

PROMOTING SAFETY THROUGH RAMP INSPECTIONS

# ICAO

## JOURNAL

VOLUME 58

NUMBER 9, 2003



### Aviation Safety Oversight

A SYSTEMS APPROACH TO AUDITING

### Joining Forces

REGIONAL SAFETY INITIATIVE

# DETECTION SYSTEMS FOR EVERY CASE

The new **Smiths Detection HI-SCAN 10080 EDtS** combines proven Smiths Heimann EDS technology with the advantages of computer tomography.

In automated inspection of checked baggage, **EDtS** means a higher detection rate for explosives – even sheet explosives are detected – at a high throughput of up to 1,800 bags per hour.

It's another example of **Smiths Detection's** leadership in this technology; offering an excellent price/performance ratio, and making flying both safer and quicker.

Prove it for yourself. Call for more information.



## smiths

**Smiths Detection**

Im Herzen 4  
65205 Wiesbaden, Germany  
Phone: +49 (0)611 9412 0  
Fax: +49 (0)611 9412 229

[www.smithsdetection.com](http://www.smithsdetection.com)

## THE ICAO COUNCIL

### President

Dr. ASSAD KOTAITE

### 1st Vice-President

Dr. H. MÜRL

### 2nd Vice-President

B. GUEYE

### 3rd Vice-President

C. FARIAS SERVÍN

### Secretary

Dr. TAÏEB CHÉRIF

### Secretary General

#### ALGERIA

M. S. Boultif

#### ARGENTINA

H.C. Trisano

#### AUSTRALIA

S. Clegg

#### BRAZIL

R. Rodrigues Filho

#### CAMEROON

T. Tekou

#### CANADA

L.A. Dupuis

#### CHILE

M. Meirelles

#### CHINA

Y. Zhang

#### COSTA RICA

M. Ramos

#### CUBA

J. Ayón Alfonso

#### CZECH REPUBLIC

O. Gorgol

#### EGYPT

M.A.A.A. Elbagori

#### ETHIOPIA

M. Belayneh

#### FRANCE

J.-F. Dobelle

#### GERMANY

Dr. H. Mürl

#### INDIA

S. Kaul

#### IRELAND

A. McGinley

#### ITALY

G.L. Cornado

#### JAPAN

H. Kono

#### LEBANON

H. Chaouk

#### MAURITIUS

A. Gungah

#### MEXICO

R. Kobeh González

#### NIGERIA

D.O. Eniojukan

#### PAKISTAN

M.A. Awan

#### PARAGUAY

C. Fariás Servín

#### REPUBLIC OF KOREA

S. Rhee

#### RUSSIAN FEDERATION

I.M. Lysenko

#### SAUDI ARABIA

S.A.R. Hashem

#### SENEGAL

B. Gueye

#### SINGAPORE

K.P. Bong

#### SOUTH AFRICA

M.D.T. Peege

#### SPAIN

L. Adrover

#### SWEDEN

J. Danielsson

#### UNITED KINGDOM

N. Denton

#### UNITED STATES

E.W. Stimpson

#### VENEZUELA

R.R. Alvarado Torrealba

# ICAO Journal

The magazine of the International Civil Aviation Organization

VOL. 58, NO.9

NOVEMBER/DECEMBER 2003

## FEATURES

- 4 ICAO's expanding Universal Safety Oversight Audit Programme is planning to adopt a systems approach to future audits
- 8 External reviews performed by ICAO offer valuable lessons that can lead to a more effective safety oversight system
- 11 U.S. Federal Aviation Administration has developed tools and training activities to assist States in resolving safety oversight deficiencies
- 13 In establishing a regional safety oversight body, Central America has demonstrated the value of the team approach to solving challenges
- 18 Creating variations of the current safety oversight auditing process could prove advantageous to States
- 20 European initiative to perform ramp checks of aircraft arriving from other countries focuses on compliance with ICAO requirements
- 22 Inspired by ICAO's safety oversight activities, the industry has launched a programme for performing airline safety audits

## ICAO UPDATE

- 25 RVSM implementation benefits airlines, passengers and the environment

## COVER

Feature articles in this edition focus on safety oversight developments. Included is an overview of the ICAO Universal Safety Oversight Audit Programme (USOAP): five years after its launch, USOAP is preparing to widen its focus to all safety-related provisions contained in the annexes to the Chicago Convention (page 4).

*David Notoni/Masterfile photo*

*Editor: Eric MacBurnie*

*Editorial Assistant: Regina Zorman*

*Production Clerk: Sue-Ann Rapattoni*

*Design Consultant: François-B. Tremblay*

THE OBJECTIVES of the Journal are to provide a concise account of the activities of the International Civil Aviation Organization and to feature additional information of interest to Contracting States and the international aeronautical world. Copyright © 2003 International Civil Aviation Organization. Unsigned material may be reproduced in full or in part provided that it is accompanied by reference to ICAO Journal; for rights to reproduce signed articles, please write to the editor.

**OPINIONS EXPRESSED in signed articles or in advertisements appearing in the ICAO Journal represent the author's or advertiser's opinion and do not necessarily reflect the views of ICAO.** The mention of specific companies or products in articles or advertisements does not imply that they are endorsed or recommended by ICAO in preference to others of a similar nature which are not mentioned or advertised.

Published in Montreal, Canada. Second class mail registration No. 1610. ISSN 1014-8876. Date of publication of Issue 9/2003: 31 December 2003. Published nine times annually in English, French and Spanish.

**SUBSCRIPTIONS:** \$25 (by surface) and \$35 (by air) per year. Single copies available for \$3 (by surface) and \$5 (by air). Prices in US funds. **For subscription and circulation inquiries contact** ICAO Document Sales Unit, Telephone: +1 (514) 954-8022; Facsimile: +1 (514) 954-6769; E-mail: sales@icao.int

**EDITORIAL OFFICE:** Suite 1205, 999 University St., Montreal, Quebec, Canada H3C 5H7. Telephone: +1 (514) 954-8222; Facsimile: +1 (514) 954-6376; E-mail: emacburnie@icao.int **ICAO HEADQUARTERS:** Telephone: +1 (514) 954-8219; Facsimile: +1 (514) 954-6077; E-mail: icao@icao.int **ICAO WEBSITE:** www.icao.int **ADVERTISING REPRESENTATIVE:** Victor Brown Associates Corp., 15 Zorra St., Toronto, Ontario, Canada M8Z 4Z6. Telephone: +1 (416) 259-9631; Facsimile: +1 (416) 259-9634; E-mail: zorra@on.aibn.com. **GRAPHIC ART/DESIGN:** Bang! Marketing (www.bang-marketing.com). **PRINTING:** Transcontinental-O'Keefe Montreal (www.transcontinental-printing.com).

[www.icao.int](http://www.icao.int) VISIT ICAO'S WEBSITE for a wealth of information including past issues of the ICAO Journal, the latest news releases, a complete listing of ICAO publications, the ICAO aviation training directory, Secretariat job vacancies, technical cooperation project postings, and much more.

## Expanding programme to adopt systems approach to future audits

*As safety provisions for different technological fields are often interrelated, comprehensive audits that take into account the varying level and complexity of aviation activities in different States may be the best way to maintain an effective, efficient and affordable safety oversight audit programme.*

HAILE BELAI  
ICAO SECRETARIAT

FIVE years after it was launched, the ICAO Universal Safety Oversight Audit Programme (USOAP) is now on the threshold of a major expansion. The current programme, focused on compliance with the safety-related provisions contained in three annexes to the Chicago Convention, will expand to three additional technical fields and, pending endorsement from the ICAO Assembly, eventually to all safety-related provisions of ICAO. In so doing, USOAP can begin assessing the overall safety oversight capability of all member States.

The plan to develop a comprehensive programme using a systems approach was supported by a recent decision of the ICAO Council. The decision of the 36-member

governing body requires approval by the ICAO Assembly, a triennial meeting of all Contracting States, which will commence its 35<sup>th</sup> Session in September 2004.

### USOAP's emergence

USOAP came into being in January 1999 as a result of an ICAO Assembly resolution adopted in 1998. In brief, this resolution gave ICAO the mandate to conduct "regular, mandatory, systematic and harmonized safety audits of all Contracting States."

During the past five years, the programme has conducted safety oversight audits in 181 Contracting States and five territories as well as conducting 120 audit follow-up missions. Its findings and recommendations have led to the development of action plans by States, and the resolution of safety concerns. As a direct

consequence, civil aviation authorities are better able to undertake their safety oversight obligations.

Although USOAP is just shy of five years old, ICAO's safety oversight activities actually began in 1995, with the establishment of the ICAO Safety Oversight Programme. This initiative grew out of concerns raised at the ICAO Assembly, to the effect that many Contracting States were unable to effectively fulfil their safety oversight obligations. Four major safety concerns were highlighted:

- lack of adequate civil aviation establishments, resulting in insufficient safety oversight activities;
- non-availability or non-compatibility of civil aviation regulations;
- lack of qualified technical personnel and adequate resources to satisfactorily undertake safety oversight obligations; and
- lack of government commitment to civil aviation concerns although, in almost all States, civil aviation generated more than adequate funds to manage safety oversight responsibilities effectively and efficiently.

The Safety Oversight Programme was voluntary and confidential in nature. Its main objectives were to assess the degree to which Contracting States had implemented ICAO safety-related standards and recommended practices (SARPs) and to assist States in identifying and remedying safety oversight-related deficiencies.

Within a year of its start-up, the assessment programme had revealed the existence of widespread problems that were not limited to any specific geographical region. The deficiencies were concentrated in three specific areas: the lack of basic aviation law and specific operating



EADS/Airbus

**All interrelated provisions of the different Chicago Convention annexes need to be audited to ensure that there is effective implementation of standards and recommended practices and a capability for safety oversight.**

regulations; the lack of appropriately established national civil aviation systems; and the absence of adequate certification and supervision of air operators and maintenance organizations.

The assessments disclosed the seriousness of the situation, and also revealed that a voluntary programme was not adequate to identify global problems. Thus, the need for an audit programme that would assess all Contracting States was evident.

The concept of a mandatory programme first received serious backing at an international conference on aviation safety and security held in Washington, D.C. in January 1997. The final report of the conference recommended that ICAO begin a programme to verify and improve compliance of safety oversight systems with international safety standards. In order to raise levels of safety throughout the world, the conference concluded, ICAO "needed greater authority to determine whether nations were in compliance."

In late 1997, the world's directors general of civil aviation (DGCA) met in Montreal to discuss the general findings of the ICAO safety oversight assessments and to establish a global strategy for safety oversight. The DGCA conference called for:

- regular, mandatory safety audits of all Contracting States to be carried out by ICAO, as soon as possible;
- greater transparency in the dissemination of audit results;
- allocation of adequate ICAO funds for the management and conduct of the programme; and
- expansion of the programme to other technical fields at the appropriate time.

Less than a year later, the ICAO Assembly approved the establishment of a mandatory audit programme and the global aviation safety plan (GASP). At USOAP's launch, the goal was to complete audits of all Contracting States by December 2001; with the exception of a handful of member States, this objective was met despite limited resources.

As indicated above, the ICAO Assembly to be held in 2004 will be presented

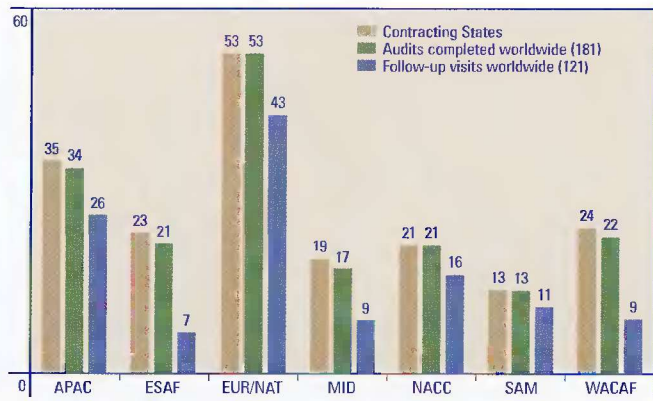
with a proposal to expand USOAP to cover all annexes of the Chicago Convention — with the exception of Annex 9, *Facilitation*, and Annex 17, *Security*, which is addressed by the ICAO Universal Security Audit Programme (USAP). At present, USOAP is limited to audits covering the safety-related provisions of three ICAO annexes: Annex 1, *Personnel Licensing*; Annex 6, *Operation of Aircraft*; and Annex 8, *Airworthiness of Aircraft*. However, the requirements of the numerous annexes are often interrelated, making it essential to audit all interrelated provisions to ensure effective implementation of the SARPs and a capability for safety oversight.

The ICAO Assembly of 2001 called for USOAP to cover additional annexes: specifically, Annex 11, *Air Traffic Services*; and Annex 14, *Aerodromes*. It also called on ICAO to consider expansion to Annex 13, *Aircraft Accident and Incident Investigation*. The organization is currently preparing for these three annexes to be included in safety oversight audits.

The reason ICAO USOAP did not embrace all of the Chicago Convention annexes in the first place was because this was impractical. The scope of the pro-

gramme was limited by resources and logistical considerations. With a limited focus, Annexes 1, 6 and 8 were chosen in the beginning because they addressed activities that easily transcend national borders; for example, pilots trained and licensed in one State can fly all over the world; operators certified by one State can fly almost anywhere; and aircraft certified and maintained in one State can operate in numerous other States. Another reason these annexes were targeted was because implementation of their SARPs could be audited with minimum reference to other ICAO annexes.

One reason for the emergence of USOAP is the vested interest that each State has in the safety oversight capabilities of other States, particularly those whose aircraft and personnel operate into its territory or airspace. Moreover, most



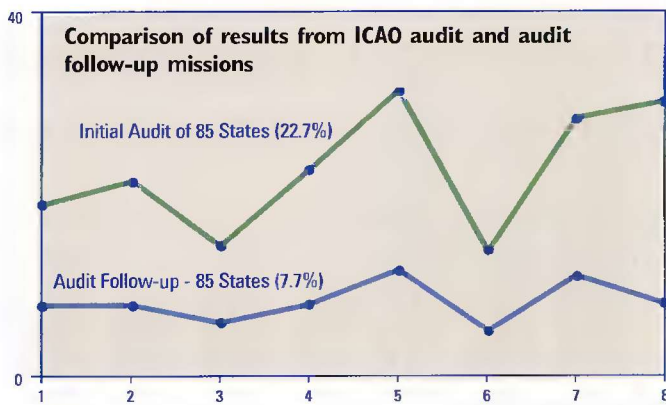
**ICAO audits and audit follow-up missions completed by region, as of 31 December 2003.** The regions represented are (l-r): *Asia/Pacific; East and South Africa; Europe and North Atlantic; Middle East; North America, Central America/Caribbean; South America; and West and Central Africa.*

## ISO COMPLIANCE STRENGTHENS USOAP'S EFFECTIVENESS AND EFFICIENCY

The Safety Oversight Audit (SOA) Section, the section within ICAO's Air Navigation Bureau which is responsible for implementing the Universal Safety Oversight Audit Programme (USOAP), was awarded ISO 9001 certification in October 2002. The implementation of a quality management system that meets ISO standards has helped streamline the activities of the section, increasing the effectiveness and efficiency of the programme.

A major benefit of the evaluation process that led to compliance with ISO 9001 was the refinement and strengthening of an already successful safety oversight audit programme. With ISO endorsed procedures in place, ICAO's effectiveness in working with member States to improve their respective safety oversight mechanisms has grown even stronger.

The scope of the ISO certification covered ICAO's conduct of regular, systematic and harmonized safety oversight audits, as well as auditor training activities and seminars on establishing and managing State safety oversight systems.



Curves represent lack of effective implementation of eight critical elements of a safety oversight system, indicated as percentage of total findings. Critical elements are (1) primary aviation legislation; (2) specific operating regulations; (3) CAA structure and oversight functions; (4) technical guidance material; (5) qualified technical personnel; (6) licensing and certification obligations; (7) continued surveillance obligations; and (8) resolution of safety issues.

ICAO Contracting States have ratified Article 83 *bis*, an amendment to the Chicago Convention that facilitates the transfer of safety-related responsibilities in case of lease, charter or interchange of aircraft. In many cases, these States are transferring responsibilities for licensing and the continuing airworthiness of aircraft, and not surprisingly, they require assurance

### HOLISTIC APPROACH TO AVIATION SAFETY

Assuring the health of the aviation system warrants a holistic approach to forestall the possibility of a single component malfunctioning and threatening the whole system.

The Universal Safety Oversight Audit Programme (USOAP) started as a specialist examiner, checking the status of a limited number of areas. Experience has shown that USOAP should expand to a more general, and hence comprehensive, approach to include all technical areas covered by the safety-related provisions in the annexes to the Chicago Convention. USOAP needs to examine the whole system to ensure its proper functioning in accordance with international standards and recommended practices (SARPs).

The ICAO Council's recent decision to recommend to the ICAO Assembly next year that USOAP expand to include audits of all safety-related ICAO annexes paves the way for adoption of the holistic approach to safety oversight.

that other States meet the annex requirements and are able to discharge these new responsibilities.

#### Training needs

Auditing all Contracting States and some of their territories within a limited period of time calls for considerable resources, both in terms of expertise and funding. By itself, ICAO cannot employ the large number of auditors

required for the safety oversight audits. To complement the ICAO team, officers are seconded by member States, sometimes on a long-term basis.

In launching USOAP, ICAO trained close to 100 short-term auditors on secondment; many of these qualified auditors provided support to ICAO at least once during the initial audit cycle.

To ensure uniformity, all auditors were provided with standardized training. The effectiveness of the initial training and ongoing efforts to maintain competence are the main reasons for the high quality of the audits, and the continuing success of the programme.

Regular training is one of the requirements of the International Organization for Standardization (ISO), under which the ICAO Safety Oversight Audit (SOA) Section — the office responsible for managing USOAP — has been certified (see box, page 5). It is expected that in future the training of experts on loan from States will increase for at least two reasons. Firstly, seconded auditors will constitute a major source of expertise on various safety-related subjects, especially as the programme expands its coverage to additional annex provisions. Secondly, the employment of national experts will help to spread knowledge and will help ensure consistent application of international standards and recommended practices. Coordination

between technical experts in different States will be enhanced.

#### Other activities

Besides conducting audits related to the Chicago Convention annexes, ICAO is performing various safety oversight-related functions. These include presenting safety oversight management seminars and workshops as well as training safety oversight auditors and developing safety oversight-related guidance material.

Safety oversight management system seminars and workshops are conducted in all ICAO regions two or three times each year to provide State officials with practical examples to guide them in establishing and managing an effective national safety oversight system. Support for increasing the number of seminars and workshops has been voiced by States, the ICAO Council and ICAO Air Navigation Commission. The seminars and workshops are seen as a major tool for providing general assistance to Contracting States and will continue as long as funds are available.

The development and provision of technical guidance material is one of the support tools made available to Contracting States by ICAO. Guidance material enables States to implement SARPs in a harmonized manner. Most guidance material is produced by the section in the Air Navigation Bureau responsible for maintaining the relevant ICAO annex; however, the SOA Section also develops guidance material for establishing and managing State safety oversight systems. There are plans to develop and publish guidance for the establishment and management of a regional safety oversight system in 2004.

An audit findings and differences database (AFDD) has been developed to archive findings and differences arising from safety oversight audits and audit follow-ups carried out under USOAP. Information generated through the AFDD, such as the level of aviation activity in a State and the actual findings and differences identified during audits, allows ICAO to conduct detailed analyses. The results help highlight remedies

to safety concerns.

The AFDD has allowed ICAO to identify safety concerns based on critical safety oversight elements. The data can also be used to assess the possible impact on the safety of aircraft operations. This makes it possible for ICAO, other international organizations and States to set priorities when addressing identified and quantified safety concerns. Reports derived from the AFDD have been used by the Air Navigation Bureau, ICAO panels and study groups.

### A systems approach

Safety oversight audits performed so far have been planned and conducted on an annex-by-annex basis, starting with Annexes 1, 6 and 8, with a planned expansion to Annexes 11, 13 and 14 in 2004. While this approach has served its purpose and proved effective in establishing the programme, continuing along these lines would be time-consuming and expensive.

ICAO's challenge is to firmly establish and maintain an effective and efficient safety oversight audit programme at an acceptable overall cost. On the basis of past experience, it seems likely that an ICAO audit programme focused on *all* safety-related provisions would ensure a truly accurate assessment of the overall health of a State's safety oversight system. What's more, a systems approach would offer a significant safety advantage over the piece-meal approach of auditing compliance with provisions of a limited number of annexes over time.

If endorsed by the 35<sup>th</sup> ICAO Assembly, safety oversight audits under the new approach will be implemented utilizing pre-designed processes and procedures contained in two phases. In the initial phase, newly developed auditing tools for the additional technical fields would be forwarded to all Contracting States as soon as they are prepared, and States would return the completed forms to ICAO within a specified time. Ample time would be provided for this exercise, but under normal circumstances States should already have the requisite information ready to transpose to the pre-audit forms.



**In launching USOAP, ICAO trained close to 100 short-term auditors on secondment from member States; many of those trained provided support to ICAO at least once during the initial three-year audit cycle.**

To avoid the high cost of publishing and shipping the large volume of material, all information, including relevant guidance material, would be distributed to civil aviation authorities on CD-ROM. The information would also be available on the ICAO website for those States that prefer to complete and submit the information on-line.

During the first phase the data supplied by States would be analysed by ICAO, either at headquarters or the regional offices, in preparation for the on-site audit. These data would then be entered in the AFDD, which is to be developed further for analysis and data collection purposes. States would be asked for updates shortly before an on-site audit proceeds; such information is used by the Secretariat to determine the size and composition of the audit team, and the duration of its on-site mission.

The second phase of the process would involve on-site assessment by an ICAO team as well as post-audit activities. The auditors verify and validate the information on hand and use critical safety oversight elements as a basis for assessing systems, processes and procedures implemented by the State to enable it to undertake its safety oversight obligations. This approach would ensure assessment both of the implementation of relevant SARPs and the State's capability for conducting safety oversight.

### Business as usual

As is today's practice, at the end of an on-site mission ICAO auditors would brief

the authorities and their staff members on the overall findings of the audit and provide them with draft findings and recommendations so that development of a corrective action plan can begin immediately.

In line with established procedures and an agreed timetable, a confidential audit report and a non-confidential audit summary report would be distributed, respecting both the confidentiality and transparency principles of the programme. The ICAO Council would continue to receive reports on the progress of the programme and any safety concerns that arise.

Taking into consideration the time required to prepare audit tools for the new technical fields as well as training courses for the auditors, the programme for 2004 would be limited to completing the audit follow-up missions and preparing for the launch of comprehensive audits in 2005.

The principle of universality will always be maintained; however, States would be audited on the basis of the level and complexity of their aviation activities, and not according to a "one size fits all" approach.

Effective and continued implementation of annex provisions is a mandatory obligation of all Contracting States, unless ICAO has been notified of the difference. Annex provisions are focused on

*continued on page 28*

Haile Belai is Chief of the Safety Oversight Audit Section in the Air Navigation Bureau at ICAO headquarters, Montreal.

## Safety oversight audits have inspired organizational changes in the U.K. system

*As the United Kingdom discovered through its experience with ICAO safety oversight audits, external reviews offer valuable lessons that can lead to a more effective safety oversight system.*

ROLAND ZILZ

CIVIL AVIATION AUTHORITY  
(UNITED KINGDOM)

WHEN a high-level team of experts from ICAO headquarters were invited to assess the safety oversight capability of the United Kingdom in April 1998, for many staff members of the Civil Aviation Authority (CAA) the visit was their first direct contact with ICAO. Five years later, having developed much closer working relationships with the organization, there is a greater understanding of the relevance and the purpose of ICAO. The catalyst for this was the ICAO Safety Oversight Programme and its successor, the ICAO Universal Safety Oversight Audit Programme (USOAP).

As experienced by the United Kingdom, States can learn valuable lessons as a result of external review by ICAO, leading in some cases to organizational changes that improve effectiveness.

### Safety Oversight Programme

The original ICAO Safety Oversight Programme established in 1995 had three main weaknesses: it was a voluntary process that was largely unstructured and was mostly confidential. These drawbacks were addressed by introduction of the universal and mandatory programme in 1999.

As one of the major aviation States urging ICAO to establish a safety oversight programme, the United Kingdom volunteered for the 1998 assessment because it wished to be seen as fully endorsing its aims. Moreover, although the United Kingdom considered itself to be highly experienced in providing aviation safety oversight, it did not consider itself perfect or beyond external scrutiny.

*Results of 1998 assessment.* As a result of the assessment of April 1998, ICAO found, overall, that the U.K. CAA "is an appropriately organized and funded organization... very effective and efficient for its purpose."

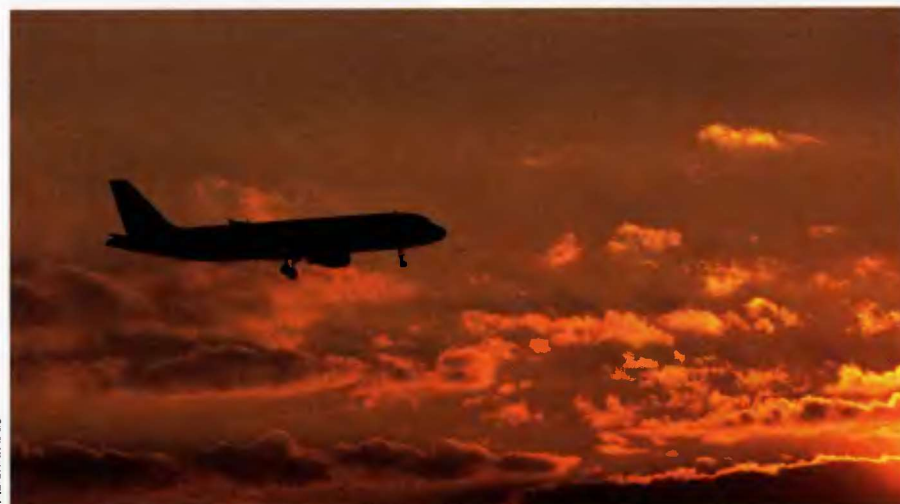
The report made a total of 28 recommendations, none questioning the CAA's safety performance. However, several of the recommendations, together with comments about procedural weaknesses in dealings with ICAO, underscored the value of having a specific post within the CAA with responsibility for ICAO relations. Establishing such a post was therefore made part of the United Kingdom's corrective action plan.

The terms of reference of the new post, known as Manager, International Technical Coordination or MITCO for short, also cover coordination of all of the CAA's international activity in the area of safety. Among other things, the new post is the focal point for ICAO matters in the CAA and is responsible for coordinating the U.K.'s implementation of ICAO safety standards. Its responsibilities include notifying ICAO of differences between U.K. regulations and international standards and recommended practices (SARPs).

One of the first tasks for MITCO was to manage the implementation of the United Kingdom's corrective action plan.

One major element of the action plan concerned differences between national regulations and ICAO SARPs. As many States have difficulty identifying differences with ICAO SARPs, it may be useful to recount the U.K.'s experience in this area.

In the three areas covered by the 1998 assessment — personnel licensing, aircraft operations and airworthiness of aircraft — the ICAO team discovered that several differences existed between the United Kingdom's national requirements and ICAO SARPs. Furthermore, ICAO had not been notified of the differences as required under the Chicago Convention,



EADS/Airbus

As a result of its experience with USOAP, the United Kingdom developed a SARPs compliance matrix. By having various operational departments complete the matrices, it was possible to provide ICAO with accurate notification of differences.



and no procedure had been put in place to regularly check compliance status.

Three separate ICAO recommendations called for the review of differences with the SARPs, eliminating the differences where possible and notifying ICAO when their elimination was not possible. The U.K. response to the three recommendations formed a small project in its own right, consisting of the following measures:

(1) *Establish a review process.* The CAA decided to use this opportunity to carry out a review of differences with all annexes to the Chicago Convention, and not merely those subject to the ICAO assessment.

(2) *List the differences.* The U.K. response called for the CAA to produce a complete list of current differences with all SARPs.

(3) *Notify ICAO of differences.* The U.K. response set a deadline of June 1999 for deciding which differences could be erased. ICAO would then be advised of differences that could not be eliminated in the short term; these differences would also be published in the U.K. *Aeronautical Information Publication (AIP)* as appropriate.

(4) *Implement continuous monitoring.* The final part of the response to the recommendations was a plan to design and implement a system for continuous review of new regulations in terms of ICAO annex compliance and consequent action.

The main review of differences with all ICAO annexes took place during 1999 and early 2000. At the time there were a variety of different areas of the CAA, including National Air Traffic Services (NATS), that considered themselves responsible for different annexes or parts of annexes.

Some surprising results arose when the CAA completed ICAO questionnaires in preparation for the first audit under USOAP. In some cases, new differences were identified and in others, existing differences of which ICAO had already been informed were shown to be incorrect. One benefit was the realization that the United Kingdom had, in some cases, no written requirements to demonstrate that it had implemented particular sections of ICAO annexes. As ICAO defines the lack of implementation of a standard in national



EADS/Airbus

**Audit findings related to U.K. overseas territories were wide ranging, with ICAO emphasizing that the U.K. was responsible for territorial compliance with SARPs regardless of the administrative arrangements in place.**

regulations as a difference in its own right, this revelation caused the CAA to review some of its regulatory requirements.

Having completed this pre-audit task and noted the benefits in terms of accurately identifying differences, the project team responsible for the corrective action plan decided to carry out a similar exercise with the other annexes. It then embarked on a massive project to create “compliance matrices” based on the ICAO pre-audit questionnaires for all the annexes for which the CAA was deemed responsible – 13 in all.

The matrices were sent electronically to technical experts in the policy and requirements sections of the various operational departments of the CAA that were made responsible for identifying U.K. compliance with a specific annex provision. The experts were also called on to identify the relevant U.K. documents — either legislation, a CAA publication or Joint Aviation Authorities (JAA) aviation requirement (JAR).

The experts were required to identify any differences between the U.K. requirement and the annex provision. Finally, they were invited to note reasons for the differences and indicate whether they had a plan for eradicating them.

This project proved very successful for most of the ICAO annexes under

consideration. As a result of completing the compliance matrices, the United Kingdom was able to notify ICAO of a series of differences with a great deal of confidence that these accurately represented the situation.

There are still some outstanding issues. For example, with respect to ICAO Annex 10, *Telecommunications*, it had long been U.K. “practice” to implement its provisions mainly without the need to turn them into U.K. requirements. However, with the privatization of NATS and future expansion of the USOAP into other safety-related areas, the CAA concluded that it would be timely to find some way to demonstrate compliance to an auditor through the implementation of provisions in the national requirements.

With Annex 10, the bulk of which is made up of detailed technical specifications, the CAA concluded that a simple reference to its contents within a broader U.K. requirements document should suffice where it is intended to comply in every respect with the annex provisions.

#### USOAP audit

An audit of the U.K. safety oversight system, the first under USOAP, was performed in July 2000. The safety oversight audit was much more structured than the earlier assessments, with detailed protocols

defining a common auditor question set. It also featured a new dimension: audit team visits to one or more of the United Kingdom's overseas territories. As a number of U.K. territories exist, it was agreed to include Bermuda and the Turks and Caicos Islands in the audit of the United Kingdom.

The first part of the audit consisted of meetings in the United Kingdom with various specialists from the CAA and visits to a sampling of companies representing the U.K. aviation industry. The ICAO audit team also met with government officials to discuss the constitutional and legal relationships with the overseas territories. The team then formed two groups for visits

to Bermuda and the Turks and Caicos Islands.

The ICAO audit concluded with a formal debriefing in the United Kingdom of CAA senior management, U.K. government officials and the directors of civil aviation of seven of the U.K. overseas territories. Separate findings and recommendations were made for the U.K. and the overseas territories.

Most of the recommendations aimed at the CAA were concerned with procedural improvements and better coordination between different departments. The only major finding concerned the lack of comprehensive provisions for international general aviation operations, a weakness that is being addressed in conjunction with JAA partners. As the audit also represented a follow-up to the earlier safety oversight assessment, the CAA was encouraged to continue efforts to determine compliance with respect to all ICAO annexes.

The audit findings concerning the overseas territories, by contrast, were more wide ranging. ICAO pointed out that regardless of the administrative arrangements in place in each territory, the United Kingdom remained "internationally responsible for aviation safety and regulation and for the operational oversight of aircraft registered in the territories." ICAO found that the United Kingdom did "not maintain a record of regulations or requirements in force in the various overseas territories and therefore cannot effectively oversee whether the territories are, in fact, in compliance with the basic legislation or with the ICAO annexes."

Overall, ICAO found that the United Kingdom had "not established an effective system for fulfilling its safety oversight obligations and responsibilities in its overseas territories."

### Corrective action plans

The findings made by the ICAO audit team resulted in a total of 13 recommendations concerning the CAA and 46 concerning the overseas territories. Two separate project teams were formed to address these recommendations and produce appropriate

corrective action plans. The first project team consisted of representatives of the affected technical areas in the CAA; the second was made up of representatives of the U.K. Government and of the overseas territories.

The recommendations aimed at the U.K. CAA were relatively straightforward, and therefore the corrective action plan was produced fairly rapidly. Those concerning the overseas territories, however, were framed in such a way that the U.K. Government was required to *ensure* the recommendations were reviewed and acted on by all overseas territories. In other words, although only two territories had been visited, ICAO's recommendations nonetheless applied to all overseas territories having relevant aviation activity.

Consequently, seven separate action plans were produced. In addition to the United Kingdom itself, action plans were developed for Anguilla and Montserrat, Bermuda, British Virgin Islands, Cayman Islands, Falkland Islands, and the Turks and Caicos Islands.

Since the ICAO audit report inferred that the findings in Bermuda and the Turks and Caicos could not be considered exhaustive, the U.K. Government decided that a comprehensive, permanent solution needed to be found. In addition to producing specific corrective actions, the Government commissioned a study by independent consultants to determine the most appropriate system for ensuring that it could meet its international obligations on a continuing basis.

The outcome of the study was the establishment of a subsidiary company of the CAA charged with the job of ensuring the United Kingdom's obligations to ICAO in respect of the overseas territories are met. The company has its own board, with two places reserved for representatives from the overseas territories.

From the point of view of the territories, this arrangement is advantageous because the company is not bound to follow the U.K. regulatory system provided

*continued on page 28*

Roland Zilz is the Manager of International Technical Coordination at the U.K. Civil Aviation Authority.

## WHY ARE ICAO AUDITS NECESSARY?

Since 1944, when the *Convention on International Civil Aviation* (also known as the Chicago Convention) was first drawn up, the worldwide system of mutual recognition of certificates, licences, etc. has been based on trust. It was taken on trust that a State was complying with the standards and recommended practices established by ICAO unless that State notified ICAO of those areas where it did not comply. In other words, unless a State filed "differences," it was assumed that it fully complied with the SARPs.

Over the years it has become less and less clear which States are complying with the SARPs and which are not. Each ICAO annex has a supplement (i.e. the white pages at the back) which features a list of States that have informed ICAO that they comply fully with the provisions of that particular annex. Also featured is a list of States that have notified ICAO that differences exist between their national regulations and the annex provisions, and a list showing those States from which no information has been received. This latter list covers by far the majority of Contracting States.

It has therefore become impossible for ICAO and its Contracting States to ascertain the level of compliance with the SARPs for a large number of States without performing safety oversight audits. This factor was one of the main reasons behind establishment of the Safety Oversight Programme and its successor, the Universal Safety Oversight Audit Programme.

## ICAO and FAA collaboration strengthens safety oversight initiatives worldwide

*Working closely with ICAO, the U.S. Federal Aviation Administration has developed valuable tools and training activities which assist States in addressing critical deficiencies in their safety oversight systems.*

**MIKE DANIEL**

FEDERAL AVIATION ADMINISTRATION  
(UNITED STATES)

THE safety oversight auditing role played by ICAO is invaluable in identifying critical problem areas and, of still greater importance, in helping to generate the political will to resolve identified safety oversight deficiencies. From the outset, the U.S. Federal Aviation Administration (FAA) has been an ardent supporter of ICAO's safety oversight initiatives.

U.S. support for the ICAO programme has been demonstrated in the form of funding contributions for programme expenses and the secondment of two safety inspectors to help staff the programme in its early days. With several years' experience in conducting a similar process under the aegis of the FAA Flight Standards International Aviation Safety Assessment (IASA) Programme, FAA experts also contributed to the development of ICAO audit procedures and documentation. The U.S. agency has also provided the services of seven safety inspectors who are trained to serve on ICAO safety oversight audit teams.

As with other civil aviation authorities, the FAA is keenly interested in the results of ICAO audits of safety oversight systems. The principle of transparency adopted by ICAO allows FAA to judge whether the safety oversight systems of States whose operators provide air services to the United States or that codeshare with U.S. partners comply with ICAO standards.

At present, more than 500 non-U.S. operators provide commercial air services to the United States. Under U.S. regulations,

specifically Federal Aviation Regulation (FAR) 129.11, FAA must determine whether the civil aviation authorities that issue air operator certificates to these operators are providing proper oversight.

The determination process occurs in the context of the FAA's IASA programme. Information from the ICAO Universal Safety Oversight Audit Programme (USOAP), when timely and available, is a key ingredient in the IASA decision-making process. Hence, close cooperation continues to be the hallmark of relations between ICAO's Safety Oversight Audit Section and the FAA Flight Standards Service, the key departments involved in compliance assessment activities in their respective spheres.

The FAA IASA Programme commenced in 1991. Like USOAP, it is focused on key oversight areas. The programme's goal is to assess the status of compliance with standards and recommended practices contained in certain technical annexes of the Chicago Convention, the constitution of ICAO. At present, its efforts encompass civil aviation authorities in 99 ICAO Contracting States whose operators provide, or intend to provide, air service to the United States. In line with U.S. congressionally mandated public disclosure requirements, determinations of compliance for the purposes of air travel must be available to the travelling public. This requirement is met by the FAA in the form of a summary which is available on the Internet (see <http://www2.faa.gov/avr/iasa/index.cfm>).

FAA has accumulated much experience with its IASA efforts since 1991, and its findings often parallel those of ICAO. Both the FAA and ICAO have found common

underlying reasons for non-compliant situations. There is often a lack of awareness among senior government decision-makers of their State's safety oversight obligations under the Chicago Convention. Moreover, where awareness does exist, there is sometimes a lack of political will to address known problems and deficiencies. This unawareness or unresponsiveness permits deficiencies to arise or persist in many or all of the eight critical elements of a safety oversight system identified in the *Safety Oversight Manual* (ICAO Document 9734), particularly in the areas of CAA structure, safety oversight functions and qualified technical personnel.

It was not long after commencing IASA that the FAA came to the conclusion that technical deficiencies typically fall into major categories. This list of deficiencies was almost identical to the deficiencies found by ICAO in a related project it completed in 1993. By 1994, following several years of experience with IASA, it had become clear to the FAA that a significant number of countries — indeed, most countries assessed — were not complying with the obligations they had assumed as signatories to the Chicago Convention. Such systemic deficiencies continue to exist in some countries. Typical of the shortcomings found are:

- inadequate and in some cases non-existent regulatory legislation;
- lack of advisory documentation;
- a shortage of experienced inspectorate personnel;
- lack of control on important airworthiness related items such as issuance and enforcement of airworthiness directives, minimum equipment lists, investigation of service difficulty reports, etc.;

- lack of adequate technical data;
- absence of air operator certification (AOC) systems;
- non-conformance to the requirements of the AOC system;
- lack or shortage of adequately trained flight operations inspectors, including a lack of appropriate type ratings;
- lack of updated company manuals for use by flight crew; and inadequate proficiency check procedures.

Today the FAA IASA and ICAO USOAP programmes have several technical similarities. Both use written procedures and call for participating personnel to meet specific technical requirements. In both cases there are specific training requirements as well as use of unique standardized protocols, checklists and report formats. The IASA assessment checklist was revised in the late 1990s to be in line with the USOAP audit protocols and to improve transparency and use of report information by FAA.

The IASA and USOAP reports have similarities and significant differences. The IASA programme report follows a specific format and, similar to its ICAO counterpart, contains a general introductory narrative. It reports on the status of compliance in each area observed by the assessment team. Unlike the USOAP report, however, the FAA team leader must also compose a descriptive report and provide a recommendation regarding compliance with international standards in each of the eight critical elements of safety oversight described in ICAO Document 9734.

FAA has focused considerable attention and resources on assisting other civil aviation authorities in their efforts to improve their safety oversight capabilities. To promote awareness of safety oversight obligations, the FAA teamed with two U.S. universities to develop a five-day summit programme for senior governmental executives. Known as the International Summit on Aviation Safety and Security, the programme



Jim Jorgenson

**The transparency of the USOAP process permits civil aviation administrations to determine whether foreign aircraft operators receive proper safety oversight.**

reaches the same audience as the ICAO *Safety Oversight Manual*, and has been conducted for ministers and directors general of civil aviation (DGCAs) from many States around the world. In fact, ICAO Document 9734 serves as the underlying foundation for the development of the seminar discussions and materials. Summit experience has shown that the ongoing programme is effective in heightening awareness of safety oversight and in developing strategies for resolving what can be difficult technical issues.

In an effort to support the efficient implementation of ICAO standards, the FAA has developed a model aviation regulatory document that can save considerable time and effort for States that have a need to develop such legal documents. The foundations for any effective system of safety oversight are adequate aviation law and related regulations.

The three-part document consists of model civil aviation law, aviation regulations and

a description of the standards to be implemented. The document is used by ICAO in conducting Trainair Programme courses for government safety inspectors, and will eventually be published as an ICAO document. A current version of this document may be found on the web at <http://www2.faa.gov/avr/iasa/calr.htm>.

The model civil aviation law includes sample regulations for a broad range of civil aviation activities including air traffic services, airports, security, accident investigation, aircraft certification, flight operations, maintenance organizations and aircrew qualifications and licensing. The model regulations address flight operations and continuing airworthiness of aircraft, and make extensive references to ICAO's international standards and the regulations of the FAA and the European Joint Aviation Authorities (JAA).

One of the most important of ICAO's eight critical elements is an adequate number of qualified technical personnel. In close collaboration with ICAO, the FAA has developed another good tool in this area, specifically, ICAO Trainair courses for government safety inspectors and airworthiness inspectors. The two courses include detailed technical guidance materials that are easy for inspectors to utilize, with minimal edits, in countries that have adopted a variation of the model law and regulation.

Along with the FAA training centre, these courses are available at ICAO-endorsed facilities in several other countries. FAA is continuing this training initiative by developing additional safety inspector courses in areas such as continuing oversight or surveillance, the resolution of safety issues, and personnel licensing.

The FAA remains a committed partner with ICAO in helping to raise the safety

*continued on page 28*

Mike Daniel is the Manager of the Flight Standards Service International Programmes and Policy Office at the U.S. Federal Aviation Administration. He is based at the FAA headquarters, in Washington, D.C.

## New regional body has enhanced the safety oversight capability of its member States

*In establishing and managing a safety oversight system through a regional entity, Central America has demonstrated the practicality of the team approach to solving safety oversight problems that cannot be addressed adequately by one country alone.*

MIGUEL RAMOS  
(COSTA RICA)

**A**N airline which has just been audited — whether by a civil aviation authority (CAA), insurance company or an air carrier interested in establishing a joint venture — is naturally inclined to act on any safety-related issues identified. It is all but certain the airline's chief executive officer will somehow find the funding and expertise needed to remedy deficiencies, at least if there is any concern about insurance premiums, the need to continue flying competitively or, more critically still, the desire to retain the air operator certificate (AOC).

Conversely, when a civil aviation authority is subjected to an audit of its safety oversight system the scenario may play out differently. Imagine, for example, that a CAA has developed a comprehensive action plan to correct deficiencies identified by an ICAO safety oversight audit. It has found strong political support, and amendments to the national aviation law provide legal support for the regulations and technical guidance recently adopted by the State. Training courses are in the process of development when the big question rings like a cathedral bell: How will the CAA retain the personnel it proposes to train at great expense as long as the private sector offers better wages and benefits?

This issue of finding and keeping qualified technical personnel has been a nightmare for many civil aviation administrations around the globe, essentially because this is not only a budgetary problem, but an institutional one. Unless the

aviation authority is completely autonomous with absolute budgetary control over recruitment, in many States the public civil service regime will have established certain limits for salaries for government positions, including those involving air transport.

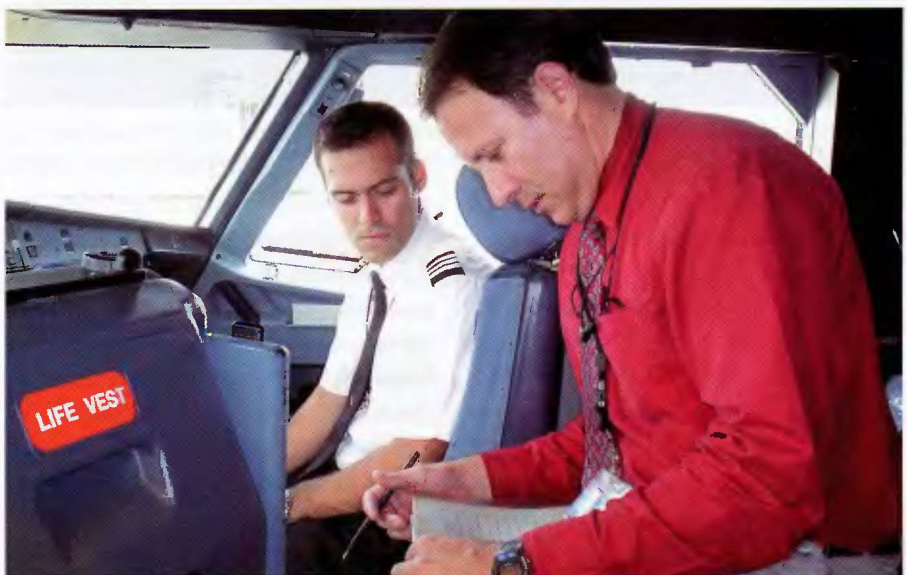
The CAA has the option of hiring staff on a low salary scale, of course, but the freshly trained inspectors will no doubt leave for more attractive industry positions. Staff turnover will be a problem, and considering the cost of training, financial resources will have been wasted. Another option is to hire temporary experts at great expense, but supervision of the industry is a constant process as well as a permanent responsibility. Neither of these options produce good results in the long term.

How can inspectors be retained where the national system is not ready to adjust

salary scales in competition with private sector salaries? The only answer found so far is to share these valuable human resources with other entities facing similar limitations.

This was the picture not long ago in Costa Rica, following a safety oversight audit performed by an ICAO team under the Universal Safety Oversight Audit Programme (USOAP). Good political support enabled Costa Rica to amend its civil aviation law, develop a new regulatory framework, and update several legal instruments. As for employing qualified personnel, the CAA was in a bind because the civil service regime undermined recruitment efforts.

Recommendations on the recruitment of personnel emanate from the *Safety Oversight Manual* (ICAO Document 9734), which is very clear on the subject. "To effectively fulfil its responsibilities, the



By August 2003, ACSA had completed more than 170 inspections involving aircraft operations, crew training and airworthiness of aircraft. Delegation of authority is essential when inspections are performed by a regional entity.

CAA's flight safety standards department must be properly organized and staffed with qualified personnel capable of accomplishing the required wide range of technical duties and inspection activities. Furthermore, they should also enjoy conditions of service and remuneration consistent with their education, technical knowledge and experience and comparable to those personnel of the operator whose activities they will inspect and supervise."

In Costa Rica's case, the solution to the recruitment problem involved setting up a regional safety oversight organization in partnership with neighbouring States that faced a similar staffing predicament.

The possibility of joining forces first arose at a meeting of directors general of civil aviation (DGCAs) at the ICAO regional office in Mexico City in 2000.



ACSA staff are currently housed at an ATS facility in Costa Rica. Since its creation, the regional entity has promoted the growth of an aviation safety culture in Central America.

While the proposal to share the expense of a regional safety oversight body was well received from the beginning, there soon followed more questions than answers. What kind of entity would allow these activities to be carried out on behalf of member States? Where could the new entity find suitable personnel? Under what regulatory framework would the inspectors work? How could a country delegate authority to a foreign inspector, and what would be the role of the CAA in all of this? The deeper the concept was explored, the

more questions of a legal, technical and financial nature emerged.

It was decided that the only type of institution that could work would be an independent agency supported by the Central American States. This institutional concept had been cited in the initial USOAP report on Costa Rica in 2000. Needless to say, this endorsement was persuasive when civil aviation authorities sought political support.

After brief research revealed the extent of commonality in the aviation sector in the region, the dark clouds over the question of legal recognition of the proposed entity started to dissipate. The answer lay in the constitution of the Central American Corporation of Air Navigation Services (COCESNA), a well-known institution recognized throughout the region. The International Constitutive Treaty of

COCESNA had been ratified by six member States and therefore provided a legal foundation for creating the new regional agency, and a means for addressing issues such as the delegation of authority required for conducting inspections.\*

In time, the participating States concluded that the agency should be a permanent part of COCESNA, since safety oversight is a constant activity to be performed throughout the region served by the corporation. And, as part of the regular activities of the corporation, COCESNA management

was directed to provide the initial funding to kick-start operations. In this way, the Central American Agency for Aviation Safety (ACSA) was born.

*Starting operations.* Having formed a new organization, there were still issues to deal with, among them logistics and the selection of qualified personnel.

Costa Rica allocated space in its air traffic services (ATS) building to house the new agency, and the process of hiring inspectors commenced. With a proper initial budget, the agency had no serious difficulty attracting good technical experts from different Central American States, including some experts from the industry itself, a situation unknown before.

Before proceeding with training of the inspectors, it was necessary to ascertain which regulations would serve as the basis of their work, because an inspector could not be expected to learn six or seven sets of national regulations and associated technical material. This represented the second big step for the fledgling agency: the harmonization of regulations in the entire region was essential. Without this harmonization, it would probably be impossible to conduct a joint venture such as ACSA.

Since new Costa Rican regulations had just been reviewed by the ICAO audit team with favourable comments, they were chosen as the starting point for regional harmonization. The harmonization effort has until now been pursued by the agency in coordination with the member States, so that the regulations are applied uniformly. The new Central American regulations apply to all of the Central American States.

With harmonization proceeding, highly qualified technical personnel in the midst of training, and a basic but reliable surveillance plan in place, it was not difficult to find strong support from the international community for training activities and funding to supplement the initial budget furnished by COCESNA.

*Optimization of resources.* Resource sharing was one of the main motives for creating ACSA. To illustrate the flexible arrangements in place, a flight inspector

could, for example, perform a crew check while en route to El Salvador from Costa Rica on one airline, then perform the same task on a flight on a different regional operator to Miami. The next day the inspector could observe an upgrade check ride at an approved simulator facility and that afternoon perform a crew check during the return flight to Guatemala. The cycle of inspections would end with another crew check during a flight from Guatemala to Costa Rica. In summary, the inspector performs four or five inspections concerning three different air carriers and a training facility in just 24 hours, a workload that would be extremely difficult to accomplish without the flexibility to perform inspections on operators from different States.

From the time it became active in November 2000 until August 2003, ASCA completed more than 170 inspections involving operations, crew training and airworthiness among major operators, maintenance facilities and training centres in the Central American region. It is anticipated that by the end of next year as many as 80 more inspections will have been carried out in these fields.

*Delegation of inspection.* The various inspections required by the safety oversight surveillance plan should be conducted by technical personnel who are responsible for overseeing specific areas of concern such as personnel licensing, aircraft operations and airworthiness of aircraft. Through a delegation of authority, all ASCA technical personnel are permitted by each civil aviation authority to have unhindered access for inspecting aircraft and facilities on behalf of the State in which the operator is based.

A report is sent to each individual State that is responsible for safety oversight of the AOC holder or the training or maintenance facility in question. Therefore, the ultimate responsibility for resolving deficiencies identified by inspections remains with the particular State, as well as the eventual enforcement action when this is called for by a series of inspections.

*More than inspections.* In addition to addressing the problem of retaining



**ACSA currently employs 12 qualified inspectors from different countries in the region, each with extensive experience in a particular area.**

qualified personnel, ASCA was designed to assist its member States in their preparations for, and participation in, ICAO safety oversight audits and audit follow-up missions. It supports its member States in the development and implementation of corrective action plans that address the critical elements identified in ICAO audit reports. A recent progress report issued by USOAP mentions that the support given by ASCA has significantly enhanced the safety oversight capability of the States. That report also indicates that an analysis of audit findings of three ASCA member States in which follow-up missions have been completed shows that the lack of effective implementation of the critical safety elements had declined from an average of 35 percent to a little over 3 percent, on average.

ACSA's institutional structure comprises six main units reporting directly to a director general. The units focus on quality management; legal matters; the safety management system; administration; financial; and technical areas (this last unit has subdivisions for operations and cabin crew, airworthiness and engineering, and licensing and regulations). ASCA currently employs 12 highly qualified inspectors from different countries in the region, each one with vast experience in a specific area.

ACSA is now fully equipped with front-

line technology, and with the help of COCESNA, established a communications network with each civil aviation authority in the region. This intranet allows secure transfer of information between the civil aviation authorities and ASCA. Databank automation and integration encompasses regulatory, inspection and certification information.

With only three years of experience in the region, COCESNA/ACSA has nonetheless helped all member States to accomplish a great deal in preparing for USOAP audits and other safety-related activities. It has also been able to provide some States with basic resources and with expert review of their aviation law and organizational structure. It has made various manuals available to States, specifically operations and airworthiness inspector manuals, a certification procedures manual, and a procedures and policies manual. This support has facilitated training and certification of technical personnel employed by each CAA. Indeed, the new training course developed by ASCA has been adopted by all member States.

*continued on page 29*

\*The current COCESNA member States are Belize, Costa Rica, El Salvador, Guatemala, Honduras, and Nicaragua.

Miguel Ramos is the Representative of Costa Rica on the Council of ICAO. The governing body of the organization, the ICAO Council is comprised of representatives from 36 Contracting States.

**You** influence,  
implement change,  
set the standards.

**We** get you there.



[www.iata.org/atdi/calendar](http://www.iata.org/atdi/calendar)

While **you** focus on enhancing the air transportation system, **we** focus on you. Through airport and civil aviation management training on key topics like security, ANS management, airport operations, aviation facilitation, and air service development, we provide you with the knowledge and tools to help you and your organisation move forward.

**Plan now for 2004** and choose from a range of classroom courses addressing the most timely topics of concern to our industry.

Make the most of IATA's training expertise, for you and for your organisation.



**IATA** AVIATION TRAINING AND DEVELOPMENT INSTITUTE

**Knowledge • Experience • Networking • Skills • Results**



# 2004 Classroom Courses

|                                  | Course Title  | Dates                    | Location  |
|----------------------------------|---|--------------------------|-----------|
| <b>CIVIL AVIATION</b>            | Air Operator Certification Process                  | 20-24 September          | Geneva    |
|                                  | Air Transportation and the Environment              | 12-16 July               | Geneva    |
|                                  | Aviation Law for Managers                           | 2-6 February             | Geneva    |
|                                  | Aviation Law for Managers                           | 19-23 April              | Miami     |
|                                  | Aviation Law for Managers                           | 26-30 July               | Montreal  |
|                                  | Aviation Law for Managers                           | 22-26 November           | Singapore |
|                                  | Aviation Medicine                                   | 23-27 August             | Montreal  |
|                                  | GNSS Operations Implementation                      | 10-14 May                | Montreal  |
|                                  | Implementing Safety Management Systems              | 29 March - 2 April       | Miami     |
|                                  | Implementing Safety Management Systems              | 31 May - 4 June          | Montreal  |
|                                  | Implementing Safety Management Systems              | 18-22 October            | Singapore |
|                                  | Integrated Management Systems                       | 19-23 July               | Singapore |
|                                  | Introduction to Air Transportation Management       | 6-10 September           | Singapore |
|                                  | Management of Accident Investigation and Prevention | 7-11 June                | Geneva    |
|                                  | Management of Air Navigation Systems                | 19-30 April              | Singapore |
|                                  | Management of Air Navigation Systems                | 27 September - 8 October | Montreal  |
|                                  | Management of Aviation Facilitation                 | 30 August - 3 September  | Montreal  |
|                                  | Management of Training in Aviation                  | 21-25 June               | Singapore |
|                                  | Managing the Safety Oversight Function              | 8-12 March               | Singapore |
|                                  | Quality Management Systems for ANS                  | 29 November - 3 December | Miami     |
| Senior Civil Aviation Management | 5-16 July   | Montreal                 |           |
| Senior Civil Aviation Management | 4-15 October  | Geneva                   |           |
| Team Resource Management         | 13-17 September                                     | Singapore                |           |

|                 |                                      |                         |           |
|-----------------|--------------------------------------|-------------------------|-----------|
| <b>AIRPORTS</b> | Air Service Development              | 7-11 June               | Montreal  |
|                 | Airport Advanced Business Management | 9-13 August             | Montreal  |
|                 | Airport Certification                | 9-13 February           | Singapore |
|                 | Airport Certification                | 26-30 April             | Geneva    |
|                 | Airport Certification                | 12-16 July              | Montreal  |
|                 | Airport Commercial Management        | 15-26 March             | Miami     |
|                 | Airport Commercial Management        | 10-21 May               | Montreal  |
|                 | Airport Financial Management         | 16-20 August            | Montreal  |
|                 | Airport Ground Handling Operations   | 16-27 February          | Geneva    |
|                 | Airport Information Management       | 21-25 June              | Miami     |
|                 | Airport Law and Legal Affairs        | 1-5 November            | Singapore |
|                 | Airport Marketing                    | 25-29 October           | Miami     |
|                 | Airport Operations                   | 24 May-4 June           | Montreal  |
|                 | Airport Planning                     | 13-17 September         | Montreal  |
|                 | Airport Strategic Management         | 19-30 July              | Montreal  |
|                 | Airport Strategic Management         | 29 November-10 December | Singapore |

|  |  |                          |           |
|--|--|--------------------------|-----------|
| <b>SECURITY</b>                              | Airport Security Operations                  | 7-11 June                | Singapore |
|  | Airport Security Operations                  | 27 September - 1 October | Montreal  |
|  | Aviation Security Trainer                    | 19-30 April              | Singapore |
|  | Aviation Security Trainer                    | 2-13 August              | Montreal  |
|  | Fundamentals of Civil Aviation Security      | 19-23 April              | Montreal  |
|  | Fundamentals of Civil Aviation Security      | 6-10 September           | Geneva    |
|  | Management of Aviation Security              | 5-16 July                | Montreal  |
|  | Management of Aviation Security              | 25 October - 5 November  | Geneva    |
|  | Senior Management of Civil Aviation Security | 24-28 May                | Miami     |
| Senior Management of Civil Aviation Security | 16-20 August                                 | Miami                    |           |

## For more information, contact us!

IATA Aviation Training and Development Institute

### Montreal

Tel.: +1 (514) 390 6777

Fax: +1 (514) 874 9043

TTY: YMQHMXB

E-mail: atdi.ymq@iata.org

### Geneva

Tel.: +41 (22) 770 2582

Fax: +41 (22) 770 2681

TTY: GVADAXB

E-mail: atdi.gva@iata.org

### Miami

Tel.: +1 (305) 264 4255

Fax: +1 (305) 262 2654

TTY: MIADTXB

E-mail: atdi.mia@iata.org

### Singapore

Tel.: +65 6239 7251

Fax: +65 6536 2620

TTY: SINDTXB

E-mail: atdi.sin@iata.org

Register online at [www.iataonline.com](http://www.iataonline.com)

[www.iata.org/atdi](http://www.iata.org/atdi)

## Strong case can be made for developing a range of USOAP missions

*Creating variations of the current USOAP process could be advantageous to States, considering their differing levels of resources, performance, and safety oversight system complexity.*

**JOHN GRATTON**

CIVIL AVIATION SAFETY AUTHORITY  
(AUSTRALIA)

By any measure, the ICAO Universal Safety Oversight Audit Programme (USOAP) launched in 1999 must be considered a success story for ICAO, and therefore for its member States. USOAP has evolved into a major part of ICAO's work programme over a remarkably short period of time.

Importantly, USOAP has also become a strong consideration in the setting of national aviation priorities, and has thus provided a stimulus for increased standards of legislation and adherence by States to ICAO standards and recommended practices (SARPs). The USOAP has already provided

ICAO with a comprehensive overview of the legislative and organizational issues of its member States, as well as their level of adherence to the SARPs contained in certain annexes to the Chicago Convention.

The decision by the ICAO Assembly of 2001 to extend USOAP's focus to six annexes from the current three was a sign of the mature vision of ICAO member States. The willingness to not only continue but even expand a system of audits which provides data, both positive and negative, on the safety oversight systems of all States is laudable and should not be undervalued.

However, given the limited resources available to the programme and the need for their most effective use, how should the programme evolve from here? More precisely, what is the best way of using the limited resources available to provide the best safety outcome?

The audits conducted to date have provided a wealth of data and information on five fundamental areas including a State's primary aviation legislation, its resources to meet international responsibilities, and its adherence to three ICAO annexes concerning personnel licensing, aircraft operations and the airworthiness of aircraft. The programme has unveiled a great variation in the ability of States to meet their responsibilities, even in part.

For many States — indeed, the majority of States — this is not a question of unwillingness. Rather, it is an inability caused by limited funding and technical resources and competition with other government priorities.

There are some States that have not yet been able to achieve even the basic requirement of passing national

legislation enabling effective control and supervision of civil aviation activities.

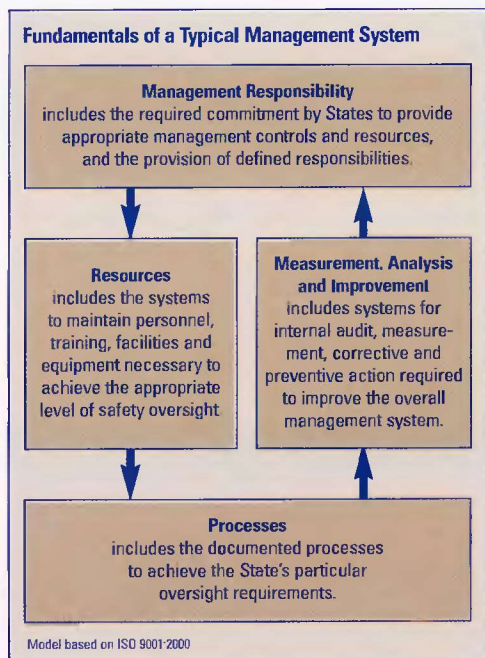
The need for States to prepare corrective action plans and receive subsequent audit follow-ups, a cycle that has yet to be completed for the first time, has nonetheless provided ICAO with a good overview of the ability of individual States to address issues of concern.

A key to achieving success so far has been the concept of universality, a requirement that has led, in effect, to all States being treated in an equal manner for auditing purposes. Interestingly, the resolution adopted by the ICAO Assembly indicates that the programme should apply to all States, but it is not specific on the need for it to apply *equally* to all States.

Although there is a requirement for the universal application of USOAP, there is also a strong case to be made for considering the advantages of a flexible approach to the programme's application — one that would be decided on a State-by-State basis.

There are many permutations of auditing and assistance available to consider for the future programme without changing USOAP's fundamental philosophy. For example, it is clear that there is limited value in using scarce ICAO resources to audit adherence of a State to additional Chicago Convention annexes — specifically those concerned with aerodromes, air traffic services and accident and incident investigation — where the State has previously been shown to have little ability to implement primary aviation legislation and adhere to the annexes covered by the existing audit programme.

Furthermore, such a State would need to allocate its own scarce resources to prepare for the audit, perhaps diverting them away from tasks that may contribute more



**For a system audit approach to be effective, it must be based on a sound model such as the management system concept above.**

directly to aviation safety. In the circumstances, such a State may be better served by an assistance mission rather than an audit. Such an approach would still meet the general objective that we all aspire to reach: increasing aviation safety globally.

In comparison with an audit that would largely only provide confirming data, an implementation assistance mission could provide the State with substantial and invaluable guidance on acceptable methods of overcoming previously identified deficiencies. Such advice and assistance could be applied not only to primary aviation legislation and national organization and structure, but to requirements for adherence with ICAO SARPs. Importantly, it is likely that such a mission could still address the entire range of annexes covered by the audit programme even after it is expanded.

A tailored assistance mission would be most beneficial to the many States that currently struggle with a lack of technical expert-

ise and resources to fully implement their action plans. Again, in many cases, it is not a lack of will but a lack of the necessary ability and resources — both technical and financial.

More developed States, too, might benefit from a different approach than that used at present.

The current USOAP process could be termed prescriptive in that the result is an understanding of the level to which a certain set of criteria has been met. When knowledge of compliance and related activities is not comprehensive, this type of auditing does not give a clear picture of the level of overall safety that the system provides. When it involves a highly complex safety oversight system, it provides no impetus for continual improvement.

A more appropriate audit style for those States with highly complex aviation industries and safety oversight mechanisms could be a system audit approach. A system audit looks at the total system



Jim Jorgenson

**Although USOAP has been highly successful to date, safety could benefit even more if the programme provided a range of audit and assistance missions without changing the fundamental USOAP philosophy.**

from a process perspective. The audit is performed using an accepted system model as the benchmark. It can establish a picture of the overall health of the safety system and focus attention on high risk areas or areas of poor performance in a relatively short period. The audit can assess whether the system conforms to the accepted model and whether it has been appropriately implemented and maintained.

For the system audit approach to be effective, it must be based on a sound model or set of requirements. Such a model could introduce the concept of a management system comprising four components: management responsibility; resources; processes; and measurement, analysis and improvement (see accompanying figure). The model needs to be documented succinctly so it can form the requirements against which a safety system can be audited.

Given the diversity of systems in place

across various States, such a model would require critical definition of concepts rather than prescriptive statements indicating that there is only one form of correct system. In fact, many variations within the general four-component scheme could be accommodated within this system safety approach to auditing.

Establishing a model and State-based system that addresses the four stages in a systematic manner provides a framework for risk management. It establishes a basis for continual improvement, whether the organization's management is still developing or is already highly mature and comprehensive. The four components of the system can be expanded into a series of elements, and guidance material on these elements would be relatively straightforward.

Auditing of the State's system and processes using a safety systems approach is undertaken at a high level and provides definitive data on the effectiveness of the safety system in place. At the risk

of sounding simplistic, if all of the elements from the model are addressed appropriately, it follows that the system will be sound. Conversely, if these elements are not addressed, this style of auditing will highlight the deficiencies and provide guidance for areas requiring rectification or additional coverage.

The great success of USOAP has placed ICAO in the situation of now holding vast quantities of safety-related data on virtually all member States, and having a finite period for which these data could be considered current. States now also have the ability, through the summary audit reports produced by ICAO, to review the results of audits of other

*continued on page 29*

John Gratton is the Manager of International Relations for the Civil Aviation Safety Authority of Australia.

This article draws on concepts which were first presented in a working paper to the 33<sup>rd</sup> ICAO Assembly of September/October 2001. The document (Working Paper A33-WP/163, "ICAO's Universal Safety Oversight Audit Programme: Towards a Systems Approach") is available at the ICAO website ([www.icao.int](http://www.icao.int)).

## European inspection programme targets aircraft during airport turnarounds

*A European initiative to perform ramp checks of aircraft arriving from other countries focuses on compliance with ICAO requirements and goes hand-in-hand with ICAO audits of safety oversight systems in European countries.*

**MICHEL WACHENHEIM**

EUROPEAN CIVIL AVIATION CONFERENCE

**R**APID changes in the field of aviation — among them the growth of charter flights, emergence of low-cost operators and use of dry leasing arrangements, together with a significant increase in air traffic over the long term — have made it more burdensome for many States to oversee compliance of airlines with the standards of the Chicago Convention. To maintain confidence in the safety oversight system, ICAO carries out regular, transparent and mandatory audits of safety oversight systems, and distributes the main audit conclusions to its Contracting States.

The European Civil Aviation Conference (ECAC), a regional body having 41 member

States,\* has recently developed an inspection programme of its own that complements ICAO safety oversight audits in Europe by concentrating on checks of aircraft during stops at European airports.

The principle behind the Safety Assessment of Foreign Aircraft (SAFA) Programme is simple: in each ECAC member State, aircraft arriving from another country, including other ECAC member countries, are subject to ramp inspections chiefly concerned with the aircraft's documents and crew, the apparent condition of the aircraft and the carriage of mandatory cabin equipment. The ramp inspections are intended to identify non-compliance with ICAO requirements set out in the annexes to the Chicago Convention, specifically the provisions concerned with personnel licensing (Annex 1), the operation of aircraft

(Annex 6) and airworthiness of aircraft (Annex 8).

Inspections are conducted according to common procedures and the results described using a common reporting format. This commonality is an essential prerequisite to analysis that determines whether action should be taken against an individual operator. Commonality is promoted through training sessions for inspectors that familiarize them with SAFA inspection and reporting procedures, and thus minimize the potential for variations in their interpretation and implementation.

In addition to considering the number of findings, inspectors categorize the findings according to their seriousness. A Category 1 finding is a minor one which indicates that the safe operation of the aircraft is not affected. Category 2 findings concern deficiencies that have a limited effect on the safe operation of the aircraft. In Category 3, major findings that concern the safe operation of the aircraft are listed. Follow-up action is defined on the basis of the category of finding.

In the case of major or significant findings, the operator and the appropriate oversight authority are contacted about the corrective measures to be taken, not only for the aircraft that was inspected, but possibly others when the finding is of a generic nature. For instance, a finding may be linked to a type of aircraft or to an operator's practice, and therefore may apply to an entire fleet.

All reports and their data are kept in a central computerized database set up by the Joint Aviation Authorities (JAA), the European regulatory body associated with ECAC. The database also holds



During 2002, ECAC member States performed approximately 3,200 inspections involving 532 different operators from 115 countries. One feature of the SAFA Programme is an annual report describing the trends reflected by the findings.

supplementary information such as a list of actions carried out following an inspection. The information on the database is reviewed by the JAA on a regular basis to identify areas of concern.

At present the database contains more than 17,000 reports which can be accessed on-line by ECAC member States and ICAO headquarters through a secured intranet. However, to promote transparency while respecting the need for confidentiality, ECAC publishes an annual report describing programme developments and providing an overview of the inspections carried out and the trends indicated by the findings.

The oversight authorities of ECAC member States choose which aircraft to inspect. Some authorities carry out random inspections, while others try to target aircraft or airlines that they suspect do not comply with ICAO standards.

Depending on the volume of international flights and the availability of inspectors in each ECAC member State, the number of inspections may vary from a relatively few to several hundred each year. The aircraft checks may include:

- pilot licences;
- written procedures and manuals that should be carried in the cockpit;
- compliance with procedures by flight and cabin crew;
- safety equipment in cockpit and cabin;
- cargo carried in the aircraft; and
- the apparent condition of the aircraft.

A checklist of 54 inspection items is used during a ramp check. When the turn-around time is not sufficient to go through the full checklist, only selected items are inspected. It is SAFA's policy not to delay an aircraft, except for safety reasons.

During 2002, inspectors from 25 ECAC States performed approximately 3,200 inspections involving 532 different operators from 115 countries and 170 different types of aircraft. According to the database, over the past five years an average of one finding was made during each inspection, and every 100 items inspected resulted in three findings.

When breaking down the ratio of findings



**While valuable, ramp inspections cannot provide the full picture about the safety of a particular aircraft or operator. This can only be achieved through continuous oversight by the responsible aviation authority.**

by category, 46 percent fall under Category 1, 40 percent under Category 2 and 13 percent under Category 3. In other words, every 10 inspections lead to one significant finding about an item that might affect aircraft safety, a rate that has been more or less stable over the past few years. At the same time, there has been a downward trend in the Category 1 and 2 findings. An outlook by ICAO regions indicates that operators from States belonging to the Asia-Pacific, European and South American regions have fewer findings per inspection than average.

More than 60 inspectors from ECAC member States attended SAFA training courses in 2002. Since the start of the training programme, 260 inspectors from 34 ECAC States have participated in the courses.

In addition to the more theoretical approach of training, ECAC has initiated a programme to enhance on-the-job experience through exchange visits between inspectors of different countries. The participation in the day-to-day operation of a ramp inspection scheme in another country increases practical knowledge and skills. A side benefit is the potential for such arrangements to advance uniform application of SAFA inspection and reporting procedures. In 2002, inspectors from two ECAC States participated in

exchange visits.

From the outset, SAFA has been linked to the ICAO Universal Safety Oversight Audit Programme (USOAP) through the signing of a memorandum of understanding between ICAO and ECAC in November 1997. The agreement calls for mutual support and cooperation. Similarly, the European Union supports the programme through funding made available to JAA by the European Commission.

This cooperative approach is being extended to civil aviation administrations in Canada, the United States and the Russian Federation by means of data sharing or familiarization visits by inspectors.

Experience with SAFA inspections over the last few years shows that the process provides a valuable overall indication of the safety of foreign operators. Understandably, such inspections cannot provide the full picture about the safety of

*continued on page 30*

\*The member States of ECAC are: Albania, Armenia, Austria, Azerbaijan, Belgium, Bosnia-Herzegovina, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Moldova, Monaco, the Netherlands, Norway, Poland, Portugal, Romania, Serbia and Montenegro, Slovakia, Slovenia, Spain, Sweden, Switzerland, The former Yugoslav Republic of Macedonia, Turkey, Ukraine, and the United Kingdom.

Michel Wachenheim is the Director General of Civil Aviation (DGCA) of France and the European Civil Aviation Conference (ECAC) focal point for safety matters.

## Airlines to undergo initial IATA operational safety audit by 2006

*An industry programme for performing operational safety audits of IATA member airlines was launched in September 2003. Inspired by ICAO's safety oversight activities, IATA set up the programme to improve airline safety while reducing the cost of audits for its members.*

### INTERNATIONAL AIR TRANSPORT ASSOCIATION

**A**VIATION history was made in late September 2003 as a team of auditors accredited by the International Air Transport Association (IATA) carried out the first IATA operational safety audit. The audit of Qatar Airways commences an ambitious plan involving all 275 IATA member airlines in the coming years. The programme is off to a good start, with four more airlines having been audited by the end of November 2003.

Even as recently as 2000, the concept of a global, harmonized and consistent programme for the operational safety auditing of airlines seemed like an unattainable goal. It had never been attempted on such a scale. But, taking a leaf from the ICAO book with respect to safety oversight, IATA began development of the IATA Operational Safety Audit (IOSA) Programme in 2001.

The aim was simple: standardize, harmonize and rationalize the growing number of often redundant airline audits, thereby improving operational safety while saving airlines money. With more and more airlines undertaking audits of other carriers, either to meet regulatory requirements or for their own commercial interests, the attractiveness of a common auditing standard has become very great indeed.

Some airlines today undertake a dozen audits annually, and are themselves audited many times. There are no common audit standards or consistent auditor training or sharing of

results. Just imagine if every airline could be audited to a common agreed standard and did not need to be audited again during a specified period. Once a good number of airlines were so audited, the number of audits being undertaken would be vastly reduced. Therein lies the heart of IOSA.

IOSA is an internationally accepted and recognized evaluation system designed to assess the operational management and control systems of an airline. It uses internationally recognized quality audit principles and is designed so that audits are conducted in a standardized and consistent manner.

At the outset of the project, some fundamental decisions were taken by IATA. It was decided the programme would require:

- development of a common set of IOSA standards covering all aspects of an airline's operations that contribute to operational safety;
- involvement of ICAO and key regulatory authorities in the development of standards and in the programme generally;
- appointment of audit organizations meeting closely defined criteria to carry out audits on IATA's behalf;
- strict training criteria to be applied to any IOSA auditor; and
- a declaration of the full support of the IATA membership prior to the official programme launch.

### Standards manual

The *IOSA Standards Manual* (ISM) is the source document for IOSA standards and recommended practices and associated guidance material. The checklists used by the auditors on-site are drawn directly from the standards contained in the manual. More particularly, the ISM provides all of the information necessary for an airline to structure its operations in preparation for an audit.

Over 100 industry specialists drawn from airlines, ICAO, regulatory and other government authorities assisted IATA in the development of the IOSA standards. The manual provides operational standards for an airline in several areas: corporate organization and management, flight operations, operational control and flight dispatch, aircraft engineering and maintenance, cabin operations, aircraft ground handling, cargo operations, and operational security.

The first edition of the ISM, which



**IATA Director General Giovanni Bisignani presents a copy of the *IOSA Standards Manual*, the source document for IOSA standards, recommended practices and guidance material, to FAA Administrator Marion Blakey. The first edition of the manual was published by IATA in April 2003.**

is subject to periodic revision, was published by IATA in April 2003. The initial audits have shown that some of the audit standards need further clarification, and these improvements will be made in future editions. Also, existing IATA committees and working groups with specific responsibilities in the areas of the IOSA standards now have oversight of these standards and may themselves identify necessary changes, either as a result of their own expert perspective or because of external changes (e.g. regulatory revisions) of which they become aware.

### Audit organizations

The appointment of any organization to undertake IOSA audits is not taken lightly. A comprehensive – and consistent – examination of the capabilities of each candidate company is undertaken. Technical, legal, financial and other issues are examined with the aim of ensuring that all audit organizations meet very high standards.

In keeping with its management role, IATA retains the right to observe any IOSA audit. In particular, it is mandatory to observe the first audit of an audit organization. A typical IOSA audit would involve six auditors on site for a period of five days.

Audit organizations must employ only auditors that have met stringent IOSA qualification and training standards. Auditor training is conducted by organizations that have been endorsed by IOSA. At present, only Aviation Quality Services (AQS) GmbH is qualified to train IOSA auditors, but other training establishments may be appointed should the need arise.

The five-day training course for IOSA auditors is basically differences training; that is, the training course takes experienced aviation auditors and brings them up to the level of the IOSA audit standards.

The audits carried out under IOSA are not performed for free. Each airline must make arrangements with an audit organization to provide the service. IATA's com-

mitment to its membership is to provide a range of audit organizations with both regional and global coverage. Each airline is then able to choose the organization it

lated into a resolution at IATA's 2003 annual general meeting committing the existing members to seek an IOSA audit by the beginning of 2006. While the timetable is



The Boeing Co.

wants, based on whatever financial and other criteria the airline establishes.

As of early November, IATA had appointed three audit organizations – AQS GmbH, of Germany, United Airlines (United States), and Aviation Compliance Solutions Pty Ltd. (Australia). Several more companies are well along the accreditation process, with several others expressing interest.

An audit company's decision about whether to become an IOSA audit organization is based on many factors including an estimate of the market share, the cost of establishing an organizational structure, and the cost of insurance coverage that will meet the IOSA requirements. IATA anticipates that up to 10 organizations may be required to service the needs of auditing its 275 member airlines on a two-year cycle.

### 2006 milestone

Throughout the development phase of IOSA, consistent and positive guidance and support was provided by the IATA Board of Governors. That support trans-

subject to annual review by the IATA Board, fundamentally it means that the current members must have completed their first IOSA audit, or be well on the way to achieving their first audit, by the beginning of 2006.

## **IOSA audit results can show trends or areas that need specific attention in order to improve safety**

This is a significant goal given the disparate size and nature of the member airlines. But confidence is high because of the degree of support for the programme. This was well illustrated by the passage of the AGM resolution that created IOSA: proposed by Lufthansa — a large European carrier —

it was seconded by COPA of Panama, a smaller Latin American carrier, and supported by Gulf Air, a medium-sized carrier based in the Middle East.

Interest beyond the IATA membership is growing. Charter airlines, corporate general aviation operators and aircraft leasing companies are all showing interest in IOSA.

At the completion of the on-site portion of the IOSA audit, the audit organization issues an initial audit report to the airline.

This document contains all of the audit findings as well as the corrective actions deemed necessary. The airline has up to 12 months in which to respond, but clearly it is in the airline's best interests to act as soon as possible. It is only after all corrective measures are verified by the auditor that the airline can be entered on the IOSA Registry.

The IOSA Registry is a list of all current airlines that have successfully completed an audit under IOSA. A registry listing is valid for 24 months, at which point another IOSA audit is required. Any airline that would normally audit another carrier — for example, for codesharing purposes — can apply to view the full audit report if the airline appears on the register. Although the audit report is held by IATA, the audited airline remains the owner of the report and the contents can be released only with its specific agreement.

### Regulatory authorities

As noted at the beginning of this article, both ICAO and some key regulatory authorities have been involved in IOSA development from the outset. The U.S. Federal Aviation Administration (FAA), Transport Canada and the Australian Civil Aviation Safety Authority (CASA) have been prime contributors and supporters. The U.S. Department of Defense has also been involved: as the body charged with ensuring that all airlines carrying U.S. government personnel meet certain standards, it too is keen to see an acceptable form of common airline auditing.

There is every reason for States to welcome IOSA. As the FAA has stated, IOSA is "a unique programme that has the real potential to advance worldwide airline safety. As such, it is fully in keeping with both our broad and specific aims at the FAA." Transport Canada has stated that "it is not inconceivable that the maintenance of IATA/IOSA registration could become the main benchmark of Trans-

port Canada's foreign air operator risk assessment process." For its part, ICAO foresees that the collaborative effort of ICAO and IATA "will enhance safety of aircraft operations around the world," and

**IATA will be the official custodian of all airline audit reports, facilitating secure and confidential access to this information**

the European Commission (EC) finds "IATA's initiative to be very helpful indeed."

Among the regulatory bodies presented with IOSA briefings in 2003 were the Ministry of Transport of Austria, the Scandinavian civil aviation authorities and the Directorate General of Civil Aviation (DGCA) of France. IATA will continue to offer awareness sessions for regulatory authorities into 2004.

### Oversight Committee

Having fostered IOSA's development and launch, IATA's role now is to ensure successful implementation, ongoing management and quality assurance. IATA will continue to oversee accreditation of audit organizations and training centres. It will ensure continuous development of IOSA standards and recommended practices as well as manage the central database of IOSA audit reports. In addition, IATA will implement effective quality assurance focused on programme standardization, and will continually work with airlines and regulators to ensure that IOSA meets their needs.

The audits themselves will provide extensive information that can be used firstly to improve the auditing process, and later to enhance the standards. More to the point, the audit results can show trends or areas that need specific attention in order to improve safety.

The newly formed IOSA Oversight Committee (IOC) held its first meeting in Montreal in September. In a first for IATA, IOC membership consists not only of airline representatives, but also of regulators in recognition of the vital role that such organizations play in the success of IOSA.

To further ensure that the IOSA Programme is managed and organized in a

consistent and regular fashion, all aspects of the programme, from auditor selection to audit report access, are embodied in the *IOSA Programme Manual*. This manual also guides all day-to-day operations of the programme and its small support team based at IATA headquarters in Montreal.

Since 1999, any airline applying to become a member of IATA must pass an operational quality standards (OQS) audit. These audits are conducted by IATA for the most part using the airline's own published standards. The IATA 2003 AGM resolution provided that the OQS Audit Programme be folded into IOSA during 2004. The various divisions of IATA dealing with new members are now working with the IOSA Programme team to devise the most practicable and equitable way to meld the two audit programmes.

### The future

In the short term, IATA is focused on IOSA implementation across its membership and in raising awareness of the benefits of the programme among both airlines and regulators. But already questions are being asked about applying an IOSA-style approach to other airline operational areas to achieve similar cost savings and improved operations.

This prospect was first raised by the IATA Board of Governors in May 2003, and preliminary investigations since then have shown that indeed there are many such areas that might benefit from an IOSA type programme. For example, maintenance, repair and overhaul (MRO) organizations, catering companies and fuel suppliers could all be candidates for a similar concept. In September 2003, the further evaluation of these opportunities was handed to a multi-divisional team in IATA, which is expected to report in early 2004.

*continued on page 30*

This article was cowritten by Günther Matschnigg, Senior Vice-President, Safety, Operations and Infrastructure; Jim Anderson, IOSA Project Manager; and Mike O'Brien, Head, IOSA Programme, all of the International Air Transport Association (IATA). IATA is an industry association representing 275 airlines worldwide that account for more than 95 percent of all international scheduled traffic.

Contact the IOSA Programme team at [iosa@iata.org](mailto:iosa@iata.org), or visit the website ([www.iata.org/iosa](http://www.iata.org/iosa)) for more information.





## RVSM now in effect on major air traffic routes between Asia, the Middle East and Europe

The minimum vertical separation between aircraft on major air traffic routes between Asia, the Middle East and Europe was reduced to 1,000 from 2,000 feet on 27 November 2003, marking a milestone in air navigation history.

The reduced vertical separation minimum (RVSM) increases the availability of efficient cruising levels. This leads to less air pollution because of reduced fuel burn and fewer ground delays, in this case on flights on the Asia-Europe routes south of the Himalayas.

In the North Pacific, RVSM has reduced fuel costs by 0.5 to 1 percent, for savings of some U.S. \$8 million per year for the fleet of aircraft using this airspace. In Europe, it is expected that the RVSM programme could save airlines close to U.S. \$4.6 billion annually. Similar financial benefits are expected for other regions.

RVSM implementation began in 1997 under the auspices of ICAO, in cooperation with the International Air Transport Association (IATA), Eurocontrol, the International Federation of Air Line Pilots' Associations (IFALPA), the International Federation of Air Traffic Controllers' Associations (IFATCA) and the aviation industry. Implemented initially in the airspace of the North Atlantic, the concept was applied successively over Europe, the South Atlantic, the Pacific and South-east Asia.

The Asia-Europe project, for air routes between 29,000 and 41,000 feet, required extensive preparation for more than three years by 10 Asian and 11 Middle Eastern States, under the leadership of ICAO's regional offices in Bangkok and Cairo.

"This latest achievement is a significant step forward in ICAO's global cooperative effort with its Contracting States and airspace users to maximize operational benefits for all concerned, while at the same time ensuring that safety considerations are given the highest priority," ICAO Council President Dr. Assad Kotaite said of the milestone.

The next stage in RVSM implementation in the Asia region is being planned with Japan and the Republic of Korea for implementation in the Naha, Tokyo (non-oceanic) and Incheon flight information regions in the second half of 2005. RVSM is planned for the Caribbean/South American regions, in conjunction with implementation by the United States in its domestic airspace, with a target date of 20 January 2005. □

## Commemorative day highlights 60 years of setting standards

International Civil Aviation Day, celebrated annually since 1994 to mark the creation of ICAO on 7 December 1944, focused this year on ICAO's achievement in setting the standards for international civil aviation for 60 years.

In this year's message marking the event, ICAO Council President Dr. Assad Kotaite bridged two critical milestones in the history of air travel: the creation of the United Nations specialized

agency in 1944 and the 100<sup>th</sup> anniversary of the first flight of the Wright Brothers on 17 December 1903, synonymous with the birth of powered, controlled and sustained flight.

"During this first century of flight, air transport forever changed our global society — economically, socially and culturally. Such a transformation could only have been achieved by the timely development of technical and operational infrastructure agreed to by sovereign States and implemented through ICAO and its charter, the *Convention on International Civil Aviation*," Dr. Kotaite said.

"As we celebrate the 100<sup>th</sup> anniversary of flight and embark on the celebrations for the 60th anniversary of ICAO, let us remember that international civil aviation in the 21<sup>st</sup> century is a constantly evolving project of unprecedented proportions and potential for the whole of humankind. That, ultimately, is the vision of air transport, a powerful force for the continued well-being of every person on our small planet," he concluded.

ICAO Secretary General Dr. Taïeb Chérif pointed to the aviation safety record as a measure of the organization's effectiveness in developing international standards. In 1947, the first year that ICAO kept records, of the 21 million passengers carried, 590 lost their lives in 34 aircraft accidents (excluding the then USSR). In 2002, with more than 1.6 billion passengers, there were 791 fatalities caused by 14 accidents worldwide. Given air transport's extraordinary growth over the years, the improvement is a remarkable achievement, stated Dr. Chérif.

"ICAO is indispensable to the safe and orderly growth of international civil aviation," the Secretary General emphasized. "As it looks to the future, ICAO is focused on constantly improving aviation safety while addressing new and emerging security threats in an era of industry restructuring. In so doing, the organization is streamlining its management processes and increasing the efficiency of its operations, making provisions for innovative sources of income that are complementary to the essential contributions of its member States, and seeking ever closer collaboration with all players in the aeronautical sector." □

### Revised economics manual to be available next year

A revision of the *Airport Economics Manual* (ICAO Document 9562) will be disseminated in 2004. The updated manual reflects trends and practices that have been implemented in recent years by airports around the world, and incorporates new and expanded guidance material on a number of issues. The document will also feature improved readability and presentation.



### TECHNICAL COOPERATION PROJECT

Cuba recently approved implementation of a U.S. \$4 million project to modernize aviation training at its Aeronautical Training Centre. The one-year project to be implemented by ICAO includes renovation of a building to house the new training facility, installation of new ATC tower and radar simulators, and improvements in training standards and methodology. Pictured following the signing of the project document on 3 October are (l-r): Raúl Madrigal, Director of Air Navigation, Cuba; Argimiro Ojeda Vives, Vice-President of the National Civil Aviation Administration, Cuba; ICAO Secretary General Dr. Taïeb Chérif; and Abelardo Sánchez-Gutierrez, Director of the ICAO Technical Cooperation Bureau.

### ISASI award bestowed on ICAO official

Caj Frostell, Chief of the Accident Investigation and Prevention Section of the ICAO Air Navigation Bureau, is the recipient of the 2003 Jerome F. Lederer Award, conferred annually by the International Society of Air Safety Investigators (ISASI) for outstanding lifetime contributions in the area of aircraft accident investigation and prevention. The award recognizes achievements of ISASI's objectives as well as the technical expertise of the recipient. The prestigious award was presented to Mr. Frostell in recognition of his dedication, professionalism and leadership among the world's accident investigation experts, and for his pivotal role in promoting aviation safety worldwide.

Mr. Frostell serves as ISASI's International Councillor, and has been a major contributor to the society's outreach seminars. The award was created by ISASI in honour of Jerome Lederer, founder of the Flight Safety Foundation (FSF) and a pioneer in the world of aviation safety. □



*Caj Frostell (right) is recipient of the 2003 Jerome F. Lederer Award. Also pictured are ISASI President Frank Del Gandio, left, and Jerome Lederer, the award's namesake.*

### ICAO Council appointment



*S.A.R. Hashem  
(Saudi Arabia)*

Saud A.R. Hashem has been appointed Representative of Saudi Arabia on the Council of ICAO. The tenure of Mr. Hashem commenced on 26 October 2003.

Mr. Hashem graduated from King Abdulaziz University with a degree in mining engineering, and soon after joined the Ministry of Defence and Aviation of Saudi Arabia, where he completed his graduate internship in the Department of Operations and Maintenance Planning and Control, International Airports Projects. He then held a number of positions of increasing responsibility specializing in safety inspection and failure analysis. At the time of his appointment to the ICAO Council, Mr. Hashem was Head of the General Directorate of Airport Affairs in the Presidency of Civil Aviation at the Ministry of Defence and Aviation.

Mr. Hashem has attended training programmes in Australia, Germany and Saudi Arabia, and has also participated in numerous training courses, meetings and conferences in Saudi Arabia and abroad. Recent ICAO courses and conferences in which Mr. Hashem has participated include the fourth meeting of the Facilitation Panel and the 34<sup>th</sup> Session (Extraordinary) of the Assembly. □

Mr. Hashem has attended training programmes in Australia, Germany and Saudi Arabia, and has also participated in numerous training courses, meetings and conferences in Saudi Arabia and abroad. Recent ICAO courses and conferences in which Mr. Hashem has participated include the fourth meeting of the Facilitation Panel and the 34<sup>th</sup> Session (Extraordinary) of the Assembly. □

### ICAO Council appointment



*M. S. Boultif  
(Algeria)*

Mohamed Salah Boultif has been appointed Representative of Algeria on the Council of ICAO. The tenure of Mr. Boultif commenced on 29 October 2003.

A graduate of the National School of Administration in Algiers, Mr. Boultif pursued post-graduate studies in the United Kingdom, where he obtained a Master's degree in management from Bucks College.

After a brief stay at the National Office of Scientific Research (ONRS), Mr. Boultif held several positions of increasing responsibility with Air Algérie, the national carrier, beginning in 1981. He worked as Deputy Director for regulation and industry affairs and served as Regional Delegate in Africa (Senegal), Regional Director in Algiers, and as Deputy Director General responsible for commercial activities.

Throughout his more than 24-year career with the airline, Mr. Boultif was actively involved at both the regional and international level through work with the International Air Transport Association (IATA), African Airlines Association (AFRAA), Arab Air Carriers Organization (AACO), and the International Association of Air Transporters (ATAF). He also took part in sessions and various committee meetings held by IATA, AFRAA, AACO and ATAF. Most recently, Mr. Boultif served as Representative of Air Algérie in France. □

### Next month in ICAO Journal...

The next edition of *ICAO Journal* will feature several articles on aviation language proficiency. □

# ICAO

## Electronic publications



### Annexes to the Convention on International Civil Aviation

This CD-ROM contains a complete set of Annexes to the Convention on International Civil Aviation (Chicago Convention). The 18 Annexes to the Convention contain provisions, including standards and recommended practices, for international civil aviation.

**U.S. \$1,400** for the purchase of a single copy  
(Order No. AN)

**U.S. \$1,800** for the purchase of a single copy with a one-year  
Amendment service (Order No. AN/YR)

This CD contains English text only.

Annexes to the Chicago Convention:

- Annex 1 – Personnel Licensing
- Annex 2 – Rules of the Air
- Annex 3 – Meteorological Service for International Air Navigation
- Annex 4 – Aeronautical Charts
- Annex 5 – Units of Measurement to be Used in Air and Ground Operations
- Annex 6 – Operation of Aircraft
- Annex 7 – Aircraft Nationality and Registration Marks
- Annex 8 – Airworthiness of Aircraft
- Annex 9 – Facilitation
- Annex 10 – Aeronautical Telecommunications
- Annex 11 – Air Traffic Services
- Annex 12 – Search and Rescue
- Annex 13 – Aircraft Accident and Incident Investigation
- Annex 14 – Aerodromes
- Annex 15 – Aeronautical Information Services
- Annex 16 – Environmental Protection
- Annex 17 – Security: Safeguarding International Civil Aviation Against Acts of Unlawful Interference
- Annex 18 – The Safe Transport of Dangerous Goods by Air

For more information or to place an order, contact:

International Civil Aviation Organization  
Attention: Document Sales Unit  
999 University Street, Montreal  
Quebec, Canada H3C 5H7  
Telephone: +1 (514) 954-8022  
Fax: +1 (514) 954-6769  
E-mail: [sales@icao.int](mailto:sales@icao.int)

ICAO publications may be purchased on line at: [www.icao.int](http://www.icao.int)





### SEMINAR ON AIRPORT MANAGEMENT

A seminar on airport management was conducted by the ICAO Technical Cooperation Bureau in Cartagena, Colombia from 27 to 31 October 2003. The event was cosponsored by Aeropuertos Españoles y Navegación Aérea (AENA) of Spain and the Spanish Agency of International Cooperation (AECI). It attracted 65 participants from 17 States of the Caribbean, Central America and South American regions. Presentations on airport operational and environmental matters were given by experts from Colombia, Cuba, Dominican Republic, Mexico, Panama, Spain and from ICAO.

### Forthcoming meetings

The ICAO Air Navigation Services Economics Panel (ANSEP) will hold its fifth meeting at ICAO headquarters from 3 to 7 May 2004. The Aviation Security Panel is scheduled to meet in Montreal from 10 to 14 May 2004, and ICAO will convene a meeting of the Technical Advisory Group on Machine Readable Travel Documents from 17 to 21 May 2004. □

### ICAO programme

*continued from page 7*

safety and security, two major responsibilities of State authorities. As such, governments have the duty to ensure that all safety- and security-related provisions are implemented effectively, whether or not they are about to be audited by ICAO.

Given the permanent obligation of States to ensure the safety

|                  |                                      |       |
|------------------|--------------------------------------|-------|
| AVIATION PROFILE | Turkey                               |       |
|                  | Aircraft on civil register           | 685   |
|                  | Active pilot licences                | 3,542 |
|                  | Commercial air transport operators   | 14    |
|                  | Approved maintenance organizations   | 23    |
|                  | Aviation training establishments     | 12    |
|                  | Aircraft manufacturing organizations | 0     |
|                  | Aircraft type certificates issued    | 0     |
|                  | International airports               | 12    |

(data from March 2003)

of aircraft operations, as well as lessons learned from audits conducted so far and from preparations to expand the programme, it appears evident the proposed approach would enable the organization to move forward in the most positive and effective manner while upholding the principle of universality. □

### FAA collaboration

*continued from page 12*

bar internationally, assisting with fostering the political will to address problem areas, identify critical deficiencies and — most important of all — provide resources where possible. These resources are available to ICAO and its member States in resolving such deficiencies, so that all ICAO Contracting States can have the effective system of safety oversight contemplated in ICAO Document 9734. □

### U.K. experience

*continued from page 10*

that the system remains compliant with ICAO SARPs. From the United Kingdom's viewpoint, the advantage is that a common set of rules, guidance material and procedures are in place for all territories.

The company, which has been named Air Safety Support International (ASSI), commenced operations in April 2003. It is headquartered in the United Kingdom, with a regional office in Antigua. The Caribbean office will also seek to cooperate with regional regulatory bodies.

The means by which compliance with the ICAO SARPs will be ensured will involve a combination of U.K. legislation, overseas territories aviation requirements (OTARs), guidance material and comprehensive procedures. The inspection and auditing of the appropriate functional areas in the overseas territories will be based on these regulatory measures. Production of these compliance tools is currently under way.

In some territories, the company will provide direct regulatory oversight of the aviation industry. In others, it will regularly audit the capability of the local Director of Civil Aviation (DCA) to regulate the industry.

**Summary.** The United Kingdom has learned a lot through active participation in the ICAO USOAP. Improved arrangements and more robust procedures are now in place through which the CAA ensures alignment with ICAO SARPs and procedures.

Within the CAA, there continue to be debates about the definition of differences with ICAO SARPs. Perhaps it would help if ICAO reviewed its guidelines with this ambiguity in mind and made it easier for States to identify true differences.

The ASSI has provided overseas territories of the United Kingdom with a much clearer and more distinct link with the U.K. This will help in the future as the CAA's system of safety oversight necessarily changes to align with developments in Europe.

The next significant USOAP milestone for the United Kingdom is an audit follow-up visit scheduled for 2004. The next major mile-

stone for all ICAO Contracting States is the planned expansion of USOAP into additional safety areas such as aircraft accident and incident investigation, aerodromes, and air traffic services.

The establishment of the European Aviation Safety Agency (EASA) will materially affect the way the U.K. addresses its obligations to ICAO in the future. Unlike some other European States that have overseas territories, however, there is no intention to include the U.K.'s territories within the scope of EASA. It is possible, therefore, that the safety oversight system of the U.K.'s overseas territories will slowly diverge from that of the United Kingdom.

As the future unfolds, one point of interest will be how ICAO interacts with EASA and other emerging regional regulatory bodies while performing safety oversight audits. □

## Regional safety oversight body

*continued from page 15*

It is expected that in the future, in keeping with the strategic action plan of COCESNA/ACSA, activities will be expanded in a systematic way to cover various other areas including compliance with standards and recommended practices for aerodromes, air traffic services, and aircraft accident and incident investigation.

Perhaps the greatest added value as a whole, beyond optimizing resources, is the development in the last three years of

a growing regional aviation safety culture in Central America. This is something that is required in any organization if the long-term objective is to establish and manage a safety oversight system through a regional entity. With ACSA, Central America has demonstrated the practicality of the team concept for solving a problem that cannot be addressed successfully by one country alone.

As stated in the foreword to the ICAO strategic action plan of 1997, "Regulation of safety and security is, under the Chicago Convention, the responsibility of individual States; as ownership and operation of airlines, airports and air traffic control devolve from governments and cross-border involvement becomes more common, the need for seamless coordination beyond national and regional borders becomes even more fundamental." □

## Safety oversight process

*continued from page 19*

States' safety oversight systems and to draw conclusions in relation to their own aviation safety responsibilities.

A review of the summary reports indicates, unfortunately, that a high number of member States have great difficulty in meeting their obligations and responsibilities under the Chicago Convention. These difficulties are often reflected by a lack of regulations, staff shortages and ineffective safety oversight. USOAP



# GE Ion Track

Worldwide Headquarters  
205 Lowell Street  
Wilmington, MA 01887 USA  
Web Site: [www.geiontrack.com](http://www.geiontrack.com)

Email: [geiontracksales@ge.com](mailto:geiontracksales@ge.com)  
USA: +1.978.658.3767  
Europe: +44 (0)1223 728888  
Hong Kong: +852 2368 2332



### Itemiser<sup>3</sup>

Desktop Explosives  
and Narcotics  
Trace Detector

- Simultaneous detection of explosives & narcotics
- Approved for explosives detection by the TSA
- Extended range of contraband detection
- Unparalleled transportability, 26 lbs. (12 kg) with softshell case
- Fold-down touchscreen display
- Maintenance-free regenerative dryers
- Internal backup battery
- Reusable, extended shelf life traps

Detect & Identify Traces  
of **Explosives**  
in Seconds

Boston • Cambridge UK • Hong Kong • Miami • Washington DC

## Promoting the Development of International Civil Aviation

The International Civil Aviation Organization, created in 1944 to promote the safe and orderly development of civil aviation worldwide, is a specialized agency of the United Nations. Headquartered in Montreal, ICAO develops international air transport standards and regulations and serves as the medium for cooperation in all fields of civil aviation among its 188 Contracting States.



### ICAO CONTRACTING STATES

|                                       |                                  |                                  |   |
|---------------------------------------|----------------------------------|----------------------------------|---|
| Afghanistan                           | Democratic Republic of the Congo | Lesotho                          | Saint Vincent and the Grenadines          |
| Albania                               | Denmark                          | Liberia                          | Samoa                                     |
| Algeria                               | Djibouti                         | Libyan Arab Jamahiriya           | San Marino                                |
| Andorra                               | Dominican Republic               | Lithuania                        | Sao Tome and Principe                     |
| Angola                                | Ecuador                          | Luxembourg                       | Saudi Arabia                              |
| Antigua and Barbuda                   | Egypt                            | Madagascar                       | Senegal                                   |
| Argentina                             | El Salvador                      | Malawi                           | Serbia and Montenegro                     |
| Armenia                               | Equatorial Guinea                | Malaysia                         | Seychelles                                |
| Australia                             | Eritrea                          | Maldives                         | Sierra Leone                              |
| Austria                               | Estonia                          | Mali                             | Singapore                                 |
| Azerbaijan                            | Ethiopia                         | Malta                            | Slovakia                                  |
| Bahamas                               | Fiji                             | Marshall Islands                 | Slovenia                                  |
| Bahrain                               | Finland                          | Mauritania                       | Solomon Islands                           |
| Bangladesh                            | France                           | Mauritius                        | Somalia                                   |
| Barbados                              | Gabon                            | Mexico                           | South Africa                              |
| Belarus                               | Gambia                           | Micronesia (Federated States of) | Spain                                     |
| Belgium                               | Georgia                          | Monaco                           | Sri Lanka                                 |
| Belize                                | Germany                          | Mongolia                         | Sudan                                     |
| Benin                                 | Ghana                            | Morocco                          | Suriname                                  |
| Bhutan                                | Greece                           | Mozambique                       | Swaziland                                 |
| Bolivia                               | Grenada                          | Myanmar                          | Sweden                                    |
| Bosnia and Herzegovina                | Guatemala                        | Namibia                          | Switzerland                               |
| Botswana                              | Guinea                           | Nauru                            | Syrian Arab Republic                      |
| Brazil                                | Guinea-Bissau                    | Nepal                            | Tajikistan                                |
| Brunei Darussalam                     | Haiti                            | Netherlands                      | Thailand                                  |
| Bulgaria                              | Honduras                         | New Zealand                      | The former Yugoslav Republic of Macedonia |
| Burkina Faso                          | Hungary                          | Nicaragua                        | Togo                                      |
| Burundi                               | Iceland                          | Niger                            | Tonga                                     |
| Cambodia                              | India                            | Nigeria                          | Trinidad and Tobago                       |
| Cameroon                              | Indonesia                        | Norway                           | Tunisia                                   |
| Canada                                | Iran (Islamic Republic of)       | Oman                             | Turkey                                    |
| Cape Verde                            | Iraq                             | Pakistan                         | Turkmenistan                              |
| Central African Republic              | Ireland                          | Palau                            | Uganda                                    |
| Chad                                  | Israel                           | Panama                           | Ukraine                                   |
| Chile                                 | Italy                            | Papua New Guinea                 | United Arab Emirates                      |
| China                                 | Jamaica                          | Paraguay                         | United Kingdom                            |
| Colombia                              | Japan                            | Peru                             | United Republic of Tanzania               |
| Comoros                               | Jordan                           | Philippines                      | United States                             |
| Congo                                 | Kazakhstan                       | Poland                           | Uruguay                                   |
| Cook Islands                          | Kenya                            | Portugal                         | Uzbekistan                                |
| Costa Rica                            | Kiribati                         | Qatar                            | Vanuatu                                   |
| Côte d'Ivoire                         | Kuwait                           | Republic of Korea                | Venezuela                                 |
| Croatia                               | Kyrgyzstan                       | Republic of Moldova              | Viet Nam                                  |
| Cuba                                  | Lao People's Democratic Republic | Romania                          | Yemen                                     |
| Cyprus                                | Latvia                           | Russian Federation               | Zambia                                    |
| Czech Republic                        | Lebanon                          | Rwanda                           | Zimbabwe                                  |
| Democratic People's Republic of Korea |                                  | Saint Kitts and Nevis            |   |
|                                       |                                  | Saint Lucia                      |   |

### ICAO Headquarters

999 University Street  
Montreal, Quebec  
Canada H3C 5H7  
Telephone: 514-954-8219  
Facsimile: 514-954-6077  
E-mail: icao@icao.int  
Web site: www.icao.int

### REGIONAL OFFICES

*Asia and Pacific Office*  
Bangkok, Thailand  
Telex: TH87969 ICAOBBK  
Facsimile: 011-662-537-8199  
Telephone: 011-662-537-8189  
E-mail: icao\_apac@bangkok.icao.int

*Eastern and Southern African Office*  
Nairobi, Kenya  
Facsimile: 011-254-2-623-028  
Telephone: 011-254-2-622-395  
E-mail: icao@icao.unon.org

*European and North Atlantic Office*  
Paris, France  
Facsimile: 011-33-1-46-41-85-00  
Telephone: 011-33-1-46-41-85-85  
E-mail: icaeumat@paris.icao.int

*Middle East Office*  
Cairo, Egypt  
Facsimile: 011-202-267-4843  
Telephone: 011-202-267-4841  
E-mail: icaomid@cairo.icao.int  
Web site: www.icao.int/mid

*North American, Central American and Caribbean Office*  
Mexico City, Mexico  
Facsimile: 011-52-55-52-03-27-57  
Telephone: 011-52-55-52-50-32-11  
E-mail: icao\_nacc@mexico.icao.int

*South American Office*  
Lima, Peru  
Facsimile: 011-51-1-575-0974  
Telephone: 011-51-1-575-1646  
E-mail: mail@lima.icao.int

*Western and Central African Office*  
Dakar, Senegal  
Facsimile: 011-221-823-69-26  
Telephone: 011-221-839-93-93  
E-mail: icaodlr@icao.sn/

results show a very clear and direct association between these types of difficulties and the accident record at the regional level.

The possibilities that now need to be considered would allow ICAO and its member States to move forward in the most positive, effective and universally applicable manner. Clearly, it would seem that there is now a need for three different styles of USOAP missions to be available within the overall USOAP system. In particular, these could be characterized as:

- implementation assistance missions;
- prescriptive audit missions; and
- system audit missions.

As stated above, there are certain advantages related to each of these processes for States with differing levels of resources, performance and complexity, both within the State's aviation administration and its aviation industry. Of course, implementing a programme having three mission variations is more complicated than the present process and would require that ICAO consider which "product" would be the most suitable for each member State.

In the final analysis, however, the possible safety advantages of providing assistance to the lesser developed States and more systematic auditing to the large and highly developed safety regulators far outweighs the difficulties in management or sensitivities involved. In response to the question posed above, the best way of using the limited resources available to provide the best safety output is to give ICAO a range of audit and assistance options which can be applied as required and as appropriate for the benefit of States and global safety. □

## Airline audits

*continued from page 24*

For IOSA itself, the future looks promising. The benefits are clear, and the programme is now well set up to deliver those benefits. Challenges still remain in getting the message on IOSA out. IATA will continue to cooperate with ICAO to ensure that both airlines and States begin to see IOSA as the new standard in airline operational safety auditing. □

## European inspection programme

*continued from page 21*

a particular aircraft or operator. Certain aspects, such as the use of crew resource management, cannot be assessed during the limited time available to perform a ramp inspection. The full assessment of an aircraft or its operator can only be achieved through continuous oversight by the responsible aviation authority.

The information gained through the SAFA Programme is useful, however, and the inspections contribute to the safe operation of the aircraft inspected. SAFA also provides the opportunity for countries to cooperate in resolving specific safety-related problems. The SAFA Programme has its place in the safety chain and clearly provides an important contribution to aviation safety in general. □

# IN THE SPOTLIGHT...



## FOCUS ON STATISTICS

A meeting on civil aviation statistics held recently in Banjul, Gambia attracted 61 participants from 18 States, four international organizations and six private entities. The purpose of the meeting, organized by the African Civil Aviation Commission (AFCAC) and ICAO, was to address the long-standing problem of obtaining statistics from Africa, review how member States can best collect and disseminate civil aviation data, and introduce seminar participants to the new ICAO integrated statistics database (ISDB). Presentations were made by the Agency for Air Navigation Safety in Africa and Madagascar (ASECNA), the African Airlines Association (AFRAA), the Economic and Statistical Observatory of Sub-Saharan Africa (AFRISTAT), and ICAO.



## PARAGUAY RATIFIES PROTOCOLS

During a brief ceremony at ICAO headquarters on 18 September 2003, Paraguay deposited its instruments of ratification of two protocols of amendment to the *Convention on International Civil Aviation* relating to Article 45, of 1954, and Article 50(a), 1990. Article 45, concerning the seat of the organization, has been in force since 1958; Article 50(a), which increases membership of the ICAO Council to 36 members, entered into force in November 2002. Shown on the occasion are (l-r): Ceferino Farías Servín, Representative of Paraguay on the Council of ICAO; Susana Morinigo, First Secretary of the Embassy of Paraguay in Ottawa; ICAO Secretary General Dr. Taïeb Chérif; and Dr. Ludwig Weber, Director of the ICAO Legal Bureau.



## MONTREAL CONVENTION

Saudi Arabia deposited its instrument of ratification of the Montreal Convention of 1999 on 15 October 2003. The Montreal Convention, which entered into force in November 2003, governs air carrier liability. Shown on the occasion are Saeed Al-Ghamdi, then Representative of Saudi Arabia on the Council of ICAO; ICAO Council President Dr. Assad Kotaite; ICAO Secretary General Dr. Taïeb Chérif; and Dr. Ludwig Weber, Director of the ICAO Legal Bureau.



## MONTERREY MEETING

Experts concerned with aerodromes and ground aids as well as aerodrome operational planning met in Monterrey, Mexico from 30 September to 3 October 2003. The meeting of the subgroup of the Caribbean/South American Regional Planning and Implementation Group was attended by 38 participants from 12 States and from four international organizations.

LEADING BUSINESS INTO THE NEXT CENTURY OF FLIGHT

# NBAA 2004

NBAA 57th Annual Meeting & Convention • October 12, 13, 14 • Las Vegas • Nevada

## THE FUTURE STARTS IN LAS VEGAS

- > Over 1,000 business aviation products and services Exhibitors
- > Approximately 135 aircraft on Static Display
- > NBAA Pre- and Post-Convention Seminars
- > Nearly 30,000 decision-makers from NBAA Member Companies
- > 75 Informational Sessions

Las Vegas Convention Center &  
McCarran International Airport

**DON'T MISS IT.**

 NATIONAL BUSINESS AVIATION ASSOCIATION, INC.

1200 Eighteenth Street NW, Suite 400, Washington, DC 20036-2527

Tel: (202) 783-9000 • Fax: (202) 862-5552 • E-Mail: [info@nbaa.org](mailto:info@nbaa.org) • Web: [www.nbaa.org](http://www.nbaa.org)