



Port Resiliency Program (PReP)
Final Report of Pilot Project at Las Americas International Airport
Santo Domingo, Dominican Republic
5-7 February 2013



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Pilot Program Summary Flow Chart

Pilot Program P&L

Evolution of PReP Outcomes

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Port Resiliency Program (PReP)

Final Report of Pilot Project at Santo Domingo, Dominican Republic

Introduction

Purpose

The Port Resiliency Program (PReP) prepares airports and seaports in Caribbean and Latin America to be more resilient in face of natural disasters by applying lessons learned in Hurricane Katrina and the Haiti earthquake. PReP's focus is on support for essential employees and their families, rapid damage assessment and repair, interagency cooperation, and mutual aid. AmericasRelief Team, a nongovernmental organization, is the program's initiator.

The purpose of the pilot project is to test the validity and effectiveness of the basic PReP approach and procedures at an actual airport before extending the program to other airports and to seaports.

Approach

PReP uses a three-step process:

- Initial self-assessment by the airport or seaport;
- Planning workshop in Miami to identify gaps and training needs
- Site visit to present targeted training and a table top exercise to assess the preparedness of the airport or seaport.

Commitment to Continuous Improvement

PReP, AmericasRelief Team, and the sponsors are fully committed to the continuous improvement process. Every step will be subjected to self-evaluation and external evaluation, and the findings will be used to improve the program.

Sponsors

FedEx is the primary sponsor of PReP with Miami International Airport (MIA), Florida International University (FIU), the Port of Miami, AERODOM, American Airlines, and Smith-Woolwine Associates as additional sponsors.

Pilot Project

Selection of Site

AmericasRelief Team in consultation with FedEx, MIA, and American Airlines developed a list of 34 candidate airports in the Caribbean, Central America, and northern South America. AERODOM's Las Americas International Airport (AILA) in Santo Domingo, Dominican Republic, best satisfied the criteria for the pilot project airport. AERODOM is the privately held corporation that operates six airports in the Dominican Republic under long-term lease from the government.

Criteria

- Medium-sized airport in terms of enplanements
- Airport with recent history of dealing either directly or indirectly with a natural disaster
- Airport with management that is enthusiastic about participation

Why Do an Airport First

Initial analysis indicated that seaports may involve more variables than airports. Seaports typically have more different stakeholders and are subject to fewer national and international regulations that regulate their operations.

Timing

The pilot project was conducted 5-7 February 2013 in Santo Domingo, Dominican Republic.

Participants

AERODOM participants were Ms. Monika Infante (CEO), Mr. Christian Moreira (COO), Mr. Luis Mejia (Corporate Security Manager), Mr. Juan Manriquez (Corporate Safety Manager), Mr. Manuel Real (Corporate Manager for Aircraft Rescue and Fire Fighting), Mr. Carlos Rodoli (AILA Director of Operations), Ms. Santa Cuevas, Ms. Sandra Felix, Mr. Rolando Medrano, Mr. Jose Villar, Mr. Jaime Marte, Mr. Guillermo Beriguete, and Mr. Crioni Belliard.

Airline participants were Mr. Ricardo Javier (American Airlines) and Mr. Dorian Martinez (Delta Airlines). Mr. Martinez is also president of the international airlines committee at AILA. Ms. Aida Acosta (Menzies Aviation) participated; Menzies Aviation is a ground handling contractor in the AILA terminal.

Representatives of national agencies of the Dominican Republic were: Mr. Julio Cesar Mejia (IDAC), Mr. Alexander Ramirez (IDAC), Ms. Francia Peña Rivas (IDAC), LTCOL Francisco Abreu (CESAC), Mr. Edwin Olivares (COE), Mr. Luis Osoria (COE), Mr. Michel Made (Policia Nacional, PN), Mr. Cristino Linares (Departamento Aeroportuario, DA), and CAPT Juan Carlos Porcella (Auxiliares Navanes Dominicanos, AND).

The pilot project was led by the PReP team: Dr. Teo Babun (ART), CAPT Ricardo Garcia (FIU), LT Luis Santana (Miami-Dade Fire-Rescue Department), Mr. Nelson Mejias (MIA), Ms. Ana Guevara (Aventi Associates), Ms. Dulce Boza (ART), and Dr. Jim Smith (Smith-Woolwine Associates).

Observers for the pilot project were: Mr. Shane O'Connor (FedEx), LCDR Lee Titus (USCG, Military Attaché), Mr. Josue Ceballo (USAID/Dominican Republic), and Ms. Elaine Gutierrez (U.S. Consular Service).

Appendix C lists the participants in the Miami workshop on 11-13 December 2012, and Appendix D lists the participants during the site visit to Santo Domingo on 5-7 February 2013.

Process

Pre-Evaluation

The first step in the PReP process was the evaluation of Las Americas International Airport's emergency and disaster plans, first by the AERODOM staff and then by the PReP team.

Risk Analysis

AERODOM performed a risk analysis, finding that a hurricane was the highest risk and that an earthquake was the second highest risk.



Self-Evaluation of Preparedness

AERODOM applied the risk analysis to each aspect of its facility and operations: airfield, airfield support, mutual aid, human factors, business continuity, facility documentation (as-built plans), training, airport emergency plan, and airport security program. For each risk and aspect, AERODOM answered the question whether it had a written or electronic documentation.

List of Essential Personnel

AERODOM developed a list of essential personnel, and this became the basis for planning for the site visit.

Outside Review (PReP staff) of Airport's Disaster and Preparedness Plans

AERODOM provided its airport emergency plans including its hurricane plan. The ART team reviewed the plan for its strengths, weaknesses, and gaps.

Miami Workshop



ART hosted a workshop in Miami 11-13 December 2013. Sessions were held at MIA Hotel and at FIU's Emergency Operations Center.

Familiarization with Las Americas International Airport

Mr. Rodoli of AERODOM presented the characteristics of the airport and its operational and regulatory environment in the Dominican Republic. In this, he was assisted by the representatives of three government agencies (CESAC, COE, and IDAC) and two airlines (American and Delta). Mr. Rodoli said AILA had three objectives in a disaster in the following order of priority: 1st objective – save lives, 2nd objective – preserve the property, 3rd objective – business continuity.

He identified the following specific items that need more attention: 1) investigating best communications equipment to use for example satellite phone, walkie talkies, cellular phones, etc.; 2) the need to get high impact windows or shutters for the tower; 3) more best practices on the interoperability between airlines and airports; 4) evacuation of public in two aspects (flying people out of the country and getting people out of the airport to nearby safe locations; 5) the need to have a best practice of listing the succession planning for specific jobs and SOP – it is ad hoc at this time; 6) best practices plan for how to interact with hospitals and include them in the partners plan; and 7) how to interact with municipalities.

Mr. J. C. Mejia discussed the air traffic control system, its relation to AILA, and the experiences in the Dominican Republic with the 2010-2011 effort to support disaster relief and recovery in Haiti.

Review of Pre-Evaluation and Gap Analysis

Dr. Smith led a discussion of AILA's emergency and preparedness plans and the apparent gaps: earthquake preparedness, essential employee support, administrative measures to ease or speed airport recovery after a disaster, and alternative communications methods in a disaster. In the ensuing discussion, the group identified evacuation procedures and interagency coordination as appropriate areas for training and the table top exercise during the site visit.

Planning for Training Targeted at Gaps

The Miami workshop group discussed the training desired for delivery at Santo Domingo in February and agreed to focus on essential employee support, administrative measures to enhance preparedness, and alternative communications. Dr. Babun, Ms. Guevara, and Mr. Almaguer gave short previews of the possible contents of these three topics.

Planning of table top exercise (TTX)

As a result of all the discussions at the Miami workshop, the group decided that the table top exercise in Santo Domingo in February would involve an earthquake and tsunami scenario and include these features:

1. Essential employees
2. Rapid damage assessment and repair
3. Multiagency coordination including COE, CESAC, and IDAC
4. Communication, especially alternative or backup communications
5. Evacuation of civilians
6. Recovery processes
7. Security, and 8. Public information

Site visit

The PReP team arrived in Santo Domingo on Monday, 4 February 2013. On Tuesday, 5 February 2013, the AERODOM management team and the ART team had an inbrief and orientation session at AILA followed by a tour of the airport. On Wednesday, 6 February 2013, the day was devoted to training to address the gaps identified in the pre-evaluation and Miami workshop. The training took place at the Hilton Santo Domingo. Wednesday evening the ART team hosted all participants at dinner in Santo Domingo. On Thursday, 7 February, 2013, the morning was devoted to the table top exercise. In the afternoon, there was an after action review of the table top exercise and a full review of the entire pilot project and the overall PReP program. The PReP team left at 17:05 on 7 February 2013.

Training

Essential employee support

Ms. Guevara presented a number of methods to improve support to essential employees and their families to make sure that the airport would have skilled personnel present to maintain or restore operations after a disaster.

Administrative measures to enhance preparedness

Dr. Babun and Dr. Smith presented several low-cost administrative measures that can enhance airport preparedness. Models from Savannah-Hilton Head International Airport and San Antonio International Airport were provided to show ways in which pre-contracting, pre-authorization of vendors, and airport-to-airport mutual aid can enhance preparedness and speed the recovery of an airport after a disaster.

Alternative communication methods

LT Santana presented both procedures and equipment for alternative communications in a disaster when normal telephones, cell phones, and radio systems are lost or overloaded.

Exercise

Who designed

Mr. Almaguer and Captain Garcia devised the table top exercise, wrote the script, and prepared a PowerPoint with the injects and points for responses by players.

Rationale

The earthquake/tsunami scenario was chosen because Santo Domingo is near seismic zones and an earthquake contingency plan was one of the gaps identified during the Miami workshop. The simulated duration was extended to seven days to allow for the typical lags in the restoration of airport function and the arrival of national and international aid from various sources.

Scenario

Table 1 summarizes the earthquake/tsunami scenario used in the table top exercise for the pilot project at Santo Domingo. The scenario was designed to emphasize the gaps identified in phases 1 and 2 of PReP and planning and interagency improvements made in the Dominican Republic since 2010.

**TABLE 1. SCENARIO FOR TABLE TOP EXERCISE
EARTHQUAKE AND TSUNAMI AT SANTO DOMINGO**

Day and Time	Major Events	Operational Concerns
7 Feb 2013, 0259 hours	Situation normal	Planes on ground, one en route
7 Feb 2013, 0300 hours	Major earthquake offshore	Power fails, cell service fails, control tower damaged, airfield and apron lighting out, NAVAIDS out, terminal damaged, no damage to runways and taxiways
What do you do?		
7 Feb 2013, 0310 hours	Tsunami warning to COE	50 minutes warning, 10-meter wave expected at Santo Domingo
What do you do?		
7 Feb 2013, 0350	Tsunami hits	
7 Feb 2013, 0900	National Disaster declared, major coastal flooding and structural damage to roads	Route 66 to airport blocked, control tower and NAVAIDS inoperable, debris blocks roadways, parking lots, and some aprons at airport, lower level of terminal flooded, no structural damage apparent to terminal, many passengers stranded in terminal, airport employees preoccupied with their families and homes
What do you do?		
After 72 hours, 10 Feb 2013	External aid (DR and international) begins to arrive	Airport must be able to handle incoming aid and personnel, route 66 partially restored, ramps and aprons cleared of debris, some NAVAIDS restored, temporary control tower operational, urban search and rescue operations using airport, stranded passengers have been evacuated by land or air, only 1/3 rd of airport workers have reported to work, drinking water is contaminated, sewage is inoperable
What do you do?		

TABLE 1. SCENARIO FOR TABLE TOP EXERCISE EARTHQUAKE AND TSUNAMI AT SANTO DOMINGO		
Day and Time	Major Events	Operational Concerns
After 7 days, 14 Feb 2013	Commercial and relief air operations underway	Access roads restored, runways, ramps, and aprons fully operational, only some NAVAIDS operational, temporary control tower still in use, much competition for use of airport by commercial and humanitarian aid flights, huge amount of humanitarian aid arriving at airport
What do you do?		
Discussion of lessons learned and gaps identified		
Self-evaluation by participants		



Participants

For the exercise, the group was divided into five tables:

- AERODOM senior management
- AILA operations staff
- Airlines and airport support company
- National agency representatives (COE, IDAC, CESAC, PN, DA, and AND)
- Observers