



ICAO

International Civil Aviation Organization
North American, Central American and Caribbean Office

WORKING PAPER

NACC/DCA/09 — WP/21
20/06/19

**Ninth Meeting of the North American, Central American and Caribbean Directors of Civil Aviation
(NACC/DCA/09)**

Port-of-Spain, Trinidad and Tobago, 25 to 27 June 2019

- Agenda Item 3:** **Accountability Report of the ICAO NACC No Country Left Behind
(NCLB)/Systemic Assistance Programme (SAP)**
- 3.6 **ICAO outreach for government and non-government third parties
funding to support State's/region's aviation development**

OVERVIEW OF USTDA

(Presented by USTDA)

EXECUTIVE SUMMARY	
In support to the Caribbean Region, USTDA, under the Initiative of ICAO No Country Left Behind (NCLB), is proposing the DGs the Project detailed in the Appendix .	
Action:	Discuss the attached Project.
<i>Strategic Objectives:</i>	<ul style="list-style-type: none">• Safety• Air Navigation Capacity and Efficiency• Security & Facilitation• Economic Development of Air Transport• Environmental Protection

Overview of USTDA

Advance economic development and U.S. commercial interests in developing and middle-income countries

Support modern infrastructure and a fair and open trading environment

USTDA has a dual mission:

Foreign Assistance Agency

Grant-making agency

Development-oriented

Responsive to priorities in host country or region

Trade Promotion Agency

Supports US commercial interests

USTDA's Program Activities

USTDA's foreign assistance provides private sector solutions to development challenges through funding for:

Investment Analysis / Feasibility Studies

Sector Development / Technical Assistance

Reverse Trade Missions

Conferences / Workshops

Aim is to enable investments in infrastructure, technology transfer/productivity enhancements, human capacity building, and market-oriented reform

How? Through exposure to US technologies, product/equipment suppliers, standards, and best practices

Where to go from here?

Engage in projects utilizing USTDA assistance

Early investment analysis/feasibility studies

USTDA-funded investment analysis provides access to world-class U.S. contractors to tackle development challenges

Evaluation of Infrastructure development projects to support internal decision making (including analysis for potential investors and lenders)

Technical assistance

Development of sector strategies, industry standards, and legal and regulatory regimes

Adoption of market-opening policies and procedures that promote a favorable business and trade environment

Reverse trade missions, training grants

USTDA Project Evaluation

How does USTDA evaluate projects?

Developmental priority to host country/project sponsor (foreign assistance agency looking to be responsive to host country's needs)

Likelihood of receiving implementation funding, as well as US government/private sector involvement and promotion

Opportunity for sufficient US export potential (project sponsor not tied into US procurements – merely the contractors performing the analysis/evaluation. However, US suppliers should be able to compete in a fair and open trading environment through international tenders)

Opening Markets and Generating Exports

U.S. Trade and Development Agency

May 10, 2018

Our Mission

The U.S. Trade and Development Agency helps companies create U.S. jobs through the export of U.S. goods and services for priority development projects in emerging economies. USTDA links U.S. businesses to export opportunities by funding project preparation and partnership building activities that develop sustainable infrastructure and foster economic growth in partner countries.

95:1

Every \$1 USTDA has invested in its programs has yielded **\$95 in U.S. – manufactured goods and services**

USTDA Works Exclusively in Emerging Markets

USTDA's programs are available in many developing countries and emerging markets. Please note that USTDA assistance is not available in countries classified as high-income. (Please refer to the [World Bank list of economies](#) to see a specific country's income classification.) U.S. firms are urged to contact USTDA directly for information regarding the availability of USTDA's programs in specific countries.

USTDA Focuses on Infrastructure

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USTDA links U.S. Companies to global Infrastructure Opportunities by Providing:

- Access
- Opportunity
- Support

Access to Foreign Buyers

Reverse Trade Missions

USTDA brings foreign project sponsors to the United States pending upcoming procurements to observe the design, manufacture and operation of U.S. products and services.

Conferences and Workshops

USTDA organizes sector or region specific events to connect U.S. firms with foreign buyers. They are designed to highlight upcoming projects overseas, as well as showcase U.S. goods and services.

Upcoming Events

Global Coal-Fired Power Emissions Control Technologies RTM for delegates from India, Indonesia, and Vietnam. Business Briefing for U.S. companies in Pittsburgh, PA on May 17.

Please take a look at USTDA's events page for updates:

<https://www.ustda.gov/events/>

Opportunity to Participate in Overseas Projects

USTDA provides U.S. businesses with the opportunity to participate in large infrastructure projects overseas during the critical early stages of project planning when designs, requirements and technology options are being defined. These activities include feasibility studies, technical assistance and pilot projects.

Technical Assistance

USTDA advances economic development in partner countries by funding technical assistance that:

- Supports legal and regulatory reform related to commercial activities and infrastructure development
- Establishes key industry standards
- Opens other market activities

Pilot Projects

USTDA-funded pilot projects demonstrate the effectiveness of commercially proven U.S. technologies and equipment in the foreign buyer's setting. These demonstrations showcase the effectiveness of U.S. solutions and provide the analysis and empirical data required to move a project forward. They also offer the opportunity for scalability and replicability throughout the market or region.

Feasibility Studies

USTDA-funded and U.S.-led feasibility studies link foreign project sponsors with U.S. businesses at the critical early stage of project development.

Analysis includes:

- Technical
- Financial
- Legal
- Environmental
- Lifecycle costing

USTDA studies are only performed by U.S. firms and provide the comprehensive analysis needed for major infrastructure investments to achieve financing and implementation.

Examples of USTDA Activities

Namibia NamPower Van Eck Power Plant: USTDA feasibility study evaluated the technical options for rehabilitating the Van Eck coal-fired power plant, and provided a financing plan for the recommended options.

China Air Quality Management Program: USTDA technical assistance to help China's Ministry of Environmental Protection develop a regional air quality management plan for Jiangsu Province based on U.S. best practices.

Market Intelligence

- Trade leads
- Webinars
- Final Reports

USTDA representation

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U.S. TRADE AND DEVELOPMENT AGENCY

Latin America and the Caribbean

Linking U.S. Businesses to Global Infrastructure Opportunities

www.ustda.gov

The U.S. Trade and Development Agency helps companies create U.S. jobs through the export of U.S. goods and services for priority development projects in emerging economies. USTDA links U.S. businesses to export opportunities by funding project preparation and partnership building activities that develop sustainable infrastructure and foster economic growth in partner countries.

Supporting Infrastructure Development in Latin America and the Caribbean

For over three decades, USTDA has worked with project sponsors in Latin America and the Caribbean to implement priority infrastructure projects across key sectors such as energy, transportation, telecommunications, water, and the environment. USTDA's partnerships with U.S. industry and regional project sponsors lead to sustainable development, while also creating market access for U.S. businesses.

Since inception, USTDA has funded over 850 feasibility study, technical assistance and reverse trade mission activities to promote infrastructure development in Latin America and the Caribbean. USTDA's current portfolio focuses on Brazil, Colombia and Mexico, as well as eligible countries in Central America and the Caribbean.



USTDA visit to Brazilian utility Copel's central control room

Global Procurement Initiative

USTDA's "Global Procurement Initiative: Understanding Best Value" has partnered with the governments of Brazil, Colombia, Dominican Republic, Mexico, and Panama, to train government officials and stakeholders on how to incorporate best value approaches in their public procurement processes. Workshops and trainings are carried out in collaboration with each country's main procurement agencies and the George Washington University Law School's Government Procurement Law Program.

Transportation

Argentina: Railroad Track Maintenance

USTDA is supporting technical assistance to develop a comprehensive railway track maintenance program for Belgrano Cargas y Logística, Argentina's largest freight railroad operator. The program will create opportunities for the sale of U.S. track maintenance technologies. The activity also complements the Argentine government's nation-wide push to modernize railroads.

Brazil: U.S.-Brazil Aviation Partnership

The bilateral Partnership provides a platform for collaboration on mutual aviation sector priorities, including airport expansion, air traffic flow management, airport security, and commercial engagement. Over 1,500 individuals have participated in 21 workshops and visits under the Partnership.



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Transportation (cont.)

Panama: Tocumen Airport Master Plan: USTDA is funding an Energy Resources and Airport Sustainability Master Plan to support vital energy and sustainability improvements to Tocumen International Airport, Panama's main airport and a regional hub for Central America and the Caribbean. This project is expected to offer commercial opportunities for a range of U.S. companies, with potential exports including power generation equipment, energy efficiency technologies, and engineering services.

Regional Energy Efficiency and Power Generation Technologies Visits for Ports and Airports: USTDA funded a visit series that showcased U.S. energy efficiency and power generation technologies applicable to ports and airports. Decision-makers from Argentina, Brazil, Costa Rica, Dominican Republic, Jamaica, and Panama participated in the visits.

Energy

Belize: Utility-Scale Renewable Energy: USTDA is funding a feasibility study for the development of utility-scale wind and solar power in Belize. The study is for Belize Electricity Limited ("BEL"), a government-owned electric utility, which seeks to enhance energy security by reducing dependence on imported electricity and displacing fossil-fuel-fired power generation.

Brazil: Copel Cybersecurity Needs Assessment and Implementation Plan: USTDA is funding technical assistance for Paraná's Electricity Generation and Transmission Company (Copel) to upgrade the utility's cybersecurity capabilities, protocols, and procedures. This project is anticipated to be a catalyst for further cybersecurity deployments in Brazil, and offers commercial opportunities for U.S. providers of utility-scale cybersecurity solutions.

Central America Natural Gas Workshop and Visit Series: USTDA partnered with the U.S. Department of State, USAID, and the Government of Mexico to fund a natural gas workshop series for energy ministries, regulators, and utilities from Central America. The workshops focused on strengthening and integrating energy markets, mobilizing investment, and facilitating gas exports from the United States.





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Energy (cont.)

Jamaica: Energy Efficient Lighting: USTDA funded technical assistance for Jamaica Public Service Company Ltd., a government-owned electric utility, to support the deployment of energy efficient street lights in Jamaica. This technical assistance is enabling JPS to install networked LED street lights throughout its service area. In doing so, JPS intends to reduce energy and maintenance costs, improve safety conditions, and create a foundation for future smart grid investments that will further advance energy efficiency and energy reliability across Jamaica.

Telecommunications / Information Technology

Brazil: PRODESP Wireless Broadband Expansion: USTDA is funding technical assistance for the state of São Paulo's information technology company (PRODESP), to develop a roadmap and implementation plan to expand the state's fiber and wireless broadband network and data storage. The project seeks to meet a growing demand for fast, efficient, and secure IT infrastructure as part of the State's larger goal of providing every citizen with free access to high-speed internet, educational opportunities, and e-government services.

Peru: Emergency Management Visit: USTDA is funding a visit to the United States for Peruvian emergency response officials. The visit will focus on emergency operations, communications, and construction technologies.

Water

Brazil: SANEPAR Water Reuse: USTDA is funding a feasibility study on water reuse technologies for the Brazilian state of Parana's water utility (SANEPAR). The project will enable the utility to acquire water treatment technologies that can provide reused water to industrial customers, thereby helping to alleviate water shortages.

Mexico: CONAGUA: Water Quality Improvement in Mexico City: USTDA is funding technical assistance that will support Mexico's National Water Commission (CONAGUA) in implementing a U.S. oxygenation solution to improve water quality in Mexico City. The project will offer commercial opportunities for a wide range of U.S. equipment and services related to water purification and environmental remediation technologies.



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APPENDIX

TECHNICAL ASSISTANCE FOR INFRASTRUCTURE ENHANCEMENT, SYSTEM UPGRADE AND ICAO AVIATION SYSTEM BLOCK UPGRADES (ASBU) IMPLEMENTATION

Draft version June/19/19

1. INTRODUCTION

1.1 In 2017 the Caribbean States suffered severe damage as a result of hurricanes in the Caribbean, affecting the already limited CNS infrastructure for air navigation services and airports, putting in risk their capability to comply with the safety and efficiency standards of ICAO. Similarly the new challenges for interconnecting the different services and systems to support the increased in aircraft operations and needs in the region/ future growth of air navigation demands an adequate technological infrastructure and according to their needs, allowing them to implement operational procedures that allow the increase of operational safety in the region.

1.2 Antigua and Barbuda presented to the United Nations a preliminary report of the damages caused by the 2017 hurricane season, indicating that the island of Barbuda was completely damaged and that it required more than 300 million dollars to rebuild Barbuda.

1.3 The islands of Saint Kitts and Nevis and Saint Vincent were directly affected by the hurricanes and, although their damages were less than those presented in other islands, their aviation operations were also affected.

1.4 The Saint Kitts and Nevis and other Small Developing Islands (SDIs) have been identified to have deficiencies in infrastructure, and a need for a performance evaluating/ planning for future improvements (Aviation System Block Improvements - ASBU) and other equipment/ service needs for Caribbean states. The islands of the Caribbean are a tourist destination for visitors from North America and Europe, so the number of aeronautical operations increases every year.

1.5 ICAO NACC Office launched the initiative for an infrastructure Assessment in 2017 based on the damage and consequences of that year Hurricane season known as Post Hurricane Project Proposal, which has not started by the States and the region.

2. PROBLEM STATEMENT

2.1 Currently the SDI States have deficiencies in all areas of air navigation and airports, which limits their capability for an effective ICAO SARPs implementation and their timeliness to response to contingency (hurricanes, volcano eruptions, etc.) and other urgent response needed.

2.2 All the listed islands have deficiencies in all air navigation areas, due to the lack of communications, navigation and surveillance infrastructure (CNS) and lack of airport infrastructure.

2.3 Other problems identified in the region are the lack of national air navigation plans, lack of integration in the regional air navigation objectives, and lack of integration of their operations and harmonization of their air navigation services.

2.4 It is necessary to carry out an assessment to understand the current situation of the air navigation services in all the islands listed above. This will allow for the development of a gap analysis of the situation and the proposal of recommendations of activities necessary to enhance the efficiency of air navigation services in the region and ultimately aviation safety.

3. Project Objective

3.1 The objective of the technical assistance (“TA”) would be to assist the Grantee in identifying technologies and equipment needed by participating Member States to enhance safety at its airports, ANS Systems, etc. while meeting required Aviation System Block Upgrades (ASBU). Furthermore, the TA shall assist Member States in enhancing airport operations by promoting equipment interoperability and decreasing acquisition and procurement costs associated with implementation.

3.2 The ASBU concept advances the International Civil Aviation Organization (ICAO) Global Air Navigation Plan (GANP) (Doc 9750) with the goal of implementing regional performance improvements by focusing on four performance improvement areas: 1) airport operations; 2) global interoperable systems and data; 3) optimum capacity and flexible flights; and 4) efficient flight paths. ASBUs outline the air and ground equipment, and timelines for standards and procedures implementation.

3.3 The U.S. firm selected to perform the TA “U.S. Firm” shall coordinate its performance of these Terms of Reference with the Grantee, as well as with the North American, Central American and Caribbean (NACC) Office of ICAO. The NACC Regional Office, headquartered in Mexico City, is accredited to, and responsible for, working very closely with a diverse mix of 22 Contracting States and 19 Territories, including the Member States participating in this TA.

3.4 The Grantee under his TA shall provide any needed assistance in ensuring the participation, input, assistance and/or cooperation from the appropriate Member State officials as indicated under these Terms of Reference.

4. Project Overview and Approach

4.1 This project will focus on assessing key technologies, systems and procedures that enhance the capacity of Member States to:

- Enhance Safety
- Enhance State System response capacity for response to contingency and emergencies
- Respond to growing air traffic, including during emergency or weather conditions
- Enhance interoperability and cooperation among Member States
- Align with ICAO’s ASBU Goals

4.2 The project will focus on the following technologies and issues and as a minimum to:

- Air-ground and ground-ground communications, including digital aeronautical information management and digital ATM information
- Contingency Services and systems
- Surveillance systems, specifically MLAT and ADS-B
- GNSS approach capabilities, including GBAS systems
- Level of implementation and use of performance-based navigation procedures
- Meteorological capabilities, including communication of meteorological data
- Air Traffic Flow Management (ATFM)
- AMAN/DMAN, flexible gate systems, and departure and arrival management systems

4.3 As a reference, the Technology roadmaps in the new edition of the GANP, 6th edition shall be considered for the effective implementation of the strategy planned in the GANP, the Regional Air Navigation Plans its goals and indicators.

5. Project Tasks

Task 1: Baseline

The Contractor/ consultant shall familiarize itself with the state of the communications, navigations and surveillance systems at Member States.

1.1 Kick-Off Meetings, Data Gathering and Initial Visits

- An initial kick-off meeting with the Grantee and one representative from each Member State to attend in person or via teleconference. The Grantee will ensure participation of Member States.
- The Contractor shall develop an initial Assessment Questionnaire to gather data on the systems, technologies and procedures used by the Member States for CNS / ATM. The Questionnaire shall be reviewed by ICAO and the Grantee for approval before distribution to each Member State. The Grantee shall be responsible for ensuring the Questionnaire is provided by each Member State within 10 business days.
- The Contractor shall develop an initial Assessment Questionnaire to gather data capabilities used and desired by at least four key airlines working in the region. The Questionnaire shall be reviewed by ICAO and the Grantee for approval before distribution to each Member State.
- The Contractor shall conduct visit to each Member State for three days to review the information gathered, visit ACCs, key airports or other facilities deemed relevant for the study. The Contractor shall also gather, with the assistance of each Member State representative, the following data:
 - Traffic Statistics for aircraft movements, for key airports, FIR, etc.
 - Airspace maps, configuration, structure
 - ATM Information, including FIR, ATM systems,
 - Future investment plans as they pertain to ATM/CNS

1.2 Baseline Analysis

- The Contractor shall develop a baseline analysis indicating the CNS technologies and capabilities identified for each Member State. A report of existing capabilities shall be provided.
- The Contractor shall assess how the existing capabilities respond /are linked to ASBU goals. The Contractor shall prepare a succinct spreadsheet containing each Member State capabilities and whether these respond to ASBU requirements.

Task 2: Gap Analysis

- The Contractor shall conduct a gap analysis to determine key systems and technologies needed by each Member State to meet ASBU goals as per Task 1.2.
- The Contractor shall conduct a review of the information with each Member State (via videoconference) to reach an agreement and prioritize needs and requirements.
- The Contractor shall prepare and present a Gap Analysis for all states to be reviewed and approved by the Grantee and ICAO. The Grantee shall ensure each Member State accepts the analysis or provide comments as needed.

Task 3: Upgrade and Investment Plan

3.1 Identify Critical Mass Systems

- Based on the Task 2 results, the Contractor shall identify technologies and systems that are commonly prioritized and needed by the Member States to identify a “critical” mass. The Contractor shall develop a system upgrade plan for technologies and systems that may be acquired and integrated by several Member States in the short (2-5 years) and medium (up to 8 years) terms.
- The Contractor shall prepare a Report for each Member State with a recommendation for upgrades, detailing those that can be conducted through the implementation of the TA (critical mass upgrades) and those that are beneficial, but which should be independently implemented by each Member State.

3.2 The Contractor shall prepare an Investment Plan that considers the following:

- The tecnologías to be implemented
- The timeline for implementation
- The rough order of magnitude cost

3.3 Technology Suppliers

- The Contractor shall identify U.S. technology suppliers for those systems included in the investment plan. The Contractor shall reach out to gather interest from these suppliers, technical specifications and product data.
- ICAO NACC Office will oversee the process

3.4 Financing Options

- The Contractor shall reach out to multilaterals, regional commercial banks and suppliers to identify potential financing options, terms and mechanisms to acquire the technologies and systems.

Task 4: Developmental and Environmental Impacts

- The Contractor shall conduct an environmental and developmental impact based on USTDA Criteria.

Task 5: Final Report

- The Contractor shall prepare a substantive and comprehensive Final Report for all elements of the TOR.

6. Project roles

6.1 USTDA will provide grant financing for the study. USTDA will, in addition, published the RFP for selection of the study Contractor as required by US federal procurement practices. USTDA will serve as point of contact between the Contractor and the Grantee.

6.2 ICAO NACC will serve as a strategic partner that will oversee the activities of the TA. ICAO NACC will also serve as point of contact between States and the Contractor. ICAO NACC will provide an advisory role for successful completion of the Project tasks.

6.3 The States will be required to provide the necessary input to the Contractor and participate to align the study goals to those of the TA.