at a minimum, the following equipment should be considered for the four existing airports in Angra dos Reis, Cabo Frio (expansion of taxiway), Maricá, and Resende:

- Airport lighting and other equipment for night operations;
- Navigation aids;
- Weather observation stations;
- Radio communication;
- Fuel distribution; and
- Crash fire rescue vehicles.

The U.S. Firm shall also evaluate the need for a GNSS System to control helicopter and small aircraft in the southern part of State to be located at Angra dos Reis.

Based on the recommended improvements and expansions, the U.S. Firm shall identify and define the capital investments required for procuring equipment, in accordance with the priorities in the State Airport Plan.

Business and Tourism Airports

The demand parameters and their relationship to facility capacity, as well as safety standards shall be used to determine facility and equipment needs at all State airports and heliports intended to primarily serve business and tourism needs, to be provided as input for the Statewide Plan. Facilities and equipment needs shall include the following, where appropriate, based on the demand forecasts and the current situation:

- 1) Navigation equipment and systems, Instrument Landing System, telecommunications systems, meteorological and other equipment required for safe operations;
- 2) Lighting system, pavement markings and guidance signs on runway, taxiways and apron;
- 3) Terminal building expansion equipment needs, e.g. loading bridges, IT, and other electrical and mechanical installations of the terminal;
- 4) Baggage and cargo handling systems and equipment at the terminal;
- 5) Security equipment (passenger and baggage screening), perimeter and access control systems to restricted areas;
- 6) Rescue, Fire-fighting and Emergency medical assistance equipment; and
- 7) Any other infrastructure, system, or equipment relevant for the current or future management and operations at the airports.

SETRANS anticipates that, at a minimum, a new Runway End Safety Area (RESA) is required at Angra dos Reis Airport. In addition, two new airports are already under consideration and seven new heliports (including one in Angra dos Reis and two in the Rio Metropolitan Area) have been proposed in the State Airport Plan. Based on the improvements and expansions recommended, the U.S. Firm shall identify and define the capital investments required for Business and Tourism Airports, in accordance with the priorities in the State Airport Plan.

Cargo/Logistics Oil Industry Support Facilities

The U.S. Firm shall use the demand parameters and their relationship to facility capacity, as well as safety standards, to determine facility and equipment needs at all State airports and heliports intended to serve mainly as support facilities for the offshore oil industry. The needs shall be defined based on the market potential and private sector interest in the development of facilities to support the offshore oil industry in the State. Further, the U.S. Firm shall consider how existing facilities can be expanded for this purpose or whether new facilities are most appropriate and in which locations. The objective is to identify new airports and heliports that complement existing heliports and airports reflecting the offshore oil industry needs and plans. SETRANS anticipates that at least one airport or heliport will be needed to serve the offshore oil industry north of the Rio Metropolitan Area and another one will be needed south of the Rio Metropolitan Area (Angra dos Reis).

The U.S. Firm shall identify and define the capital investments required for offshore oil support facilities, in accordance with the priorities in the State Airport Plan, based on the improvements and expansions recommended at existing locations or the need for new airports or heliports.

Statewide Facility and Equipment Needs and Costs

The U.S. Firm shall summarize all the capital investments required for procuring equipment, as well as rehabilitating and constructing infrastructure works, new airports or new heliports, in accordance with the investment schedule proposed for the short, medium and long term planning periods. The investment needs shall also reflect the results of the analysis of new airports and heliports, and the feasibility of the two new heliports in the Rio Metropolitan Area, as evaluated and further defined in Task 6.

Task 6: Site Analysis/Conceptual Planning for New Airports and Heliports

This task shall include technical analysis of proposed sites for new airports and heliports, as well as conceptual plans and cost estimates for a limited number of selected airport and heliport locations (two airports and four heliports). These locations, conceptual plans, and cost estimates shall then be further utilized in Phase II, in order to carry out a Feasibility Analysis.

Preliminary Site Selection Analysis

The U.S. Firm shall analyze the sites (selected by SETRANS at the kickoff meeting) for up to two new airports and up to four new heliports (including Angra dos Reis to serve the area South of Rio, a second one to serve the region north of Rio, and at least two public heliports to serve the Rio Metropolitan Area). The site analysis shall confirm the SETRANS selection where preliminary analysis is already available or would consider alternative sites where data for those sites can be obtained from SETRANS and other sources at no cost.

The site analysis shall consider the relationship between proposed new sites and existing airports and heliports. The site analysis shall also review the suitability of the proposed site for an airport or heliport based on airspace considerations, wind and climate information, infrastructure and utility connections, land availability and ownership, compatibility of adjacent land uses and zoning, highway access, soil and geotechnical data, topographic maps, etc.

SETRANS shall provide all required data for Angra dos Reis and the two new heliport locations in the Rio Metropolitan Area. Data for other airports or heliports shall be made available by SETRANS or readily available information sources for the site analysis shall be identified by SETRANS which can be obtained at no cost to the U.S. Firm.

In establishing the site size and shape requirements, the U.S. Firm shall consider the demand forecasts, the role intended for the new airports and heliports, and how they would complement the existing ones. Based on available data, the U.S. Firm shall consider general infrastructure needs for each of the new facilities. The U.S. Firm shall initially identify likely investments and their probable costs (in a range) for the main alternatives (based on a generic concept plan). The investment estimates should include land acquisition costs (where needed), infrastructure connections, particularly highways, as well as other public utility costs.

The U.S. Firm shall initially rank proposed sites and provide SETRANS with a technical evaluation. SETRANS shall then select those specific sites that should be analyzed further.

Conceptual Plans and Costs

The U.S. Firm shall develop Conceptual Plans and estimated costs for the new airports and heliports selected by SETRANS based on the technical ranking and other policy considerations. The U.S. Firm shall prepare preliminary layouts for up to two new airports and up to four new heliports showing key facilities and functional areas at each of the new airports and heliports being analyzed. The U.S. Firm shall also prepare estimated costs for engineering, site preparation, civil works, buildings and equipment at each site.

The U.S. Firm shall prepare a more detailed layout plan, statement of facility requirements, as well as a fast track approach to implementation for the two new heliports in the Rio Metropolitan Area, based on the available data provided by SETRANS.

The implementation approach for the two heliports shall be carried out only at the sites confirmed and approved by SETRANS based on its review of any prior alternative sites that are found acceptable. The implementation approach for the two heliports in the Rio Area shall be at a sufficient level of detail for carrying out the Feasibility Analysis and proceed to design and construction. If available information is provided by SETRANS in a timely manner, and if SETRANS so chooses (see description of Task 9), the U.S. Firm shall develop this approach sufficiently so as to be able to proceed directly to a design/build contract or other private sector concession options.

New Airports and Heliports Evaluation

Based on the site analysis and the cost estimates, available information shall be summarized and evaluated to determine proposed sites for new airports and heliports to be included in the State Airport Plan. Further, the evaluation shall confirm the two selected heliport sites that should proceed for fast track implementation.

Task 7: Define Projects and Inputs for Airport/Heliport Development Program

This task shall define projects to be incorporated in the State Airport Plan as follows:

- 1) Equipment needs for night operations and communications/navigation equipment at airports and other facility/equipment needs at existing airports;
- 2) Investments needed at existing airports and new airports and heliports to serve business and tourism needs, and



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- 3) Investments needed at existing airports and new airports and heliports to support the cargo/logistics needs of the offshore oil industry in the State.

In order to better define the projects to be implemented considering the equipment and facility needs identified in Tasks 5 and 6, the U.S. Firm shall prioritize all proposed investments and establish a schedule for implementing the improvements and investment needs on an annual basis for the first 5 years, with other longer term investments scheduled in five year increments, according to identified priorities.

The output of this task shall be a detailed list and specific plan of improvements to be implemented on an annual basis in the short-term (1-5 years) in accordance with the objectives of SETTRANS, in order to satisfy the immediate safety needs and objectives for night operations and communications/navigation equipment, as well as satisfy the long term demand for improved airports and new airports and heliports to serve 1) tourism and business needs, and 2) the cargo/logistics support facilities needed by the offshore oil industry.

The U.S. Firm shall organize the list of needs so as to include the various groups of investments associated with each of the State's objectives, including:

- night operations;
- equipment acquisition and facility modernization and expansion;
- new airports and heliports to serve tourism and business needs; and
- new airports and heliports to meet needs for the cargo/logistics support facilities for the offshore oil industry.

Once the investment lists have been compiled for all airports and heliports, the U.S. Firm shall define each project in a one page form that provides the following information for each identified need:

- Airport/Heliport Name – airside or landside;
- Description of Need – construction or equipment;
- Rationale/Justification and relationship to State's objectives;
- Investment category objective (night operations, safety and security, increased demand at existing airports, new airport/heliport development for meeting future demand, other);
- Cost estimate and schedule (for first five years, by year, and by five-year increments for later periods); and
- Priority ranking evaluation based on U.S. Firm's professional judgment and available information from airport visits, operational data, historical and forecast traffic, State's objectives, and Master Plan documents).

Before the list is finalized, it shall be included in Interim Report No. 1 and discussed with SETTRANS and other stakeholders.

Deliverable #1: Interim Report No. 1 and Phase I Consultation Meetings

At the end of Task 7, the U.S. Firm shall prepare and submit Interim Report No. 1, in Portuguese. The U.S. Firm shall then meet with SETRANS and other stakeholders to discuss the results of the Demand Projections, Equipment/Facility Requirements, Site Analysis, Conceptual Plans and Cost Estimates. SETRANS shall provide comments and those comments shall be incorporated in the draft final report.

Phase II. Feasibility Analysis and Impacts

Task 8: Economic Analysis

The U.S. Firm shall carry out an economic analysis for the Airport and Heliport Development Program defined in Task 7, and shall note any alternatives to achieve the same project objectives, where these possibilities are available. The U.S. Firm shall also develop a cash flow analysis for disbursement of the project investment requirements, considering where appropriate, any dedicated revenues from airport and heliport operations. The U.S. Firm shall conduct a more detailed analysis for the two new heliports in the Rio Metropolitan Area. The U.S. Firm shall also review the availability of local materials and equipment for the projects.

The U.S. Firm shall also summarize the following possible impacts and benefits of all the Projects, where applicable:

- Improved safety and security of air transport operations;
- Savings in travel time and costs for the different groups of users;
- Savings in fuel and operating costs for the airlines and/or other operators;
- Changes in emissions where appropriate;
- Changes in noise levels; and
- General opportunities and benefits that the project will generate for the economy, such as economic development, increased tourism and foreign trade.

The U.S. Firm shall present a summary of the economic analysis in support of its conclusions and recommendations about the Project's economic feasibility.

Task 9: Financial Feasibility Analysis and Financing Options

The airports and heliports are expected to be mainly financed by the Federal government, but the State government, the municipalities and private enterprises will also likely share in the costs. The U.S. Firm shall conduct a financial feasibility analysis and consider financing options for the projects included in the investment plan, particularly taking into consideration how to structure the program so as to maximize use of private capital and reduce the required upfront contribution of the State or municipalities.

Equipment Needs and Improvements at Regional Airports

The U.S. Firm shall analyze the availability of funding from the Brazilian Federal Program of Assistance to Regional Airports (PROFAA), the new National Fund for Civil Aviation (FNAC), and matching State or local funding as well as the possibility for vendor financing to supplement public funds.

Modernization and New Airports and Heliports

The U.S. Firm shall carry out a simple financial viability analysis for the modernization of existing airports and construction of new airports and heliports based on the traffic projections, estimated investment amounts, financing costs, if any, and other costs. The analysis shall include, among other things, the project's profitability for a private sector concessionaire under different scenarios. The U.S. Firm shall discuss with SETRANS funding sources such as the Brazilian National Development Bank (BNDES), International Finance Corporation, World Bank, or Inter-American Development Bank financing. The U.S. Firm shall also consider private interest and potential to develop and/or operate new airports and heliports under a private concession.

Where applicable, the financial model shall use baseline historical financial data to generate cash flows, including the Capital Investment (CAPEX) requirements, financing, revenues, and annual Operating Costs for the established planning horizon. For new airports and heliports, data from similar operations shall be used for the analysis.

Two New Heliports in Rio Metropolitan Area

The feasibility analysis for the new two heliports in the Rio Metropolitan area shall include the more complete information on estimated costs and the approach to implementation as obtained in Task 6 and the decisions made by SETRANS regarding implementation (design build, design-build-operate, concession, or the more traditional design and construction phases). If no decision has been made, the U.S. Firm shall provide an analysis of these options and the feasibility, financing potential and financing sources under each of these or other identified options (e.g. investment by the site owner).

The U.S. Firm will conduct a Financial Analysis to determine the viability of the projects, in terms of its Net Present Value, Internal Rate of Return (IRR), and other financial criteria generally accepted in the international financial community. The U.S. Firm shall also develop a sensitivity and risk analysis to evaluate the impact of changes in assumptions on the Project's critical variables, such as demand, investment amounts, etc. For those alternatives, which consider credit from domestic or international financial institutions, the U.S. Firm shall conduct an available cash flow sensitivity analysis for debt payment (debt coverage service levels), according to international accepted norms for this type of operations.

In order to define whether the investment is attractive, the U.S. Firm shall estimate a minimum IRR for the Project. The analysis and identification of financing sources shall culminate in a Financial and Investment Plan that is to be utilized to support capital investment decisions by SETRANS and the local areas or airports, to support presentations to prospective Brazilian and foreign investors and/or the Federal agencies.

The U.S. Firm shall prepare a separate and more detailed Financial and Investment Plan to proceed with implementation of the two new heliports in the Rio Metropolitan Area, including a schedule for a design-build contract or a design-build-operate concession agreement for the design, construction and operation of the two heliports. The selected procurement approach and required public financing for the two heliports shall be detailed.

Cargo/Logistics Support Facilities for Offshore Oil Industry

The U.S. Firm shall consider appropriate approaches, particularly the role for public vs. private funding and possible financing sources for the proposed priority support facilities for the offshore oil industry, including how to best structure private/public partnerships to attract private investment to implement these projects.

Task 10: Preliminary Environmental Analysis

The U.S. Firm shall conduct a preliminary environmental impact analysis for the implementation of the Project. The U.S. Firm shall first review any available prior environmental analysis for any of the Airport Master Plans or the Statewide Airport Plan. The U.S. Firm shall then also review the guidelines for environmental assessments at airports and heliports for different types of projects, in order to meet local, State, and Federal regulations as well as international standards established by financial institutions, international development agencies, and aviation organizations, such as the World Bank, Inter-American Development Bank, International Civil Aviation Organization (ICAO), and Federal Aviation Administration (FAA). The U.S. Firm shall briefly discuss the extent to which potential negative impacts can be mitigated, and develop plans for full environmental impact assessment or other studies in anticipation of the Project moving forward to the implementation stage, if necessary.

The U.S. Firm shall summarize environmental requirements, procedures and management plans that are needed for each project type in order to comply with existing requirements. Further, based on the environmental and social factors identified during the assessment, the U.S. Firm shall define the preliminary scope of the environmental and social programs and management plans that may be needed; as well as any general recommendations for appropriate monitoring and follow-up plans during the construction phase. For safety-oriented projects, the environmental requirements typically do not require extensive analysis and if so, that shall be noted.

Task 11: Review of Regulatory Issues and Implications

The U.S. Firm shall discuss and document any regulatory changes under consideration that may affect the projects under consideration. In Brazil, airports are regulated by ANAC. Under the recent reorganization of the sector, a new Minister-level agency has been created, the Secretariat of Civil Aviation (SAC).

The U.S. Firm shall summarize the implications of the sector's national regulatory environment and any other developments involving economic or environmental regulations that may affect the projects.

Task 12: Developmental Impact Analysis

The U.S. Firm shall analyze the developmental impacts of implementing the recommendations for the airports and/or heliports in Rio. The developmental impact analysis shall include an assessment of each of the following categories:

Infrastructure - The U.S. Firm shall develop a summary statement for each of the projects under consideration.

Human Capacity Building - The U.S. Firm shall develop estimates of the employment generation expected to result from each of the projects under consideration, including positions needed to implement, manage, and operate the proposed projects. Further, the U.S. Firm shall note the number of people who are expected to receive training and a brief description of the training program required.

Technology Transfer & Productivity Improvement - The U.S. Firm shall describe systems and equipment to be implemented, summarizing efficiencies and improvements in processes and use of resources.

Market-Oriented Reforms - The U.S. Firm shall provide a description of the potential private sector investment and other market-oriented reforms, including access to the procurement system that may result. In addition to the above four major areas of development impacts, the U.S. Firm shall consider other development impacts and incorporate them into the Development Impact Assessment.

Deliverable #2: Interim Report No. 2 and Consultation Meetings

At the end of Task 12, the U.S. Firm shall prepare and submit Interim Report No. 2 in Portuguese, presenting the results of Tasks 8-12.

The U.S. Firm Meetings shall meet with SETRANS and other stakeholders in Rio de Janeiro to discuss the results of the Financial, Economic, Environmental, Development, and Regulatory Analysis. Comments provided by SETRANS shall be incorporated in the Draft Final Report.

Phase III. Implementation and Final Report

Task 13: Project Implementation

The U.S. Firm shall identify next steps for project implementation. The U.S. Firm shall develop a Procurement Schedule and Specifications for the Safety, Night Operations, and Communications/Navigation Equipment, and for the two heliports in the Rio Metropolitan Area, reflecting the approach to implementation approved by SETTRANS.

Procurement Schedule and Specifications for Equipment

The U.S. Firm shall develop a schedule for procurement and specifications to acquire priority equipment for night operations, communications, navigation, GNSS, etc., in accordance with the results of Phase II. These specifications shall be developed so that they can be used by SETTRANS, airports, project sponsors, and/or prime contractors as they proceed with the acquisition of the needed equipment.

New Airports and Heliports

For the new airports and heliports, the U.S. Firm shall identify next steps to proceed with the implementation of the various projects. The U.S. Firm shall also prepare a schedule for implementation of the priority projects for input to SETTRANS as they update the State Airport Plan.

Regarding the two new heliports in the Rio Metropolitan Area, the U.S. Firm shall develop an implementation approach and procurement schedule, reflecting the decisions of SETTRANS and the results of the Financial Feasibility Analysis.

The U.S. Firm shall develop a Request For Proposals (RFP) for a design-build or next step for implementation, describing the facility requirements, layout, schedule for opening facility and other appropriate information. This schedule shall also reflect any needed environmental approval or permitting steps.

Cargo/Logistics Support Facilities for the Offshore Oil Industry

Regarding the support facilities for the offshore oil industry, the U.S. Firm shall develop a brief summary of the recommended projects, incorporating results of the market analysis, advantages and disadvantages of alternative airports as cargo/logistics support centers, multimodal access issues of each site, relationship to State and local development plans, as well as potential interested users identified during the Technical Assistance.

Deliverable #3: The U.S. Firm shall develop a Request For Proposals (RFP) for a design-build or next step for implementation, describing the facility requirements, layout, schedule for opening facility and other appropriate information.

Task 14: U.S. Sources of Supply and Assistance to US Exporters

The U.S. Firm shall contact U.S. manufacturers of needed equipment and provide a list of these suppliers to SETRANS and project sponsors.

The list of U.S. suppliers shall include company name, contact information, contact person and a general description of products and services that may be procured from each company. The list shall be prepared after contact with the potential suppliers to determine their interest in competing in the Brazil marketplace, whether they have representatives in Brazil, and their prior experience in responding to procurements for similar equipment in the aviation sector.

In order to facilitate U.S. exporters' involvement in the implementation of the projects, the U.S. Firm shall also make copies available of the draft equipment specifications to interested U.S. suppliers. If they provide comments on the specifications, the U.S. Firm should consider those comments, where appropriate.

Further, the U.S. Firm shall develop a one page project brief for each procurement that briefly describes the equipment to be acquired, the procurement process to be followed, the contacts for the procurement agency, as well as the export financing available to U.S. exporters. This project brief shall be included as an Appendix to the Final Report, to help the project sponsors promote interest in the equipment procurements, as well as to be made available and/or distributed by USTDA and the U.S. Department of Commerce to interested U.S. exporters.

The U.S. Firm shall also develop a summary of the process to be followed to procure equipment, including steps to register U.S. companies with the procurement agencies. Further, the U.S. Firm shall develop a list of contacts in Brazil that can help U.S. exporters, including the main Brazilian contractors that may serve as prime contractors and may therefore, acquire some of the equipment, the Brazilian companies that can serve as distributors of the U.S. equipment, and other information that can be distributed to interested exporters to maximize the potential involvement of US exporters in project implementation.

Regarding the two new heliports in the Rio Metropolitan Area, the U.S. Firm shall also contact interested U.S. Firms and provide them with a summary of available information and copies of the RFP or other relevant documents and contacts to participate in the project implementation. A list of interested U.S. firms shall also be provided to the project sponsor.

In addition, the Final Report shall include brochures, technical booklets, specs, and other relevant information from U.S. suppliers, regarding the type of equipment to be acquired. These materials should be referenced in the Implementation Plan Chapter of the Final report and shall be provided as an annex to the Final Report.

A copy of the relevant sections of the report describing equipment to be acquired shall also be provided to all firms contacted that expressed interest in supplying the sponsor with the needed equipment after USTDA approves the Final Report.

Task 15: Final Report

The U.S. Firm shall prepare and provide a comprehensive Final Report to SETRANS, which shall contain the key findings, recommendations and conclusions of the Technical Assistance, and shall incorporate all other documents and/or reports provided pursuant to Tasks 1 through 14 above.

The U.S. Firm shall ensure that the Final Report is submitted in accordance with Clause I of Annex II of the Grant Agreement. The Final Report shall be a substantive and comprehensive report of work performed to carry out all of the tasks set forth in these Terms of Reference and shall include, among other things, an Executive Summary and all deliverables. Each task of these Terms of Reference shall form a separate chapter of the Final Report.

The U.S. Firm shall provide SETRANS and USTDA with both the public and confidential versions of the Final Report in English. The U.S. Firm shall also provide SETRANS with both the public and confidential versions of the Final Report in Portuguese, as well. The U.S. Firm shall prepare and provide to SETRANS, USTDA and the U.S. Consulate in Sao Paulo, a Public Version of the Final Report on CD-ROM.

Notes:

- (1) The U.S. Firm is responsible for compliance with U.S. export licensing requirements, if applicable, in the performance of these Terms of Reference.
- (2) The U.S. Firm and SETRANS shall be careful to ensure that the public version of the Final Report contains no security or confidential information.
- (3) SETRANS 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.
- (4) Confidential information relative to the technical assistance shall be presented under a separate report and labeled "Confidential Information Report".

Annex II

USTDA Mandatory Agreement of Understanding Clauses

A. USTDA Mandatory Clauses Controlling

The parties to this Agreement of Understanding to Perform the Technical Assistance ("Agreement of Understanding") acknowledge that this Agreement of Understanding is funded in whole or in part by the U.S. Trade and Development Agency ("USTDA") under the Grant Agreement between the Government of the United States of America acting through USTDA and the Rio de Janeiro State Transport Secretariat ("Client"), dated _____ ("Grant Agreement"). The Client has selected _____ ("U.S. Firm") to perform the Technical Assistance ("Technical Assistance") for the Rio de Janeiro State Airports and Heliports Modernization Project ("Project") in Brazil ("Host Country"). Notwithstanding any other provisions of this Agreement of Understanding, the following USTDA Mandatory Agreement of Understanding Clauses shall govern. All sub-agreements entered into by the U.S. Firm funded or partially funded with USTDA Grant funds shall include these USTDA Mandatory Agreement of Understanding Clauses, except for clauses B(1), G, H, I and J. In addition, in the event of any inconsistency between the Grant Agreement and the Agreement of Understanding or sub-agreement thereunder, the Grant Agreement shall be controlling.

B. USTDA as Financier

(1) USTDA Approval of Agreement of Understanding

All agreements of understanding 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 Agreement of Understanding has been formally approved by USTDA or until the Agreement of Understanding conforms to modifications required by USTDA during the Agreement of Understanding review process.

(2) USTDA Not a Party to the Agreement of Understanding

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 Agreement of Understanding and amendments thereto, including assignments, the selection of all U.S. Firms, the Terms of Reference, the Final Report, and any and all documents related to any Agreement of Understanding 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

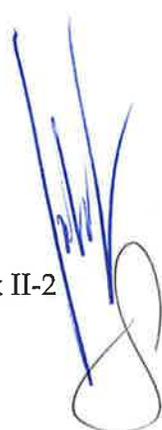
the Technical Assistance and shall not be construed as making USTDA a party to the Agreement of Understanding. The parties hereto understand and agree that USTDA may, from time to time, exercise the foregoing approval rights, or discuss matters related to these rights and the Project with the parties to the Agreement of Understanding or any sub-agreement, 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 U.S. Firm, or relieve the U.S. Firm of any liability which the U.S. Firm 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 U.S. Firm must be either a U.S. firm or U.S. individual; (b) the U.S. Firm 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 sub-agreement; (c) employees of the U.S. Firm or U.S. subcontractors 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 Technical Assistance 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 Technical Assistance 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 U.S. Firm 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 Agreement of Understanding. 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 Agreement of Understanding term and for a period of three (3) years after final disbursement by USTDA. The U.S. Firm 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.



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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 U.S. Firm shall provide adequate Workman's Compensation Insurance coverage for work performed under this Agreement of Understanding.

G. Reporting Requirements

The U.S. Firm 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 Technical Assistance. In addition, if at any time the U.S. Firm receives follow-on work from the Client, the U.S. Firm shall so notify USTDA and designate the U.S. Firm'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 U.S. Firm 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 Agreement of Understanding

Disbursement of Grant funds will be made only after USTDA approval of this Agreement of Understanding. To make this review in a timely fashion, USTDA must receive from either the Client or the U.S. Firm a photocopy of an English language version of a signed Agreement of Understanding 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 U.S. Firm shall be included in this Agreement of Understanding. 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 Agreement of Understanding 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) U.S. Firm Invoice Requirements

USTDA will make all disbursements of USTDA Grant funds directly to the U.S. Firm. The U.S. Firm 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 U.S. Firm for performance of the contract by submitting the following to USTDA:

(a) U.S. Firm's Invoice

The U.S. Firm's invoice shall include reference to an item listed in the Agreement of Understanding payment schedule, the requested payment amount, and an appropriate certification by the U.S. Firm, as follows:

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

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

(ii) For Agreement of Understanding performance milestone payments:

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

(iii) For final payment:

"The U.S. Firm has performed the work described in this invoice in accordance with the terms of its Agreement of Understanding with the Client and is entitled to payment thereunder. Specifically, the U.S. Firm has submitted the Final Report to the Client, as required by the Agreement of Understanding, and received the Client's approval of the Final Report. To the extent the U.S. Firm has not complied with the terms and conditions of the Agreement of Understanding, 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 U.S. Firm's Invoice

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

(ii) For Agreement of Understanding 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 U.S. Firm have been performed satisfactorily, in accordance with applicable Agreement of Understanding 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 U.S. Firm have been performed satisfactorily, in accordance with applicable Agreement of Understanding provisions and terms and conditions of the USTDA Grant Agreement. The Final Report submitted by the U.S. Firm 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 Agreement of Understanding is terminated prior to completion, the U.S. Firm 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 U.S. Firm all USTDA Grant funds previously disbursed to the U.S. Firm (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 U.S. Firm 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 U.S. Firm 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 U.S. Firm to ensure that no confidential information is contained on the CD-ROMs.

The U.S. Firm 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 U.S. Firm 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 U.S. Firm shall be responsible for labeling the front cover of that version of the Final Report with the term "Confidential Version." The U.S. Firm 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 U.S. Firm 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 U.S. Firm who prepared the report, a report title and the following language:

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

(d) The U.S. Firm 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 U.S. Firm 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 Agreement of Understanding, including the appendices, shall be made only by written agreement by the parties hereto, subject to written USTDA approval.

K. Technical Assistance Schedule

(1) Technical Assistance Completion Date

The completion date for the Technical Assistance, which is August 31, 2013, is the date by which the parties estimate that the Technical Assistance 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 Agreement of Understanding 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 U.S. Firm 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 Technical Assistance. The Client agrees not to receive any such payment. The U.S. Firm and the Client agree that each will require that any agent or representative hired to represent them in connection with the Technical Assistance will comply with this paragraph and all laws which apply to activities and obligations of each party under this Agreement of Understanding, 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 Agreement of Understanding shall be sent to the following address and include the fiscal data listed below:

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

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

Fiscal Data:

Appropriation No.: 1112/131001
Activity No.: 2012-51007A
Reservation No.: 2012100
Grant No.: GH201251100

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 U.S. Firm will seek reimbursement from USTDA for such taxes, tariffs, duties, fees or other levies.

Annex II-9

RM

ANNEX 5

TERMS OF REFERENCE

Objective

The objective of the Rio de Janeiro State Airports and Heliports Modernization Technical Assistance is to assist the Rio State Transport Secretariat (SETRANS) update its Statewide Airport Plan (*Plano Aeroviario*). Specific objectives to be addressed during the Technical Assistance are as follows:

- 1) Carry out a Demand Analysis for Tourism and Business Regional Commercial Aviation Services (Airlines and Helicopter Services) over the next 20 years, including the demand associated with the rapidly expanding oil exploration and development; and
- 2) Update the Airport and Heliport Statewide Plan and Program, including needed improvements (infrastructure and equipment), in order to modernize and expand commercial as well as general aviation facilities and add new airports and heliports to meet projected demand, in accordance with international norms and standards, particularly to incorporate three immediate priorities.

The intent is to develop a regional airport and heliport network with modern equipment and services that complements the INFRAERO Airports. Although the airports operated by INFRAERO have not been included in the Technical Assistance, the U.S. Firm should take into account the existing and planned facilities at INFRAERO airports in terms of how they may affect needs at other airports in the State that are included in this Technical Assistance. The airports included in the Technical Assistance are mainly small regional and general airports which are important for local markets, but are operated separately from the larger INFRAERO airports.

The U.S. Firm's proposal and work plan shall define the proposed approach to the site analysis and conceptual planning for new airports and heliports, the feasibility analysis of the overall program, as well as the approach to fast track implementation for the two new heliports.

The Technical Assistance tasks are as follows:

Task 1: Data Collection and Review

Data provided by SETRANS will likely be in Portuguese and it will be the U.S. Firm's responsibility to translate the information for its use, if necessary.

Upon notice of award, the U.S. Firm shall provide SETRANS with a list of data requirements and request copies of available relevant studies prior to traveling to Brazil for the initial meetings and site visits. The main objectives of this task are:

- i) to define the necessary information for the development of the Technical Assistance, including the site selection and conceptual planning for selected new airports and heliports, as well as the conceptual design and feasibility analysis for two new heliports; and
- ii) to establish the process to obtain all available information to be used by the U.S. Firm over the duration of the project.

Task 2: Kickoff Meeting

Upon notice of award, the U.S. Firm shall schedule a kickoff meeting with SETRANS and other appropriate participants, who will be involved in monitoring, guiding, and reviewing the results of the Technical Assistance. The kickoff meeting shall take place in Rio de Janeiro. The purpose of the kickoff meeting with SETRANS includes:

- Introduction of the U.S. Firm team to SETRANS;
- Review status of the Rio de Janeiro Statewide Airport Plan and Program and proposals for new airports and heliports in the State;
- Identify existing and new airports and heliports with the potential to serve as major cargo/logistics centers for the offshore oil industry that should be further evaluated in this Technical Assistance;
- Clarify the objectives and scope of the Technical Assistance;
- Review the Work Plan and the schedule; and
- Respond to any questions SETRANS may have.

During this meeting, the U.S. Firm shall also make arrangements to gather all available relevant information regarding the operation and current facilities at the Airports, as well as the State's economic base, resources, markets, population, industrial development and transport systems in the airports and heliports current and potential area of influence.

The information shall be obtained from the current Master Plans, the State Transportation Secretariat and Federal databases, the State's Economic Development Plan, the offshore oil industry plans, and from any other sources needed. SETRANS shall provide all needed information for proposed sites to be considered, data for site analysis and conceptual planning for selected new airports and heliports, as well as any other information required to develop procurement documents for fast track implementation of the two new heliports in the Rio Metropolitan Area (including property boundaries and infrastructure connections).

Task 3: Site Visits and Assessment

The U.S. Firm shall visit the proposed airport and heliport locations for selected new facilities (based on available data and discussions with SETRANS at the kickoff

meeting). The U.S. Firm shall visit up to two alternative sites for no more than two new airports, and up to two alternative locations for no more than four heliports, including the two new heliports in the Rio Metropolitan Area (in downtown Rio and Jacarepaguá/Barra da Tijuca), as needed for carrying out the scope.

The U.S. Firm shall also visit no more than three other existing airports to evaluate conditions and needs. During these visits the U.S. Firm shall conduct a general assessment of the existing and needed infrastructure and equipment, including:

- 1) Navigation equipment and systems, instrument landing systems, telecommunications systems, meteorological and other equipment required for navigation;
- 2) Lighting systems, pavement markings and guidance signs on runways, taxiways and aprons;
- 3) Terminal building expansion equipment needs, e.g. passenger loading bridges, and other electrical and mechanical installations of the terminal;
- 4) Baggage and cargo handling systems and equipment at the terminal;
- 5) Security equipment (passenger and baggage screening), perimeter and access control systems to restricted areas, etc.;
- 6) Rescue, Fire-fighting and Emergency medical assistance equipment;
- 7) Fuel supply equipment; and
- 8) Any other infrastructure, system, or equipment relevant for the current or future management and operations at the airports.

The U.S. Firm shall take photographs during the on-site visits of the airports and proposed locations for airports and heliports and record any deficiencies encountered or other issues that are identified.

For airports not visited, the U.S. Firm shall obtain similar information from SETRANS regarding equipment available and proposed equipment acquisition for night operations, communications, navigation and other equipment.

In addition to the site visits, the U.S. Firm shall carry out consultation meetings with users, airport officials, government representatives, as well as regional commerce, tourism and industry representatives, particularly regarding the offshore oil industry plans and their needs for cargo and logistical support facilities. These meetings and interviews shall aim to obtain the opinions of each group regarding the current situation, needs and the potential future development of the airports and heliports, and to collect any other available information.

For the offshore oil industry cargo/logistics needs analysis, the U.S. Firm shall hold meetings with Petrobras, economic development officials at the State level and local level, with the greatest potential for becoming a cargo/logistics supply center, based on the kickoff meeting and any further discussions held at the outset of the Technical Assistance.

Task 4: Market Analysis and Demand Forecasts for Airports and Heliports

The market analysis shall be carried out for three specific areas: Regional Passenger Commercial Services, Business and General Aviation, and the Cargo/Logistics offshore oil industry support facilities. Emphasis shall be placed on the needed analysis for new airports and heliports, as well as for existing airports in need of near term expansion or improvement. The U.S. Firm shall develop total forecasts of aircraft and helicopter activity for each airport and heliport, based on the demand forecasts for the three market segments.

Regional Passenger Commercial Services

The U.S. firm shall conduct an analysis of the market for passenger and air cargo transport services in the area of influence of the airports under study as a base for the development of forecasts of commercial aircraft activity, air passengers, and cargo. The airports under study serve mainly small local markets, so the analysis should reflect the level of activity. The U.S. Firm shall also review the historical demand for each market segment. The U.S. Firm shall also identify business opportunities for the Airports. In order to best assess the air transport market in the regional airports, the market analysis shall include influencing factors such as:

- The trends in the air transport market in the respective areas and the neighboring regions;
- The relationship to the Rio de Janeiro Metropolitan Airports (including the two commercial airports in the Rio Metropolitan Area, Galeão and Santos Dumont), although these airports serve different markets than the airports under study;
- Prior traffic forecasts and underlying assumptions; and
- Major drivers and potential for growth of business at the airports, where relevant.

In addition, the U.S. Firm shall analyze the historical trends of the composition of the fleet using the airports, where appropriate, to help determine apron requirements. The U.S. Firm shall also define probable development scenarios for forecasting future demand, based on the main drivers of potential demand for regional commercial services, including air taxis or possible airline route development, other near airport land development and business opportunities.

Business and General Aviation

The U.S. Firm shall analyze historical information on based aircraft and air traffic movements of non-commercial aircraft at the State's airports. The U.S. Firm shall then develop forecasts for business and general aviation at these airports, based on historical trends, as well as a review of the recent General Aviation industry development in Brazil and future plans.

Cargo/Logistics Oil Industry Support Facilities

For the Cargo/Logistics oil industry support facilities development, the U.S. Firm shall consider oil industry needs in various areas of the State, considering the location and plans for offshore oil exploration and development. Meetings shall be held with major oil companies involved in offshore exploration and development. The U.S. Firm shall obtain their perspective on the need for support facilities, including facilities to serve the Bacia de Santos oil field. The U.S. Firm shall also consider the interest of private developers to participate in such developments, as well as the interest of cargo and/or helicopter operators and other logistics providers in using an airport in the State or a proposed location as a major center for their operations. Further, the views of SETRANS and the policies articulated in the Statewide Airport Plan shall be considered, as well as those of the State's economic development agencies.

Areas with greatest potential to serve as Cargo/Logistics Support Facilities shall be ranked and evaluated concurrently with the site analysis in Task 5. Based on the analysis of market potential, cargo and passenger volumes shall be estimated for airports and/or heliports that have the potential to serve as cargo/logistics support centers. Three demand scenarios shall be considered: high (optimistic), average (most likely) and conservative (pessimistic). Each of these three scenarios shall be established based on the results of the market potential.

These estimates shall be used as the base for the evaluation of alternative sites for the highest priority locations, which shall be selected based on discussions with SETRANS. The forecasts shall be developed for offshore oil support equipment and other cargo as well as passengers (workers and others).

During the forecast development and analysis, the U.S. Firm shall also consider the sensitivity of demand to different variables as appropriate, to reflect the pace of offshore oil exploration and extraction in Brazil, as well as competitor cargo/logistics oil industry support facilities in other nearby states in Brazil. These variables shall be considered in defining development scenarios to estimate the high, low, and most likely cargo and passenger volume estimates. The passenger and cargo estimates shall be converted to aircraft and/or helicopter flights, based on historical information and reasonable growth assumptions.

Aircraft/Helicopter Movements, Passenger and Cargo Traffic Forecasts

Based on its analysis of all market segments (regional commercial, business and general aviation, and oil industry support needs), the U.S. Firm shall prepare airport and heliport forecasts for based aircraft/helicopters, air traffic movements, passengers, and cargo, for definition of future facility requirements for the Statewide Airport Plan, the financial analysis and the feasibility analysis to be carried out in subsequent tasks. Forecast aircraft/helicopter movements shall be broken down into the following:

- commercial aviation;
- helicopter;
- cargo;

- general aviation; and
- military aviation.

Where applicable, passenger forecasts shall be broken down into appropriate categories for the feasibility analysis, e.g. arriving and departing. Cargo forecasts shall also be broken down into offshore oil industry equipment and other cargo.

The U.S. Firm shall develop 20-year forecasts by five-year periods for the facility and equipment needs analysis. The U.S. Firm shall prepare annual projections, as needed, for the financial analysis.

The U.S. Firm shall consider three demand scenarios: high (optimistic), average (most likely) and conservative (pessimistic). Each of these three scenarios shall be established based on the results of the market analysis.

For the most likely scenario, the U.S. Firm shall estimate peak period apron aircraft parking needs so as to determine required apron dimensions for conducting feasibility analysis and conceptual planning of selected airports and heliports.

Once these projections have been developed, their reasonability shall be confirmed through consultation with SETRANS, as well as with representatives of air transport and oil companies, which handle import and export and offshore cargo, airlines and/or shipping companies. During the forecast development and analysis, the U.S. Firm shall also consider the sensitivity of demand to different variables to develop the high, low, and most likely forecasts, such as:

- Domestic and State GDP growth;
- Oil price and demand;
- Agricultural and other development; and
- Tourism growth rate.

Task 5: Equipment/Facility Needs and Develop Cost Estimates

This task shall be carried out for the study areas to be considered in this Technical Assistance as part of the Statewide Airport and Heliport Plan Update, including:

- Equipment needs for night operations and communications/navigation equipment at existing airports;
- Airport and heliport equipment/facility needs for all business and tourism airports; and
- Airport and heliport equipment/facility needs for cargo/logistics oil industry support facilities.

Equipment Needs at Existing Regional Airports

The U.S. Firm shall analyze current and near term equipment needs at all airports, particularly improvements needed for night operations, communications and navigation, as well as safety equipment. The night operations and equipment requirements shall be based on the review of available equipment at each airport as provided by SETRANS, the policies established in the Statewide Airport Plan as well as the International Civil Aviation Organization (ICAO) and Federal Aviation Administration (FAA) international, the Brazilian National Civil Aviation Agency (ANAC), and other industry standards. Equipment needs should specifically include:

- 1) Navigation equipment and systems;
- 2) Telecommunications systems;
- 3) Meteorological equipment;
- 4) GPS and other equipment to increase safety; and
- 5) Lighting system and signs for runway, taxiways and aprons.

The U.S. Firm shall also specifically consider the establishment of a Global Navigation Satellite System (GNSS) operation at the Angra dos Reis Airport, serving both aircraft and helicopters operating offshore in the Bacia de Santos oil field, in light of the climatic conditions in the area.

SETRANS anticipates that at a minimum, the following equipment should be considered for the four existing airports in Angra dos Reis, Cabo Frio (expansion of taxiway), Maricá, and Resende:

- Airport lighting and other equipment for night operations;
- Navigation aids;
- Weather observation stations;
- Radio communication;
- Fuel distribution; and
- Crash fire rescue vehicles.

The U.S. Firm shall also evaluate the need for a GNSS System to control helicopter and small aircraft in the southern part of State to be located at Angra dos Reis.

Based on the recommended improvements and expansions, the U.S. Firm shall identify and define the capital investments required for procuring equipment, in accordance with the priorities in the State Airport Plan.

Business and Tourism Airports

The demand parameters and their relationship to facility capacity, as well as safety standards shall be used to determine facility and equipment needs at all State airports and heliports intended to primarily serve business and tourism needs, to be provided as input for the Statewide Plan. Facilities and equipment needs shall include the following, where appropriate, based on the demand forecasts and the current situation:

- 1) Navigation equipment and systems, Instrument Landing System, telecommunications systems, meteorological and other equipment required for safe operations;
- 2) Lighting system, pavement markings and guidance signs on runway, taxiways and apron;
- 3) Terminal building expansion equipment needs, e.g. loading bridges, IT, and other electrical and mechanical installations of the terminal;
- 4) Baggage and cargo handling systems and equipment at the terminal;
- 5) Security equipment (passenger and baggage screening), perimeter and access control systems to restricted areas;
- 6) Rescue, Fire-fighting and Emergency medical assistance equipment; and
- 7) Any other infrastructure, system, or equipment relevant for the current or future management and operations at the airports.

SETRANS anticipates that, at a minimum, a new Runway End Safety Area (RESA) is required at Angra dos Reis Airport. In addition, two new airports are already under consideration and seven new heliports (including one in Angra dos Reis and two in the Rio Metropolitan Area) have been proposed in the State Airport Plan. Based on the improvements and expansions recommended, the U.S. Firm shall identify and define the capital investments required for Business and Tourism Airports, in accordance with the priorities in the State Airport Plan.

Cargo/Logistics Oil Industry Support Facilities

The U.S. Firm shall use the demand parameters and their relationship to facility capacity, as well as safety standards, to determine facility and equipment needs at all State airports and heliports intended to serve mainly as support facilities for the offshore oil industry. The needs shall be defined based on the market potential and private sector interest in the development of facilities to support the offshore oil industry in the State. Further, the U.S. Firm shall consider how existing facilities can be expanded for this purpose or whether new facilities are most appropriate and in which locations. The objective is to identify new airports and heliports that complement existing heliports and airports reflecting the offshore oil industry needs and plans. SETRANS anticipates that at least one airport or heliport will be needed to serve the offshore oil industry north of the Rio Metropolitan Area and another one will be needed south of the Rio Metropolitan Area (Angra dos Reis).

The U.S. Firm shall identify and define the capital investments required for offshore oil support facilities, in accordance with the priorities in the State Airport Plan, based on the improvements and expansions recommended at existing locations or the need for new airports or heliports.

Statewide Facility and Equipment Needs and Costs

The U.S. Firm shall summarize all the capital investments required for procuring equipment, as well as rehabilitating and constructing infrastructure works, new airports or new heliports, in accordance with the investment schedule proposed for the short, medium and long term planning periods. The investment needs shall also reflect the

results of the analysis of new airports and heliports, and the feasibility of the two new heliports in the Rio Metropolitan Area, as evaluated and further defined in Task 6.

Task 6: Site Analysis/Conceptual Planning for New Airports and Heliports

This task shall include technical analysis of proposed sites for new airports and heliports, as well as conceptual plans and cost estimates for a limited number of selected airport and heliport locations (two airports and four heliports). These locations, conceptual plans, and cost estimates shall then be further utilized in Phase II, in order to carry out a Feasibility Analysis.

Preliminary Site Selection Analysis

The U.S. Firm shall analyze the sites (selected by SETRANS at the kickoff meeting) for up to two new airports and up to four new heliports (including Angra dos Reis to serve the area South of Rio, a second one to serve the region north of Rio, and at least two public heliports to serve the Rio Metropolitan Area). The site analysis shall confirm the SETRANS selection where preliminary analysis is already available or would consider alternative sites where data for those sites can be obtained from SETRANS and other sources at no cost.

The site analysis shall consider the relationship between proposed new sites and existing airports and heliports. The site analysis shall also review the suitability of the proposed site for an airport or heliport based on airspace considerations, wind and climate information, infrastructure and utility connections, land availability and ownership, compatibility of adjacent land uses and zoning, highway access, soil and geotechnical data, topographic maps, etc.

SETRANS shall provide all required data for Angra dos Reis and the two new heliport locations in the Rio Metropolitan Area. Data for other airports or heliports shall be made available by SETRANS or readily available information sources for the site analysis shall be identified by SETRANS which can be obtained at no cost to the U.S. Firm.

In establishing the site size and shape requirements, the U.S. Firm shall consider the demand forecasts, the role intended for the new airports and heliports, and how they would complement the existing ones. Based on available data, the U.S. Firm shall consider general infrastructure needs for each of the new facilities. The U.S. Firm shall initially identify likely investments and their probable costs (in a range) for the main alternatives (based on a generic concept plan). The investment estimates should include land acquisition costs (where needed), infrastructure connections, particularly highways, as well as other public utility costs.

The U.S. Firm shall initially rank proposed sites and provide SETRANS with a technical evaluation. SETRANS shall then select those specific sites that should be analyzed further.

Conceptual Plans and Costs

The U.S. Firm shall develop Conceptual Plans and estimated costs for the new airports and heliports selected by SETRANS based on the technical ranking and other policy considerations. The U.S. Firm shall prepare preliminary layouts for up to two new airports and up to four new heliports showing key facilities and functional areas at each of the new airports and heliports being analyzed. The U.S. Firm shall also prepare estimated costs for engineering, site preparation, civil works, buildings and equipment at each site.

The U.S Firm shall prepare a more detailed layout plan, statement of facility requirements, as well as a fast track approach to implementation for the two new heliports in the Rio Metropolitan Area, based on the available data provided by SETRANS.

The implementation approach for the two heliports shall be carried out only at the sites confirmed and approved by SETRANS based on its review of any prior alternative sites that are found acceptable. The implementation approach for the two heliports in the Rio Area shall be at a sufficient level of detail for carrying out the Feasibility Analysis and proceed to design and construction. If available information is provided by SETRANS in a timely manner, and if SETRANS so chooses (see description of Task 9), the U.S. Firm shall develop this approach sufficiently so as to be able to proceed directly to a design/build contract or other private sector concession options.

New Airports and Heliports Evaluation

Based on the site analysis and the cost estimates, available information shall be summarized and evaluated to determine proposed sites for new airports and heliports to be included in the State Airport Plan. Further, the evaluation shall confirm the two selected heliport sites that should proceed for fast track implementation.

Task 7: Define Projects and Inputs for Airport/Heliport Development Program

This task shall define projects to be incorporated in the State Airport Plan as follows:

- 1) Equipment needs for night operations and communications/navigation equipment at airports and other facility/equipment needs at existing airports;
- 2) Investments needed at existing airports and new airports and heliports to serve business and tourism needs, and
- 3) Investments needed at existing airports and new airports and heliports to support the cargo/logistics needs of the offshore oil industry in the State.

In order to better define the projects to be implemented considering the equipment and facility needs identified in Tasks 5 and 6, the U.S. Firm shall prioritize all proposed investments and establish a schedule for implementing the improvements and investment

needs on an annual basis for the first 5 years, with other longer term investments scheduled in five year increments, according to identified priorities.

The output of this task shall be a detailed list and specific plan of improvements to be implemented on an annual basis in the short-term (1-5 years) in accordance with the objectives of SETRANS, in order to satisfy the immediate safety needs and objectives for night operations and communications/navigation equipment, as well as satisfy the long term demand for improved airports and new airports and heliports to serve 1) tourism and business needs, and 2) the cargo/logistics support facilities needed by the offshore oil industry.

The U.S. Firm shall organize the list of needs so as to include the various groups of investments associated with each of the State's objectives, including:

- night operations;
- equipment acquisition and facility modernization and expansion;
- new airports and heliports to serve tourism and business needs; and
- new airports and heliports to meet needs for the cargo/logistics support facilities for the offshore oil industry.

Once the investment lists have been compiled for all airports and heliports, the U.S. Firm shall define each project in a one page form that provides the following information for each identified need:

- Airport/Heliport Name – airside or landside;
- Description of Need – construction or equipment;
- Rationale/Justification and relationship to State's objectives;
- Investment category objective (night operations, safety and security, increased demand at existing airports, new airport/heliport development for meeting future demand, other);
- Cost estimate and schedule (for first five years, by year, and by five-year increments for later periods); and
- Priority ranking evaluation based on U.S. Firm's professional judgment and available information from airport visits, operational data, historical and forecast traffic, State's objectives, and Master Plan documents).

Before the list is finalized, it shall be included in Interim Report No. 1 and discussed with SETRANS and other stakeholders.

Deliverable #1: Interim Report No. 1 and Phase I Consultation Meetings

At the end of Task 7, the U.S. Firm shall prepare and submit Interim Report No. 1, in Portuguese. The U.S. Firm shall then meet with SETRANS and other stakeholders to discuss the results of the Demand Projections, Equipment/Facility Requirements, Site Analysis, Conceptual Plans and Cost Estimates. SETRANS shall provide comments and those comments shall be incorporated in the draft final report.

Phase II. Feasibility Analysis and Impacts

Task 8: Economic Analysis

The U.S. Firm shall carry out an economic analysis for the Airport and Heliport Development Program defined in Task 7, and shall note any alternatives to achieve the same project objectives, where these possibilities are available. The U.S. Firm shall also develop a cash flow analysis for disbursement of the project investment requirements, considering where appropriate, any dedicated revenues from airport and heliport operations. The U.S. Firm shall conduct a more detailed analysis for the two new heliports in the Rio Metropolitan Area. The U.S. Firm shall also review the availability of local materials and equipment for the projects.

The U.S. Firm shall also summarize the following possible impacts and benefits of all the Projects, where applicable:

- Improved safety and security of air transport operations;
- Savings in travel time and costs for the different groups of users;
- Savings in fuel and operating costs for the airlines and/or other operators;
- Changes in emissions where appropriate;
- Changes in noise levels; and
- General opportunities and benefits that the project will generate for the economy, such as economic development, increased tourism and foreign trade.

The U.S. Firm shall present a summary of the economic analysis in support of its conclusions and recommendations about the Project's economic feasibility.

Task 9: Financial Feasibility Analysis and Financing Options

The airports and heliports are expected to be mainly financed by the Federal government, but the State government, the municipalities and private enterprises will also likely share in the costs. The U.S. Firm shall conduct a financial feasibility analysis and consider financing options for the projects included in the investment plan, particularly taking into consideration how to structure the program so as to maximize use of private capital and reduce the required upfront contribution of the State or municipalities.

Equipment Needs and Improvements at Regional Airports

The U.S. Firm shall analyze the availability of funding from **the** Brazilian Federal Program of Assistance to Regional Airports (PROFAA), the new National Fund for Civil Aviation (FNAC), and matching State or local funding as well as the possibility for vendor financing to supplement public funds.

Modernization and New Airports and Heliports

The U.S. Firm shall carry out a simple financial viability analysis for the modernization of existing airports and construction of new airports and heliports based on the traffic projections, estimated investment amounts, financing costs, if any, and other costs. The analysis shall include, among other things, the project's profitability for a private sector concessionaire under different scenarios. The U.S. Firm shall discuss with SETRANS funding sources such as the Brazilian National Development Bank (BNDES), International Finance Corporation, World Bank, or Inter-American Development Bank financing. The U.S. Firm shall also consider private interest and potential to develop and/or operate new airports and heliports under a private concession.

Where applicable, the financial model shall use baseline historical financial data to generate cash flows, including the Capital Investment (CAPEX) requirements, financing, revenues, and annual Operating Costs for the established planning horizon. For new airports and heliports, data from similar operations shall be used for the analysis.

Two New Heliports in Rio Metropolitan Area

The feasibility analysis for the new two heliports in the Rio Metropolitan area shall include the more complete information on estimated costs and the approach to implementation as obtained in Task 6 and the decisions made by SETRANS regarding implementation (design build, design-build-operate, concession, or the more traditional design and construction phases). If no decision has been made, the U.S. Firm shall provide an analysis of these options and the feasibility, financing potential and financing sources under each of these or other identified options (e.g. investment by the site owner).

The U.S. Firm will conduct a Financial Analysis to determine the viability of the projects, in terms of its Net Present Value, Internal Rate of Return (IRR), and other financial criteria generally accepted in the international financial community. The U.S. Firm shall also develop a sensitivity and risk analysis to evaluate the impact of changes in assumptions on the Project's critical variables, such as demand, investment amounts, etc. For those alternatives, which consider credit from domestic or international financial institutions, the U.S. Firm shall conduct an available cash flow sensitivity analysis for debt payment (debt coverage service levels), according to international accepted norms for this type of operations.

In order to define whether the investment is attractive, the U.S. Firm shall estimate a minimum IRR for the Project. The analysis and identification of financing sources shall culminate in a Financial and Investment Plan that is to be utilized to support capital investment decisions by SETRANS and the local areas or airports, to support presentations to prospective Brazilian and foreign investors and/or the Federal agencies.

The U.S. Firm shall prepare a separate and more detailed Financial and Investment Plan to proceed with implementation of the two new heliports in the Rio Metropolitan Area, including a schedule for a design-build contract or a design-build-operate concession agreement for the design, construction and operation of the two heliports. The selected

procurement approach and required public financing for the two heliports shall be detailed.

Cargo/Logistics Support Facilities for Offshore Oil Industry

The U.S. Firm shall consider appropriate approaches, particularly the role for public vs. private funding and possible financing sources for the proposed priority support facilities for the offshore oil industry, including how to best structure private/public partnerships to attract private investment to implement these projects.

Task 10: Preliminary Environmental Analysis

The U.S. Firm shall conduct a preliminary environmental impact analysis for the implementation of the Project. The U.S. Firm shall first review any available prior environmental analysis for any of the Airport Master Plans or the Statewide Airport Plan. The U.S. Firm shall then also review the guidelines for environmental assessments at airports and heliports for different types of projects, in order to meet local, State, and Federal regulations as well as international standards established by financial institutions, international development agencies, and aviation organizations, such as the World Bank, Inter-American Development Bank, International Civil Aviation Organization (ICAO), and Federal Aviation Administration (FAA). The U.S. Firm shall briefly discuss the extent to which potential negative impacts can be mitigated, and develop plans for full environmental impact assessment or other studies in anticipation of the Project moving forward to the implementation stage, if necessary.

The U.S. Firm shall summarize environmental requirements, procedures and management plans that are needed for each project type in order to comply with existing requirements. Further, based on the environmental and social factors identified during the assessment, the U.S. Firm shall define the preliminary scope of the environmental and social programs and management plans that may be needed; as well as any general recommendations for appropriate monitoring and follow-up plans during the construction phase. For safety-oriented projects, the environmental requirements typically do not require extensive analysis and if so, that shall be noted.

Task 11: Review of Regulatory Issues and Implications

The U.S. Firm shall discuss and document any regulatory changes under consideration that may affect the projects under consideration. In Brazil, airports are regulated by ANAC. Under the recent reorganization of the sector, a new Minister-level agency has been created, the Secretariat of Civil Aviation (SAC).

The U.S. Firm shall summarize the implications of the sector's national regulatory environment and any other developments involving economic or environmental regulations that may affect the projects.

Task 12: Developmental Impact Analysis

The U.S. Firm shall analyze the developmental impacts of implementing the recommendations for the airports and/or heliports in Rio. The developmental impact analysis shall include an assessment of each of the following categories:

Infrastructure - The U.S. Firm shall develop a summary statement for each of the projects under consideration.

Human Capacity Building - The U.S. Firm shall develop estimates of the employment generation expected to result from each of the projects under consideration, including positions needed to implement, manage, and operate the proposed projects. Further, the U.S. Firm shall note the number of people who are expected to receive training and a brief description of the training program required.

Technology Transfer & Productivity Improvement - The U.S. Firm shall describe systems and equipment to be implemented, summarizing efficiencies and improvements in processes and use of resources.

Market-Oriented Reforms - The U.S. Firm shall provide a description of the potential private sector investment and other market-oriented reforms, including access to the procurement system that may result. In addition to the above four major areas of development impacts, the U.S. Firm shall consider other development impacts and incorporate them into the Development Impact Assessment.

Deliverable #2: Interim Report No. 2 and Consultation Meetings

At the end of Task 12, the U.S. Firm shall prepare and submit Interim Report No. 2 in Portuguese, presenting the results of Tasks 8-12.

The U.S. Firm Meetings shall meet with SETRANS and other stakeholders in Rio de Janeiro to discuss the results of the Financial, Economic, Environmental, Development, and Regulatory Analysis. Comments provided by SETRANS shall be incorporated in the Draft Final Report.

Phase III. Implementation and Final Report

Task 13: Project Implementation

The U.S. Firm shall identify next steps for project implementation. The U.S. Firm shall develop a Procurement Schedule and Specifications for the Safety, Night Operations, and Communications/Navigation Equipment, and for the two heliports in the Rio Metropolitan Area, reflecting the approach to implementation approved by SETRANS.

Procurement Schedule and Specifications for Equipment

The U.S. Firm shall develop a schedule for procurement and specifications to acquire priority equipment for night operations, communications, navigation, GNSS, etc., in accordance with the results of Phase II. These specifications shall be developed so that they can be used by SETRANS, airports, project sponsors, and/or prime contractors as they proceed with the acquisition of the needed equipment.

New Airports and Heliports

For the new airports and heliports, the U.S. Firm shall identify next steps to proceed with the implementation of the various projects. The U.S. Firm shall also prepare a schedule for implementation of the priority projects for input to SETRANS as they update the State Airport Plan.

Regarding the two new heliports in the Rio Metropolitan Area, the U.S. Firm shall develop an implementation approach and procurement schedule, reflecting the decisions of SETRANS and the results of the Financial Feasibility Analysis.

The U.S. Firm shall develop a Request For Proposals (RFP) for a design-build or next step for implementation, describing the facility requirements, layout, schedule for opening facility and other appropriate information. This schedule shall also reflect any needed environmental approval or permitting steps.

Cargo/Logistics Support Facilities for the Offshore Oil Industry

Regarding the support facilities for the offshore oil industry, the U.S. Firm shall develop a brief summary of the recommended projects, incorporating results of the market analysis, advantages and disadvantages of alternative airports as cargo/logistics support centers, multimodal access issues of each site, relationship to State and local development plans, as well as potential interested users identified during the Technical Assistance.

Deliverable #3: The U.S. Firm shall develop a Request For Proposals (RFP) for a design-build or next step for implementation, describing the facility requirements, layout, schedule for opening facility and other appropriate information.

Task 14: U.S. Sources of Supply and Assistance to US Exporters

The U.S. Firm shall contact U.S. manufacturers of needed equipment and provide a list of these suppliers to SETRANS and project sponsors.

The list of U.S. suppliers shall include company name, contact information, contact person and a general description of products and services that may be procured from each company. The list shall be prepared after contact with the potential suppliers to determine their interest in competing in the Brazil marketplace, whether they have

representatives in Brazil, and their prior experience in responding to procurements for similar equipment in the aviation sector.

In order to facilitate U.S. exporters' involvement in the implementation of the projects, the U.S. Firm shall also make copies available of the draft equipment specifications to interested U.S. suppliers. If they provide comments on the specifications, the U.S. Firm should consider those comments, where appropriate.

Further, the U.S. Firm shall develop a one page project brief for each procurement that briefly describes the equipment to be acquired, the procurement process to be followed, the contacts for the procurement agency, as well as the export financing available to U.S. exporters. This project brief shall be included as an Appendix to the Final Report, to help the project sponsors promote interest in the equipment procurements, as well as to be made available and/or distributed by USTDA and the U.S. Department of Commerce to interested U.S. exporters.

The U.S. Firm shall also develop a summary of the process to be followed to procure equipment, including steps to register U.S. companies with the procurement agencies. Further, the U.S. Firm shall develop a list of contacts in Brazil that can help U.S. exporters, including the main Brazilian contractors that may serve as prime contractors and may therefore, acquire some of the equipment, the Brazilian companies that can serve as distributors of the U.S. equipment, and other information that can be distributed to interested exporters to maximize the potential involvement of US exporters in project implementation.

Regarding the two new heliports in the Rio Metropolitan Area, the U.S. Firm shall also contact interested U.S. Firms and provide them with a summary of available information and copies of the RFP or other relevant documents and contacts to participate in the project implementation. A list of interested U.S. firms shall also be provided to the project sponsor.

In addition, the Final Report shall include brochures, technical booklets, specs, and other relevant information from U.S. suppliers, regarding the type of equipment to be acquired. These materials should be referenced in the Implementation Plan Chapter of the Final report and shall be provided as an annex to the Final Report. A copy of the relevant sections of the report describing equipment to be acquired shall also be provided to all firms contacted that expressed interest in supplying the sponsor with the needed equipment after USTDA approves the Final Report.

Task 15: Final Report

The U.S. Firm shall prepare and provide a comprehensive Final Report to SETRANS, which shall contain the key findings, recommendations and conclusions of the Technical Assistance, and shall incorporate all other documents and/or reports provided pursuant to Tasks 1 through 14 above.

The U.S. Firm shall ensure that the Final Report is submitted in accordance with Clause I of Annex II of the Grant Agreement. The Final Report shall be a substantive and comprehensive report of work performed to carry out all of the tasks set forth in these Terms of Reference and shall include, among other things, an Executive Summary and all deliverables. Each task of these Terms of Reference shall form a separate chapter of the Final Report.

The U.S. Firm shall provide SETRANS and USTDA with both the public and confidential versions of the Final Report in English. The U.S. Firm shall also provide SETRANS with both the public and confidential versions of the Final Report in Portuguese, as well. The U.S. Firm shall prepare and provide to SETRANS, USTDA and the U.S. Consulate in Sao Paulo, a Public Version of the Final Report on CD-ROM.

Notes:

- (1) The U.S. Firm is responsible for compliance with U.S. export licensing requirements, if applicable, in the performance of these Terms of Reference.
- (2) The U.S. Firm and SETRANS shall be careful to ensure that the public version of the Final Report contains no security or confidential information.
- (3) SETRANS 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.
- (4) Confidential information relative to the technical assistance shall be presented under a separate report and labeled "Confidential Information Report".

ANNEX 6



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

U.S. Firm Information Form

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

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

Activity Type *[To be completed by USTDA]*

Feasibility Study

Technical Assistance

Other (specify)

Activity Title *[To be completed by USTDA]*

Full Legal Name of U.S. Firm

Business Address (street address only)

Telephone

Fax

Website

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

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

Yes

Type of Ownership

Publicly Traded Company

Private Company

Other (please specify)

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

Is the U.S. Firm a wholly-owned or partially owned subsidiary?

Yes

No

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

Is the U.S. Firm proposing to subcontract some of the proposed work to another firm?

Yes

No

If yes, U.S. Firm shall complete Attachment C for each subcontractor. Attached?

Yes

Not applicable

Project Manager

Name

Surname

Given Name

Address

Telephone

Fax

Email

Negotiation Prerequisites

Discuss any current or anticipated commitments which may impact the ability of the U.S. Firm or its subcontractors to complete the Activity as proposed and reflect such impact within the project schedule.

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

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

U.S. Firm's Representations

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

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

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

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

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



ATTACHMENT B

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

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

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

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

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

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



ATTACHMENT C

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

Subcontractor Information Form

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

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

Name	Surname	
	Given Name	

Address	
---------	--

Telephone	
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Fax	
-----	--

Email	
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Subcontractor's Representations

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

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

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

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

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

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

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

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

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

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

Name		Signature	
Title			
Organization		Date	