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INTERNATIONAL CIVIL AVIATION ORGANIZATION

Order from Chaos

Answering Haiti's call
and contributing
to its renewal

State Profile Features:
Nigeria & Saudi Arabia

Also in this issue:

Raymond Benjamin: A More Relevant and Responsive ICAO

Review: 2010 NGAP Task Force Symposium

Evolving the ICAO USOAP to a Continuous Monitoring Approach • Haiti Feature

Moving Forward on Fatigue Risk Management • News in Brief





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Contents

Message from the Secretary General

Raymond Benjamin reviews how ICAO and its Member States, in close cooperation with industry, have demonstrated since the beginning of 2010 how leadership is as much the ability to react quickly and efficiently to a crisis situation as it is the capacity to proactively anticipate challenges and develop effective strategies 3

Answering Industry's Call: The 2010 NGAP Symposium

Part I of a review of the issues, challenges and responses now underway to help address the critical shortfalls in air transport skilled personnel over the coming decades. Includes NGAP TF Sub-group high-level summaries 5

A Plan of Action for Haiti

ICAO's Regional Contingency Planning fulfilled a critical role in ensuring the effective management of the Caribbean airspace in the aftermath of the Haiti earthquake earlier this year. In this special report, the *Journal* reviews how this planning facilitated emergency aid and expertise arriving to Haiti in the days after the devastating quake, and how the ICAO North American, Central American and Caribbean (NACC) Regional Office has been instrumental in the months since in developing a viable Action Plan for Haitian air transport-related reconstruction efforts 18

A Revolution in Safety Oversight

A look at how ICAO's new Continuous Monitoring Approach (CMA) is poised to revolutionize the assessment and management of State safety compliance and ICAO's related audit activities 25

Proactive and Tailored Solutions to Fatigue Risk Management Concerns

The *Journal* speaks with ICAO's Fatigue Risk Management System Project Manager, Michelle Millar, regarding the Organization's finalization of a key new performance- and data-based guidance approach that will help address industry fatigue management concerns for flight crews and other critical air transport positions . . . 29

NEWS IN BRIEF

- APANPIRG ATM/AIS/SAR Sub-group 51
- Deposit by Serbia 51
- APANPIRG CNS/MET SG/14. 51

State Profile Special Features: Nigeria

Air Transport is a key driver of the ongoing transformation of Nigeria's infrastructure. A special *ICAO Journal* report on the tremendous accomplishments in Nigerian aviation in recent years, and on why air transport is felt to be the only sector which can truly catapult the prosperous West African State into a new and more forward-looking development paradigm 31

The Kingdom of Saudi Arabia

The concern shown by the Government of the Kingdom of Saudi Arabia to its civil aviation sector has been evident since the first aircraft began to operate in the Middle Eastern State's expansive territory. A special *ICAO Journal* look at the dramatic infrastructure additions and improvements now underway in the Kingdom, and of the high-level priorities now being pursued by the Saudi General Authority of Civil Aviation (GACA) as it continues to shape the State's air transport network into a model for Middle East aviation progress 53



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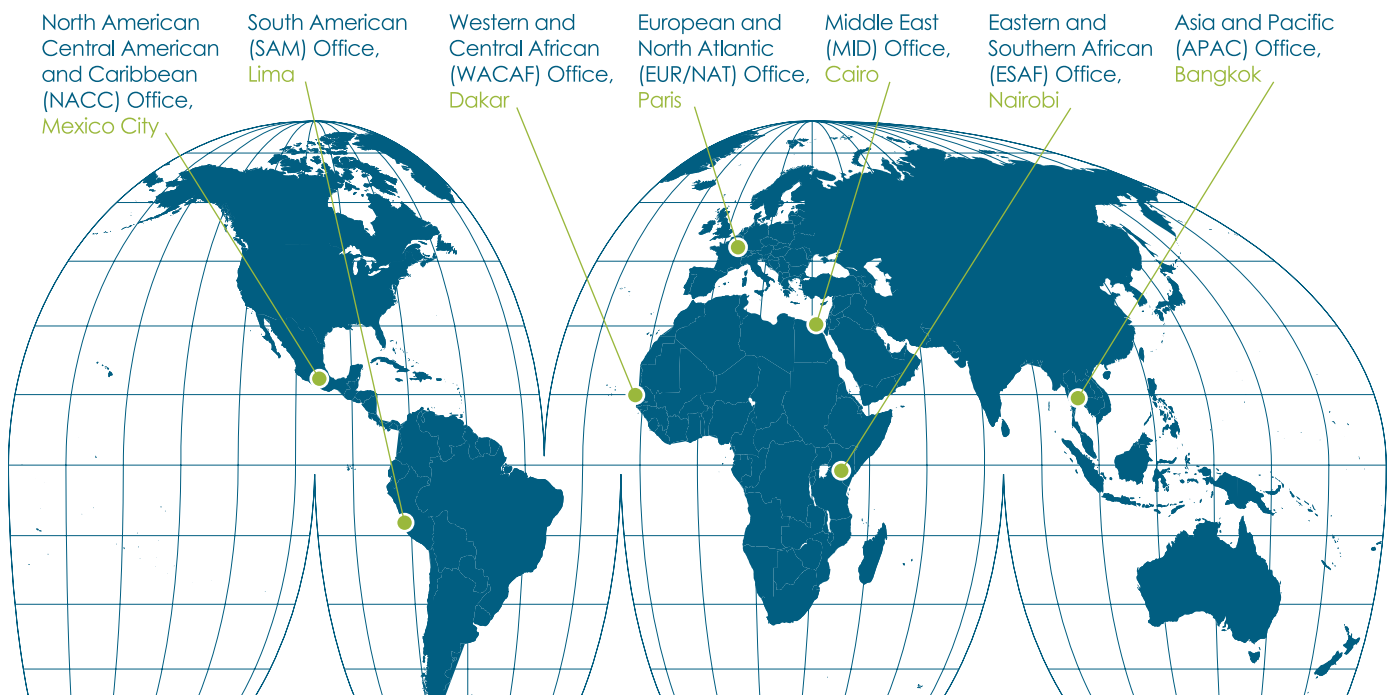
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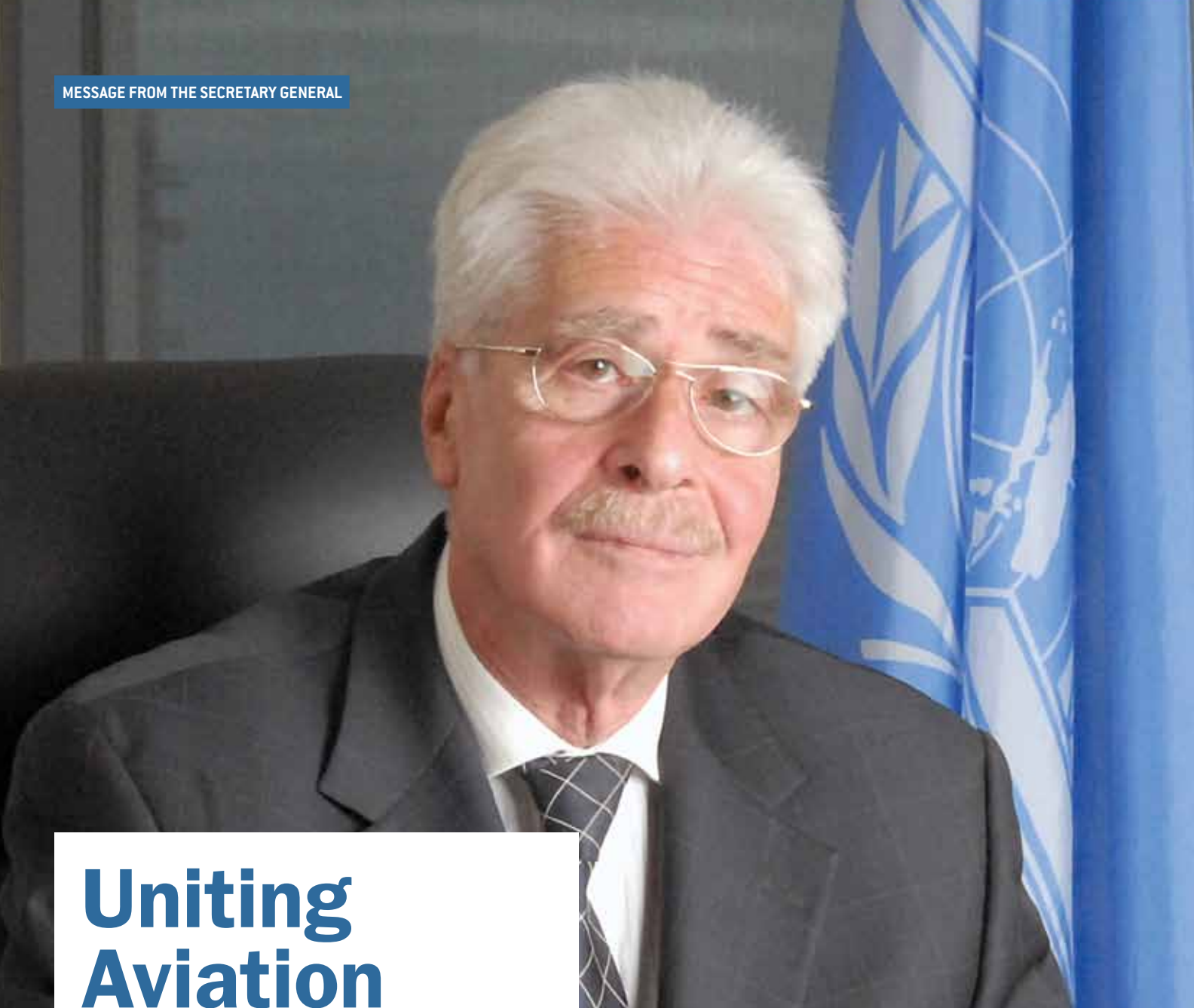
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ICAO's Global Presence





Uniting Aviation

In this issue of the Journal, we consider how ICAO and its Member States, in close cooperation with industry, have demonstrated since the beginning of 2010 how leadership is as much the ability to react quickly and efficiently to a crisis situation as it is the capacity to proactively anticipate challenges and develop effective strategies.

The devastating earthquake of 12 January in Haiti was a dramatic case in point. ICAO's response was quick, with contact rapidly re-established with Haiti's Civil Aviation Authority (OFNAC) and neighbouring States for the coordination of traffic flying through the Haitian airspace. At the same time, early assistance was provided by the Federal Aviation Administration of the United States, in conjunction with the U.S. military, whose emergency control tower provided essential air traffic control capabilities and greatly facilitated the work of disaster response teams.

The Organization's first post-quake mission, overseen by the ICAO Regional Office in Mexico City, took place mere weeks after the Caribbean State's civil aviation infrastructure was all but decimated. ICAO assisted OFNAC in developing an action plan to begin restoring critical air transport systems and facilities, and just recently signed important new agreements for managing Haiti's aviation-related reconstruction efforts.

In the aftermath of the Buffalo (New York) accident in 2009, serious questions about pilot fatigue and aviation safety were raised. ICAO's new Fatigue Risk Management System (FRMS) approach effectively addresses this and related issues. As a true performance-based measure, FRMS is flexible enough to meet the needs of all operational environments, while retaining the protections provided by regulation and oversight by a competent authority.

ICAO led the aviation sector to some of its most solid achievements in years and paved the way for even more substantive progress in terms of sustainable alternative fuels and greater operational efficiencies...

Avoiding or at least minimizing the impact of a dramatic anticipated shortfall of skilled aviation personnel in the near-term is anticipated thanks to advances made in recent months under the aegis of ICAO's Next Generation of Aviation Professionals (NGAP) initiative. A joint task force comprised of all major air transport stakeholders was quick to raise concerns and formulate solutions at the first NGAP Symposium held earlier this year. Airline executives worldwide have congratulated ICAO and IATA for the effectiveness of their action with the NGAP undertaking.

And finally, our commitment to transparency and greater access to safety-related information for all international civil aviation stakeholders is underscored in our discussion

concerning the Continuous Monitoring Approach (CMA), the next phase in the evolution of the ICAO Universal Safety Oversight Audit Programme (USOAP). Accordingly, ICAO is updating existing agreements with Member States to place a renewed emphasis on the sharing of safety information, while similar agreements are being negotiated with recognized organizations in order to avoid the duplication of monitoring activities.

In recent Journal issues, we have reported on similar reactive and proactive actions which have thrust ICAO to the forefront of aviation news.

Following the attempted bombing of a commercial flight on 25 December 2009, four regional ministerial

conferences around the world produced a Declaration on aviation security for debate at the 37th Session of the Assembly, along with a proposed new strategy for dealing with new and emerging threats to aircraft and facilities.

In the wake of the eruption of Iceland's Eyjafjallajökull volcano in April, ICAO's Council and Air Navigation Commission evaluated the situation and stressed the need to review existing volcanic ash guidance, contingency planning and operational responses to help alleviate the European situation. For its part, the ICAO European and North Atlantic Volcanic Ash Task Force (EUR/NAT VATF) prepared amendments to the appropriate EUR/NAT Air Traffic Management (ATM) Contingency Plans. Concurrently, ICAO established a new International Volcanic Ash Task Force (IVATF) that is hard at work on a global safety risk management framework associated with volcanic ash events, with the objective of being better prepared for a similar event should it occur.

On the proactive side, ICAO led the aviation sector to some of its most solid achievements in years and paved the way for even more substantive progress in terms of sustainable alternative fuels and greater operational efficiencies to further reduce the effect of air transport on the environment, particularly climate change.

All of these examples reflect what, in effect, was the theme of the 2010 Assembly: ICAO Uniting Aviation... for Safety, Security and the Environment. ■





Challenges and Opportunities in Haiti

ICAO's first post-quake mission to Haiti last March found a State aviation infrastructure in dire need of rebuilding. The Organization worked quickly to develop a plan to help prioritize and guide Haiti's air transport related reconstruction, coordinating further with Haitian officials this summer and making important advances in formalizing agreements and addressing donor concerns.

The *Journal* spoke recently with Loretta Martin, ICAO Regional Director, North American, Central American and Caribbean (NACC), about Regional airspace management and other implications for ICAO as it continues to assist the Caribbean State in addressing the challenges and opportunities of its devastated aviation system.

Following a recent meeting between ICAO and Haiti's civil aviation and political leadership, the Caribbean State has now officially agreed to have the Organization assume a leadership role in the management of its aviation-related reconstruction efforts.

The summer 2010 meeting was attended by Loretta Martin, Regional Director (RD) of the ICAO North American, Central American and Caribbean (NACC) Regional Office, Jean-Lemerque Pierre, Director General (DG) of Haiti's Office national de l'aviation civile (OFNAC), as well as Haitian Prime Minister (PM) Jean-Max Bellerive.

PM Bellerive voiced his agreement and support during the encounter to have ICAO serve as the central coordinating mechanism for all key aviation sector rebuilding efforts in Haiti. He later signed a specific Management Services Agreement (MSA) covering two projects that ICAO will lead and which were developed using information gathered during an emergency assessment performed by the NACC Regional office in March (*editor's note: please see the section on 'Early ICAO Responses' on page 19 for more on the March Assessment visit*).

The projects in question will provide direct and immediately-needed assistance to Haiti's CAA (OFNAC) and its airport authority (AAN).

“Both in terms of the global assistance that was sent and the sharing of these critical air transport systems by adjoining States, the international community demonstrated an unprecedented level of solidarity that was greatly facilitated by ICAO’s preparedness and action.”

– Jean-Lemerque Pierre, Haiti DGCA

Additionally, a new Memorandum of Understanding (MOU) governing the establishment of a Civil Aviation Steering Committee (CASC) for Haiti, made up of ICAO and Haitian representatives in addition to Interim Haiti Reconstruction Commission (IHRC) donor States, was also signed by Bellerive. The IHRC is currently chaired on a joint basis by PM Bellerive and former U.S. President W.J. Clinton.

“Haiti has a wide range of areas requiring urgent reconstruction,” stressed ICAO RD NACC, Loretta Martin. “The process we’ve undertaken is basically trying to close the loop of the funding structure that will eventually support the return of partial and then full international aviation capability to an important member and component of the Caribbean air transport system.”

It’s important to remember that Haiti administers overflights through the Caribbean Flight Information Region (FIR) it manages, and that its infrastructure therefore supports air navigation services not only for aircraft operating to/from Haiti, but also any aircraft needing to fly through Haiti’s airspace between North American and South American or Caribbean destinations.

Martin stressed that ICAO is working very closely with OFNAC and revising air transport-related strategies and priorities on a regular basis. ICAO is striving to keep related planning as streamlined as possible and to coordinate with other UN and outside

agencies to avoid duplicating any reconstruction planning or projects. She also noted that ICAO is helping to provide Haiti with more centralized management and oversight of the specific donations of products or reconstruction services that relate to getting its aviation infrastructure returned to full operational status.

“Virtually everything in place now in terms of aviation infrastructure is still temporary,” Martin noted. “The FAA mobile control tower, though currently staffed by a small contingent of Haitian controllers, is still the only option to provide airport ATC services. ATC services for Haiti’s FIR are located in a room located in the OFNAC administrative offices. The main terminal in Port-au-Prince has frankly been devastated and needs to be replaced from the ground-up, and even the runway at Port-au-Prince¹, which emerged post-quake in a condition that permitted the crucial early transport of emergency crews and supplies, has been left bruised and battered by the heavy aircraft involved in the relief efforts to the extent that the apron is now at risk of collapse.”

Roughly two percent of the \$5.3 billion committed thus far would go a long way at this stage to providing Haiti with a modernized and fully-functional air transport infrastructure. It’s worth noting on the funding front that presently only Brazil, Norway, Australia, Colombia and Estonia have provided any actual aid to Haiti—to the tune of some \$506 million.

Addressing the Toussaint L’Ouverture main passenger terminal, associated facilities and runway will take several years and represent, in Martin’s view, the bigger-ticket items on the list of priority areas that ICAO and OFNAC have established. Part of her challenge remains trying to convince donor states that aviation concerns need to be addressed even while many Haitians are still living without viable sources of shelter, food and water. Air transport’s historically-demonstrated ability to foster more effective development and redevelopment efforts, no matter where the location, could be a consideration which Martin stresses at her next donor briefing this autumn in Washington, D.C.

The Haiti Quake: Early ICAO Responses

As part of its first responses to the Haitian crisis, an ICAO multi-disciplinary team of air navigation, airport and technical cooperation experts, led by RD NACC Martin, visited Haiti from 9–11 March 2010.

The key objectives of this first mission by ICAO to Haiti were to:

- Develop an ICAO Technical Cooperation mechanism to coordinate and administer the delivery of assistance from multiple donors for the rebuilding and upgrading of the Haitian aviation system. This has recently been moved forward by the MSA and MOU referred to in the opening of this article.

¹Toussaint L’Ouverture International Airport (IATA: PAP, ICAO: MTPP)

Recommended Action Plan for Haitian Aviation

The following reflects the recommended investments to restore, strengthen and upgrade Haiti's civil aviation infrastructure based on priority and phasing. This plan is a living document and is being re-assessed and reprioritized on a regular basis as per related developments to Haiti's related reconstruction efforts and funding systems.

OFNAC Recommended Action Plan

| Item Description | Priority (1, 2, 3) | Phasing for Completion | | |
|---|-----------------------|------------------------|-------------------------|--------------------------|
| | | Immediate | Short-term 1–2 years | Medium-term 2–5 years |
| New temporary Air Traffic Control Tower (ATCT) | 1 | X | | |
| New VHF air-ground radio communication equipment for ACC 'Tete Etang' remote station; includes remote control system, antennae, antennae tower, power supply, shelter and other devices | 1 | X | | |
| Power Supply for existing ACC and Nav aids until new facilities and systems become operational | 1 | X | | |
| Vehicles for OFNAC to access its facilities and perform maintenance and inspections | 1 | X | | |
| Recruitment and training of Air Navigation Professionals and the development of procedures and manuals for air navigation services | 1 | X | X | |
| New Air Traffic Control Tower (TWR) including power supply and equipment related to provision of air traffic control (ATC) services | 1 | | X | |
| New Area Control Centre (ACC) building (collocated with new TWR) including power and equipment for provision of air navigation services (ANS), and transfer the existing MEVA VSAT SAT station to new ACC | 1 | | X | |
| New Doppler VOR and DME / Port-au-Prince Intl. Airport for terminal and en-route services; includes shelter, power supply system and devices for receiving remote operational status information | 1 | X | | |
| New Doppler VOR and DME / OBLEON Station for en-route service; includes shelter, power supply system and devices for remote information of operational status | 1 | | X | |
| Provision of equipped Search and Rescue (SAR) Regional Coordination Centre (RCC) | 2 | | X | |
| A New Instrument Landing System (ILS), Glide Path (GP) / DME station and Localizer (LLZ) station (Runway 10); includes shelter, power supply system and devices for receiving remote operational status information and other devices | 2 | | X | |
| New WAFS VSAT station (two way) | 2 | | X | |
| Implement an Automatic Weather Observation System (AWOS) at Port-au-Prince Airport | 2 | | X | |

AAN Recommended Action Plan

| Item Description | Priority (1, 2, 3) | Phasing for Completion | | |
|---|-----------------------|------------------------|-------------------------|--------------------------|
| | | Immediate | Short-term 1–2 years | Medium-term 2–5 years |
| Upgrade primary and provide secondary power supply systems with required switch-over times for critical systems and lights | 1 | X | | |
| Acquisition of airport operations, maintenance and security vehicles, vehicle and equipment spare parts, and security communications equipment | 1 | X | | |
| Install Runway 10 Approach Lighting System (ALS) Category 1 and replace Runway 28 PAPI lights | 1 | X | | |
| Acquire fire-fighting personnel protection equipment for RFFS personnel and air compressor for SCBA | 1 | X | | |
| Construct a Runway End Safety Area—west runway end | 1 | X | | |
| Acquire a pavement sweeper for runway, taxiways and apron | 1 | X | | |
| Construct a temporary passenger processing facility including equipment and furniture | 1 | X | | |
| Install a discrete communication system linking the fire station with the TWR and rescue and fire-fighting vehicles | 1 | X | | |
| Construct a perimeter security fence barrier additional to and inside of existing wall and perimeter road providing clear areas and including perimeter guard posts and access security control posts | 1 | X | | |
| Install apron flood lighting | 1 | X | | |
| Repair runway and taxiway surface deterioration, rehabilitate apron pavement, and replace taxiway and apron edge lights and electrical connections | 1 | X | | |
| Upgrade drainage system | 1 | X | | |
| Recruitment and training of Airport Professionals and the development of procedures and manuals for airport operations and maintenance | 1 | X | X | |
| Install illuminated signs for the movement area | 1 | | X | |
| Construct a new passenger terminal building including apron expansion, link taxiways, public access roads and vehicle parking areas | 1 | | | X |
| Acquire equipment for runway rubber removal and runway friction measurement | 2 | | X | |
| Install airport perimeter security lighting including power supply | 2 | | X | |
| Upgrade and pave perimeter security road | 2 | | X | |
| Upgrade water supply and fire hydrant system | 2 | | X | |
| Rehabilitate Runway 10/28 and taxiway pavement and upgrade airfield ground lighting (AGL) | 2 | | X | |
| Relocate RFFS Station to provide direct access to the runway and comply with required response times | 2 | | X | |
| Install Security CCTV system for perimeter, aprons and facilities | 2 | | | X |
| Construct parallel taxiway (could be phased with initial partial length to west runway end) and rapid exit taxiway | 2 | | | X |

- Assess air navigation facilities and services, and in particular Haitian Air Traffic Management (ATM) capabilities, with reference to ICAO Standards and Recommended Practices (SARPs) and Procedures for Air Navigation Services (PANS).
- Assess airport facilities and services with reference to ICAO SARPs.
- Review assessment reports prepared by the U.S. Federal Aviation Administration (FAA), the U.S. Air Force (USAF), ICAO, as well as those prepared by private consultants.
- Establish the requirements for restoring, strengthening and upgrading the Haitian civil aviation system and infrastructure.
- Prepare an Air Navigation Services (ANS) and airports prioritized action plan.
- Review donor assistance offers for aviation infrastructure, facilities and services received from States and organizations.



Photo by Paul Jeffrey/ACT Alliance

Residents of Port-au-Prince, Haiti, sail aboard a ferry bound for Jeremie in order to escape from the capital city, which was devastated by a January 12 earthquake. As many as 200,000 people may have already left Port-au-Prince, seeking better conditions elsewhere in the country.

Many of ICAO's actions during the early hours and days after the Haiti quake are prescribed in pre-existing disaster ATS contingency plans that ICAO has drawn up at the Regional level. Martin and her team coordinated their information through ICAO HQ to cross-reference any information that was able to emerge from Haiti and ensure its validity to the best degree possible. Martin was assisted tremendously in this regard by ICAO's Chris Dalton, Chief of the Air Traffic Management Section in the Air Navigation Bureau.

Haiti's Director General of Civil Aviation, Jean-Lemerque Pierre, emphasized his country's gratitude for the early responses by ICAO and the international community, both of which were of such critical importance in the days after the quake.

"ICAO activated its Regional Contingency Plan the day after the earthquake and recommended to the States adjacent to Haiti to help facilitate the arrival of humanitarian assistance," commented Pierre. "This was accomplished through the urgent expediting of the emergency traffic by these States, or through their permission for arriving aircraft to make use of their airports. Both in terms of the global assistance that was sent and the sharing of these critical air transport systems by adjoining States, the international community demonstrated an unprecedented level of solidarity that was greatly facilitated by ICAO's preparedness and action."

"In the early aftermath it's incredible how you can come to rely on specific individuals for crucial aspects of your response," Martin commented. "Neither ICAO nor even the U.S. government, for instance, had any communication with Haiti immediately after the quake, yet we desperately needed an official invitation before we could move in with assistance—all the official channels were basically down. Luckily, a Haitian civil aviation official had been in Miami for an air navigation panel and we were able to contact him while he was delayed awaiting his return flight. He was able to make contact with Haiti through personal channels and get the required approvals in place that finally facilitated that crucial early aid."

Four close colleagues of Martin's, OECS Director General of Civil Aviation (DGCA) Rosemond James and his Director of Flight Safety, Gregory McAlpin, as well as DG Siegfried Francisco and Auxenio Isenia of the Netherlands Antilles Department of Civil Aviation (DCA), were tragically killed in Haiti's quake. The four had arrived a day early for a Caribbean Aviation Safety and Security Oversight System (CASSOS) Executive Board Meeting. The quake struck only hours before Martin herself was to have boarded a flight for Port-au-Prince for the same event.

Martin had high praise for the work of the U.S. FAA and military in the early days after the official approvals came through for aid and assistance. She also noted the crucial role being played on the ground in Haiti by the United Nations Stabilization Mission in Haiti (MINUSTAH), which was already stationed there before the quake and provided crucial logistical, security and air/ground transport support.

The FAA, meanwhile, was praised by Martin for its own rapid response and important early assistance. The FAA has an excellent Flow Management Unit and the two organizations worked jointly on establishing emergency guidelines for the Haitian airspace as aircraft from around the globe converged on Port-au-Prince with emergency experts, personnel and supplies. The FAA and U.S. military partnered with a Russian company, one of many examples of international camaraderie and cooperation in the quake's aftermath, to fly in an FAA mobile control tower to return ATC capability at Toussaint L'Ouverture (see sidebar and photo on page 24).

Summary of Preliminary Activities

Visits were undertaken by team members to:

- GoH Offices of Prime Minister, Minister of Public Works, Transport and Communication, and OFNAC
- Toussaint L'Ouverture International Airport, Port-au-Prince: passenger terminal, rescue and fire-fighting services (RFFS),

RETURNING ATC CAPABILITY TO TOUSSAINT L'OUVERTURE: THE FAA MOBILE CONTROL TOWER

The earthquake that devastated Haiti on 12 January also severely damaged Toussaint L'Ouverture airport's air traffic control facility, rendering it inoperable. The government of Haiti asked the U.S. government to help with a solution and, in response, the FAA produced a mobile control tower designed specifically for this type of crisis.

U.S. Air Force and Federal Aviation Administration officials paired with a Russian contractor to deliver the mobile air traffic control tower out of Homestead Air Reserve Base, Florida. The special mobile tower is still in use today at the Port-au-Prince airport—Haiti's largest—pending construction of a more permanent facility.

More than 100 airmen helped position the FAA mobile tower on the flight line and assisted the crew of the Russian Antonov An-124 as they loaded the aircraft. In addition to the U.S. Air Force and Polet Airlines, other organizations such as the Federal Emergency Management Agency, the U.S. Agency for International Development and the FBI also contributed to the effort. The tower took approximately 48 hours to set-up before it became fully operational.

ICAO and the FAA were in constant contact in the early days after the Haiti quake, confirming information and establishing the proper channels and coordination for the early assistance that was provided by the U.S. and partnering NACC States. The joint effort of the two aviation organizations was crucially instrumental in managing and facilitating the early relief efforts, many of which were arriving via aircraft coming in through Port-au-Prince.



Russian staff of Aircompany Polet and U.S. Airmen help to unload the FAA mobile control tower in Port-au Prince.

runway, taxiways, aprons, perimeter road and wall, ILS glide path and localizer, VOR/DME, and temporary air traffic control tower.

- Haiti's Area Control Centre (ACC) and technical room.

In addition to the longer-term priorities identified, the following immediate actions were recommended after the March ICAO visit as they were understood to require minimal or no financial investment:

- Runway rubber removal and re-paint markings.
- Restricting regular operations by aircraft types/weights exceeding the airfield pavement PCN.
- Resolving airport public access road congestion with procedural control measures and opening the car park near the passenger terminal.
- Provide perimeter security fencing around the University of Miami Hospital to exclude it from the airport airside area until its planned future relocation.
- Remove the Internally Displaced Persons (IDP) camp and temporary residences from close proximity to the airport perimeter boundary to provide the required clear area for security.

- Implement security procedures, e.g., perimeter patrols, cargo building access control, gate access control, employee background checks, revision of security ID system, airside vehicle permit system.
- Ask airlines to provide fire-extinguishing equipment suitable for initial intervention in the event of a fuel fire during aircraft ground servicing.

Proposed Technical Cooperation Mechanism for Coordinating Assistance from Multiple Donors

It was requested by Haiti early in the process that ICAO facilitate and assist the Government of Haiti, including OFNAC and AAN, in reviewing and managing the various assistance offers from States and organizations to ensure that assistance would be coordinated to achieve the most effective, cost beneficial and quickest improvements for Haiti. This is very much the role that ICAO is now playing in the Civil Aviation Steering Committee (CASC).

Martin noted that ICAO's full review of donor assistance offers for upgrading Haiti's aviation infrastructure, facilities and services will ensure proper

coordination with redevelopment stakeholders and proper compliance with applicable ICAO SARPs and Regional/national plans.

The donor management mechanism presently consists of two levels:

Upper level: CASC, which provides high-level supervision and coordination among all donors and activities.

Lower level: Activities executed through multiple sources of assistance. In the case of ICAO, two Project Documents (PRODOCs) have now been approved by the Government of Haiti (the MSA and MOU covering OFNAC and AAN). These PRODOCs were signed by the Secretary General of ICAO and the corresponding authority of the Government of Haiti.

These projects will be implemented following the Regulations and Financial Rules of ICAO. ICAO, in close coordination with OFNAC and AAN, will also seek alternative funding and other types of contributions as required that will support the implementation of any other aviation-related projects. ■