Airports Council International pioneers
an affordable, peer-to-peer safety initiative.

LEARNING EXERCISE

BY WAYNE ROSENKRANS

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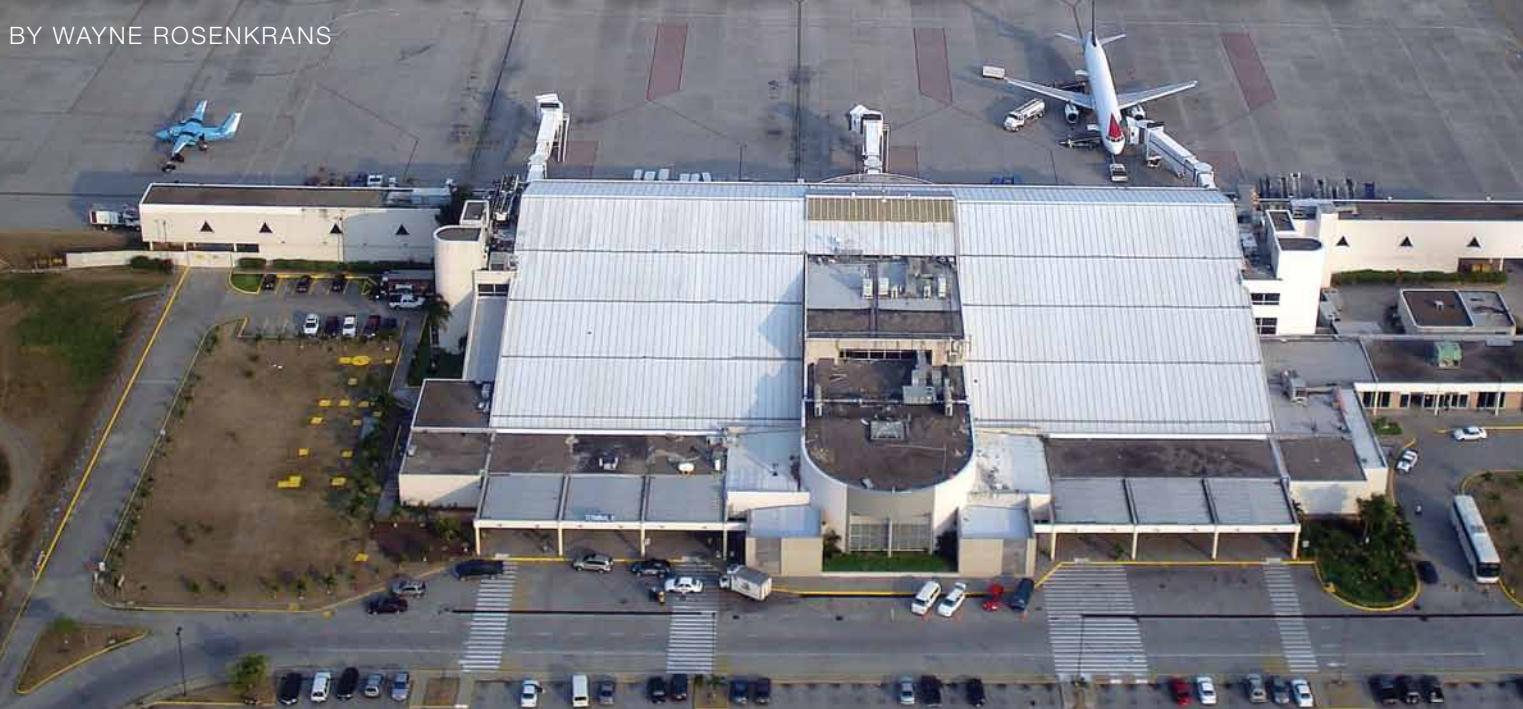
Early indications show an unprecedented nonprofit, peer-to-peer collaboration among the world's airports making solid progress toward enhanced runway safety and the mitigation of airport-related risks. In a March update briefing for *AeroSafety World,* Airports Council International (ACI) recalled how its member airports unanimously voted in November 2010 to launch the Airport Excellence in Safety (APEX) initiative.

At that time, ACI World, the organization's headquarters in Montreal, envisioned that APEX would rest on pillars of "documentation, training and mutual assistance based on a strong airport-to-airport mentoring program,"

with runway safety as the top priority. The APEX reference document says, "According to the International Civil Aviation Organization [ICAO] Universal Safety Oversight Audit Program [USOAP] … of the total number of states audited, 70 percent did not establish or implement a runway safety program to prevent runway incursions; 44 percent failed to implement the ICAO standards regarding the certification of aerodromes; 50 percent [did] not require periodic testing and review of aerodrome emergency plans or the measurement of friction characteristics; [and] 38 percent [did] not ensure that aerodrome operators comply with the requirements related to operational services and

physical facilities. … We will be working closely with ICAO … particularly to analyze key safety performance indicators [that] will enable the program to identify high risk states and aerodromes, and for each [ACI] region to then put appropriate measures in place to ensure that the identified risks are mitigated."[1]

Since a 12-month pilot phase of APEX began in September 2011, ACI World and five ACI regional offices have been refining airport safety review methods and preparing to launch the operational phase in 2013, said Adrian Cioranu, project manager, APEX, at ACI World. "The airport safety review is just an enabler, not the purpose of APEX," he said, explaining that the

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A daily team brief for the ACI APEX airport safety review in San Pedro Sula, Honduras, included specialists from APEX, Honduras CAA, ACI World and ICAO Regional Office - Mexico.

initiative essentially enables airport professionals to get together and to help each other. "APEX volunteers know they have just days to accomplish something that has to be extremely valuable to an airport."

Airport safety reviews have been conducted at Société Aéroportuaire de Lomé-Tokoin, Lomé, Togo (September 2011); Aeropuerto Internacional Ramón Villeda Morales, San Pedro Sula, Honduras (February 2012); and Aeroporto Internacional de Maputo, Maputo, Mozambique (March 2012). Further 2012 safety reviews in the pilot phase were scheduled for April at Kenneth Kaunda International Airport in Lusaka, Zambia, and for April–May at Soekarno-Hatta International Airport in Jakarta, Indonesia. "We are now considering one or two pilot safety reviews in Europe, and one more could be in North America," Cioranu said.

As of early 2012, the safety partners on three teams requested by host airports have been ACI – Africa; ACI – Latin America and Caribbean; ACI World and ACI regional offices; Aerodom Siglo XXI; Airports Company South Africa (ACSA); Corporación Quiport; Geneva International Airport, Switzerland; ICAO Regional Office – Dakar; ICAO Regional Office – Mexico; and Office National des Aéroports, Morocco.

Some safety partners have reported positive results to Cioranu. "I had a great experience working in San Pedro Sula with the team," said Juan Manuel Manríquez Viñas, corporate manager of operational safety and certification, Aerodom Siglo XXI. "We had the opportunity to create a balance, sharing all of our field and office experience. Having an ICAO regional officer–aerodromes on our team, mixed with ACI members and aerodrome operators, created a perfect match to perceive each item from all points of view."

ACI World also is in discussions with 10 more airports and state governments in Africa, Latin

America and Asia Pacific regions about possible memorandums of understanding for the fourth quarter of 2012 and 2013. The length of each safety review is nominally one week, but may extend to about two weeks depending on the size of the airport and the complexity of its operations.

The pilot phase of APEX was launched on a non-remunerative basis, and ACI intends to continue that policy for an indeterminate period. The costs borne by the host airport generally include transportation, accommodations and meals but exclude any fees to safety partners or to ACI. "This streamlines the logistics and also helps airports to quickly gain the benefits of the program," Cioranu said. "We will have to reassess this model as we enter the operational phase, but right now, we're not considering other business models."

During the pilot phase, the effects of different operational contexts and cultural factors are being studied to guide refinements. "The team composition changes because we try to base it as much as possible on regional considerations," he said. For example, most safety partners who get involved with an APEX host airport come from "neighboring" ACI-member airports and regional offices of ACI and ICAO — from the Latin America and the Caribbean region in the case of San Pedro Sula, and from South Africa in the case of Maputo. John Pottinger, safety and operations manager, ACI World, has been the team leader during the pilot phase.

Runway Safety First

"Under APEX, runway safety is a major theme, and safety review team recommendations aim at helping the host airport to mitigate any vulnerabilities that the team notices," Cioranu said. "During the pilot phase, we have developed a standard operating procedures manual and revised the APEX reference document partly to assure sufficient monitoring of runway-related incidents and accidents, which are the most serious occurrences and have the greatest number of victims. Host airports typically need to enhance the way they capture key safety indicators and incidents via better monitoring. There is a lot of work to be done."

APEX specializes in helping host airports determine for themselves the best way forward in complying with national regulations — or ICAO standards and recommended practices if state civil aviation regulations are non-compliant — and with relevant best practices of the global airport community. Best practices, by definition, incorporate and exceed minimum regulatory requirements, Cioranu noted.

"During the on-site safety review, ACI airports gain invaluable access to best practices, and peer airport representatives learn from each other," he said. "We also focus on safety management systems [SMSs]. What matters most is for the host airport, and the people who actually work there, to be motivated to do the things necessary to make airport operation safer."

ICAO standards in *Annex 14, Aerodromes,* Volume I, "Aerodrome Design and Operations," have been the primary source of APEX safety standards; expert consensus documents such as tools from Flight Safety Foundation's runway safety initiative also have been incorporated. Cioranu said that the program wants host airports to have measures, procedures and a better understanding of standards and recommended practices, whether or not they have been incorporated into national laws and regulations.

Teams help host airports to recognize the easy fixes that have been overlooked, as well as to take steps toward complex, long-term solutions to safety problems. For example, they could find a host airport dealing with a state aeronautical information publication (AIP) that is out of date or nonexistent, requiring joint effort by the host airport and the civil aviation authority (CAA). "Sometimes, the CAA does not have enough people," Cioranu said. "Maybe the information needed from the host airport did not get

An ACI APEX runway inspection in Maputo, Mozambique, included specialists from ACSA, APEX and ACI Africa.

to the right people, or maybe there was a misunderstanding of the standards." Assuming the safety partners understand the situation at the airport level and in the CAA context, solutions often can be implemented easily, he added.

A team does not make any blanket statements that the host airport's operations are unsafe. "They are safe, but safety is a continuous improvement exercise — a self-evaluation," Cioranu said. "Teams have seen that these airports are willing to look at potential vulnerabilities and accept expertise and help from the outside so that operations can be even safer rather than to just struggle with finding a solution by themselves. APEX is also an extremely affordable solution for them."

Safety partners inevitably observe safety gaps at the host airport; perhaps the airport lacks adequate airport markings or a runway safety team. Merely pointing out the problem tends to accomplish very little, Cioranu said. "The APEX team tries to emphasize what can be achieved; solutions don't have to be revolutionary, they can be evolutionary," he said. "Implementing a runway safety team doesn't really cost anything, for example."

The pilot phase of APEX also has demonstrated that safety partners'

structured analysis of SMS can have surprising results. "Host airports might not realize that they already have some SMS elements in place," Cioranu said. Gaps sometimes can be filled by revising job descriptions; correcting missing, inadequate or outdated procedures; and sending the right people to ICAO and/or ACI training.

Timing of proposed solutions "depends on the seriousness of the situation encountered in the field — whether it has to be solved immediately or whether solutions can be left, say, for medium-term action," Cioranu said. "Economics play a very important role. For example, repaving a runway could be very important but not be possible to do immediately. In the short term, however, the host airport should ensure that operations remain safe — not just patch the problem indefinitely — and when funding becomes available, fully solve the problem."

ACI World is quick to distinguish the APEX initiative from familiar auditing by CAAs, ICAO, airlines and other organizations. "Our safety reviews are different from audits," Cioranu said.

"An APEX safety review only happens on request by a host airport. This way, we encourage complete openness. We perform the review confidentially, and results are shared among the host airport, ACI and ICAO. If the host airport decides to share the information beyond that, that is fine by us."

APEX also differs in each team's intense motivation to suggest practical elements of an action plan to the host airport. "The host airport says what is important and achievable in the short, medium and long run," he said.

ACI World does not consider member airports as "customers" or a "market" for APEX services per se but instead as beneficiaries. ACI membership also is not a requirement to participate in APEX but is advantageous. "The main APEX services are oriented toward ACI members, so the program definitely is for the members," Cioranu said. "If we have a request from a non-member airport, we definitely will give it consideration — provided that we have the resources and such a safety review would not be detrimental to a member, such as postponing a scheduled safety review or creating an inconvenience.

"Any airport potentially could be a beneficiary of the program. We do not focus necessarily on developing states, developed states, a specific airport size or a region; APEX is open to everybody. Under our concept, however, we may focus on specific operational contexts or issues such as runway incursions and excursions or an SMS, which is not yet in place at some airports."

Safety partners typically are selected for a team assigned to a particular mission. "We look at the ACI member airports in a region, and we contact them to see which has available a person with specific expertise and experience — for example, in aircraft rescue and firefighting," Cioranu said.

Peer-to-Peer Advantages

The idea behind airport professionals exchanging safety knowledge and experience with their counterparts at other airports has several facets. "Peer-to-peer definitely means mutual respect and welcoming external assistance," Cioranu said. ACI members might assume that sharing experiences in APEX is a one-way process, from safety partners to the host airport, but that has been disproved during the pilot phase. "It may be counterintuitive, but when the safety partners go home, they realize they have received great value and benefit — that this was a learning exercise for everybody. Looking beyond the processes at their own airport was like 'thinking outside the box.'"

Ongoing mentoring also is planned. Such a relationship developed when ACSA invited people from Maputo to receive further training in South Africa and began considering further exchanges, he noted.

So far, ACI World has been able to accommodate every airport seeking APEX services, although not necessarily for specific dates requested. "We're now treating every request on a first-come, first-served basis unless there's a specific

reason why an airport's request would need to be given higher priority," he said.

Because APEX processes were set up to move from the airport-request stage to the final-report stage within 16 weeks, any airport facing an acute safety issue should be able to receive timely assistance after APEX has completed the pilot phase. Procedures in that event would include consultation with ICAO in evaluating the urgency and defining the mission.

Also envisioned are scenarios in which a state requests APEX safety reviews of multiple airports at or around the same time. This scenario aligns with the APEX intent to encourage former host airports to take turns as safety partners within their state. "It makes perfect sense to have people coming from other airports to attend a safety review in the same state to gain the methodology, knowledge and access to a pool of experts," Cioranu said.

The final report produced after a safety review is important. But relatively speaking, this step is a formality compared with the APEX exit debriefing and the immediate steps taken by the host airport to begin implementing its action plan. "The debriefing involves the senior management at the host airport, and whoever else they deem necessary," Cioranu said. "Whatever the final report says will have been known from the debriefing."

After the final report has been delivered, APEX will be open to requests for less-intensive on-site visits by a few safety partners who can lend support to implementation of the host airport's action plan. ⏎

Note

1. ACI World. *APEX Reference Document.* Version 1.2, Feb. 2, 2012. The data are from USOAP 2009 results, ACI said.