

# A NEW APPROACH

ICAO will shift from periodic audits to a system based on continuous data-driven monitoring.



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When member nations of the International Civil Aviation Organization (ICAO) agreed in 1997 to a system of audits of nations' safety oversight capabilities — the Universal Safety Oversight Audit Program (USOAP), a major component of the Global Aviation System Plan (GASP) — the aviation community took a big step forward in safety. Since then, however, both the benefits and drawbacks of the audits, lately conducted on a six-year cycle, have become clear.

One basic problem with the cycle approach, aside from being costly, is that

it gave all nations an equal amount of attention in a single-shot rotation that had to last for six years. Clearly, some nations do not need such regular attention, while others need more attention, and more help, more frequently, than the audit cycle was geared to provide. The audits did show the benefits of examining what was going on in nations around the world, and provided the information through which ICAO staffers could see the statistical relationship between those nations that scored poorly on the audit results and the regions and nations with the worst safety record, validating the

audit process. Most alarming to ICAO were the low-scoring, high-accident, high-growth nations.

After lengthy consultation and planning dating from mid-2008, which included input from many stakeholders in the process, a new concept was born — the Continuous Monitoring Approach (CMA), a concept that won the support of the ICAO Council.

In late March, ICAO hosted the High Level Safety Conference (HLSC), gathering representatives and heads of civil aviation regulatory bodies from as many as 150 nations, plus various industry

participants such as Flight Safety Foundation and the International Federation of Air Line Pilots' Associations.

CMA was high on the HLSC agenda, as the ICAO staff sought widespread acceptance of the concept. And that, after some discussion, is what they got, setting CMA up to be adopted by the ICAO Assembly when it meets this October. If adopted, CMA will become the standard in January 2013.

While the transition to CMA from the existing Comprehensive Systems Approach (CSA) audit process was designed to be flexible, a number of nations at the conference were concerned that the proposed two-year transition period was too rushed, and that some smaller nations would be swamped. Some nations suggested that as many as six years would be required to make CMA the standard.

Henry Gourdji, chief of the Safety Oversight Audit Section, USOAP, told *AeroSafety World* that some of the discomfort with the two-year transition was caused by nations mixing the concurrent State Safety Program (SSP) effort with CMA.

"SSP is not directly linked to CMA," he said. "You don't need to have an SSP in place at the end of the CMA transition. SSP data will make CMA more efficient, but ICAO could launch CMA tomorrow" using data already existing in the system, Gourdji said.

However, in recognition of this perception of CMA being rushed into implementation, the HLSC recommended that regular reports be made to the ICAO Council on the progress that nations and ICAO make in implementing the transition plan. If the reports indicate problems, additional time may be provided to complete the transition of the USOAP to a CMA, ICAO documents say.

The goal of CMA is to not only spread out the monitoring process into a more even distribution of effort but also to allow ICAO to tailor its response and its ability to help nations meet specific needs without being held captive to the calendar.

"Before, our hands were tied," Gourdji said. "Just one full-blown audit every six years, and then the response to that audit. We could not go back for six

years, even if we had the personnel to do so. Now we can customize the intervention to specific needs as they arise."

Previously, the ICAO audit was the same each time, the approximately 900 questions that are part of the CSA protocol. These 900 questions won't change, but now they will be combined to suit specific needs. Gourdji noted the four different types of ICAO interventions anticipated under the CMA regime:

- ICAO Coordinated Validation Missions

To determine if previously identified safety deficiencies have been resolved by assessing the status of corrective actions or mitigating measures taken to address findings and recommendations.

- CSA Audits

The full-scale CSA audits will not disappear but will be available to help ICAO to determine nations' ability to conduct effective safety oversight, tailored to the level of complexity of aviation activities in the nation concerned.

- Limited CSA Audits

These will address specific areas, such as air navigation services, aerodromes, aircraft flight operations or airworthiness, useful in nations where oversight in some areas is less developed than others, or where a specific technical area has undergone a significant change.

- Safety Audits

Safety Audits will respond to the request of the nation involved, principally when the head of safety for that nation seeks an independent evaluation, defined and paid for by the requesting nation.

## Why the Change?

While the Global Aviation Safety Plan (GASP) has made some progress in reducing accidents, gaps remained that the current process was not closing, said Nancy Graham, director of the International Civil Aviation Organization Air Navigation Bureau. Detailing accident statistics cut several different ways, she gave this summary to the High Level Safety Conference:

"There have been mixed results with respect to the GASP safety targets. We have made progress in meeting the first target, as fatal accidents and the number of related fatalities have decreased over the past 10 years. We have not been as successful in achieving the second target, which requires a significant decrease in the global accident rate. Finally, it has become apparent that a change in strategy is needed to achieve the third GASP safety target. Not only is one region's accident rate more than double the global rate, but the variance between regional accident rates remains unacceptably high."

— JAD



Graham

Much of the CMA process will be conducted online through a secured site where all the stored data and information transfer will be handled for the participating nations and where the people who will administer the process in each nation will be trained. Through this site, nations will post their Corrective Action Plans addressing identified weaknesses.

Further, through this site, ICAO can transmit three key elements of the CMA process: Mandatory information requests triggered by data analysis, perhaps employing ICAO's new, recently commissioned Integrated Safety Trend Analysis and Reporting System (ISTARS); requests for agencies to clarify their situations; and ICAO findings and recommendations.

The entire CMA process is based on the availability of data, and while Gourdj and others in the organization maintain that the existing flow of data is already sufficient to start the process, a more structured and widely based data collection and distribution regime is being sought. This advance also was endorsed by the HLSC.

While ICAO already has access to much of the information gathered by carriers and regulatory bodies, during the HLSC a "declaration of intent" to exchange safety data was signed by ICAO, the International Air Transport Association, the U.S. Federal Aviation Administration and the Commission of the European Union, a move seen as the start of a trans-industry process of data exchange.

Nancy Graham, director of the Air Navigation Bureau, in speaking to the HLSC, noted the importance of information to feed the CMA effort: "Future development of safety analysis systems such as ISTARS depends on the availability of the multiple types of information having an impact on safety — including information provided through development of SSPs and safety management systems, information related to a state's aviation infrastructure, and economic information that may provide clues as to how to best manage anticipated growth."

The conference agenda also addressed the issue of securing the location and recovery of flight data recorders and cockpit voice recorders, brought into sharp focus by the June 1,

## CMA Transition Steps

### Member State Steps

- Sign new memorandum of understanding
- Assign national continuous monitoring coordinator (NCMC)
- NCMC completes computer-based training on Continuous Monitoring Approach (CMA)
- Update corrective action plan from the previous audit
- Develop a plan for the new CMA protocols and transmit it to the International Civil Aviation Organization (ICAO)
- Update online the state aviation activity questionnaire
- Complete online the Universal Safety Oversight Audit Program (USOAP) CMA protocols

### ICAO Steps

- Publish new edition of Doc 9735, *Safety Oversight Audit Manual*
- Develop and expand agreements with international entities
- Test CMA online framework with some member states
- Conduct regional CMA workshops
- Launch computer-based training of auditors
- Conduct 10 ICAO coordinated validation missions in 2011, 20 in 2012
- Conduct safety audits at the request of member states

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2009, crash of an Air France Airbus A330 in the South Atlantic in which the failure to recover the recorders has hindered investigators' ability to pinpoint the cause of the accident.

In a news release issued after the event, ICAO said, "The Conference recommended that ICAO look into technical enhancements that would improve the ability to locate and recover the units, such as longer time periods for signals, better resistance to crashes and floatability."

Roberto Kobeh González, president of the Council of ICAO, said in the release, "While the electronic transmission of information during flights is progressively improving, black boxes will remain absolutely indispensable for years to come as the primary source of technical data in cases of accidents or incidents."

The Conference also called on states and industry to ensure improved communication and surveillance of flights over oceanic and remote areas using all available technologies. ➤