INTERNATIONAL CIVIL AVIATION ORGANIZATION

ASSEMBLY — 35TH SESSION

EXECUTIVE COMMITTEE

Agenda Item 16: **Improvement of safety oversight**
Agenda Item 16.1: **Progress report on the implementation of the ICAO Universal Safety Oversight Audit Programme (USOAP)**

PROGRESS REPORT ON THE IMPLEMENTATION OF THE ICAO UNIVERSAL SAFETY OVERSIGHT AUDIT PROGRAMME (USOAP)

SUMMARY

This paper presents a general report on the implementation of the ICAO Universal Safety Oversight Audit Programme (USOAP) since its inception in 1999, and on the overall progress made and experience gained, as requested by Assembly Resolutions A32-11 and A33-8. Paragraph 2 contains overall information on findings of the audits and audit follow-ups and an analysis thereof. In paragraph 3, information relating to the activities of USOAP, other than the conduct of audits and audit follow-ups, is presented. In addition, paragraph 3 also contains information on the ISO certification received by the Safety Oversight Audit Section and on the resource support provided to ICAO by some Contracting States, enabling it to effectively progress the work of the Programme. Action by the Assembly is in paragraph 5.

REFERENCES

Doc 7300, *Convention on International Civil Aviation*

Doc 9790, *Assembly Resolutions in Force* (as of 5 October 2001)

1.   **INTRODUCTION**

1.1   Assembly Resolution A32-11 directed the International Civil Aviation Organization (ICAO) to conduct regular, mandatory, systematic and harmonized safety audits of all Contracting States. The mandate for regular audits foresaw the continuation of the Programme and the term "safety audits" suggested that all safety-related areas should be audited. The expansion of the Programme "at the appropriate time", as recommended by the 1997 Directors General of Civil Aviation Conference on a Global Strategy for Safety Oversight, had thus been accepted as an integral part of the future development of the Programme.

(9 pages)

1.2   Assembly Resolution A33-8 requested ICAO to continue USOAP and resolved that it be expanded to Annex 11 — *Air Traffic Services*, and Annex 14 — *Aerodromes,* as of 2004. The Resolution further instructed the Secretary General to undertake a study regarding the expansion of USOAP to other safety-related fields, and in particular on the conduct of audits of the core elements of Annex 13 — *Aircraft Accident and Incident Investigation*, as soon as possible, without significantly increasing the cost of the expansion.

1.3   Further, the Assembly (Resolution A32-11) requested the Council to report to the next ordinary session of the Assembly on the overall implementation of the Programme, to review its progress and the experience gained, and to present to that session proposals for funding the Programme on a long-term basis. The Assembly (Resolution A33-8) requested the Council to ensure the long-term financial sustainability of the USOAP, phasing-in all of its activities into the Regular Programme Budget, in due course.

1.4   This paper presents, for the consideration of the Assembly, a comprehensive report on the implementation of the Programme, the progress made and experience gained since its inception in 1999. Proposals for funding the Programme on a long-term basis are covered in A35-WP/20. Discussion of the continuation and expansion of the Programme is covered in A35-WP/7 - Transition to a comprehensive systems approach for audits in the ICAO Universal Safety Oversight Audit Programme.

2.   **AUDITS AND AUDIT FOLLOW-UPS**

2.1   **Initial audit findings relating to Annexes 1, 6 and 8**

2.1.1   Safety oversight audits relating to Annex 1 — *Personnel Licensing*, Annex 6 — *Operation of Aircraft* and Annex 8 — *Airworthiness of Aircraft* commenced in March 1999. As of 31 July 2004, audits of 181 Contracting States, the three territories and the two Special Administrative Regions (SARs) of China had been completed, and the requisite confidential and summary reports published. All but eight audited States submitted a corrective action plan to rectify problems identified by the ICAO audit teams, indicating the high level of acceptance and support to the Programme among Contracting States. The eight Contracting States which did not submit an action plan following an ICAO safety oversight audit, due mainly to the lack of resources and expertise, are: Central African Republic, Congo, Djibouti, Equatorial Guinea, Guinea-Bissau, Micronesia, Nauru, and Sao Tome and Principe. Primarily due to security considerations, ICAO has not been able to conduct the audits of the following seven Contracting States: Afghanistan, Burundi, Iraq, Liberia, Sierra Leone, Solomon Islands and Somalia. These States will be audited when conditions permit and, if feasible, under the expanded Programme starting in 2005.

2.1.2   The findings of the safety oversight audits conducted confirmed the results of the 171 audits as reported to the 33rd Session of the Assembly in October 2001. In general, the audit findings of the 181 Contracting States, the three territories and the two SARs of China showed that:

        a)   52 per cent of the audited States experienced problems associated with primary aviation legislation and civil aviation regulations;

        b)   with respect to the establishment of an adequate civil aviation organization empowered to regulate, control and supervise aviation activities, and the availability of adequate qualified and experienced technical staff, 51 per cent of the audited States experienced problems in this area;

c)   in the field of personnel licensing and training, 44 per cent of the audited States lacked
        the appropriate regulations, requirements, systems and procedures relating to the
        examinations and testing of licence applicants, including medical assessments;

d)   globally, 41 per cent of the audited States had not established adequate air operator
        certification requirements; and

e)   in the field of airworthiness of aircraft, 24 per cent of the audited States had not
        established an effective surveillance programme of maintenance organizations and an
        effective system for the approval of maintenance organizations. In addition, those
        States lacked procedures for the approval of operational specifications.

2.2   **Audit follow-up findings relating to Annexes 1, 6 and 8**

2.2.1   Audit follow-ups relating to Annexes 1, 6, and 8 commenced in the third quarter of 2001 and,
as of 31 July 2004, 157 audit follow-ups, comprising 152 Contracting States, the three territories and the two
SARs of China had been completed. In general, the results show that significant progress has been made by
States in the implementation of the corrective action plans submitted to ICAO following the initial audits.
However, the audit follow-ups also revealed that a number of Contracting States had not made progress in
the implementation of their State corrective action plan as expected. Those States, representing about 24 per
cent of the audited States, are mainly experiencing resource-related problems, while very few have not
implemented their corrective action plan due to lack of political will. A chart showing a comparison at the
global level between the lack of effective implementation identified during the initial audits and after the
conduct of the audit follow-ups is contained in Appendix A to this paper. In summary, the audit follow-ups
have indicated that, among the thirty-six States experiencing problems in effectively implementing their
corrective action plans:

a)   with respect to civil aviation legislation and regulations, most of the thirty-six
        Contracting States have made minimal progress to ensure that their primary aviation
        legislation keeps pace with changes made to the ICAO SARPs. Thirty-two States have
        not established procedures to ensure that amendments to ICAO Annexes are reviewed
        and incorporated in the national regulations and thirty-five States have not established
        a system to notify ICAO of existing differences, as required by Article 38 of the
        Chicago Convention. Twenty-four States have not revised their regulations governing
        personnel licensing and airworthiness of aircraft, while twenty-six States have not
        promulgated adequate requirements to regulate the operation of aircraft, in accordance
        with the relevant provisions contained in the Annexes. Most of the thirty-six States
        require technical assistance in order to establish the necessary legislative foundation
        for adequate aviation safety oversight;

b)   with respect to civil aviation organization and structure, the majority of the thirty-six
        States are still unable to fulfil their safety oversight responsibilities, primarily because
        they lack an appropriate establishment and organizational structure with qualified
        technical staff for personnel licensing, flight operations, certification and surveillance
        obligations and aircraft airworthiness functions. Thirty-four States experience acute
        problems with respect to the recruitment of qualified staff. Lack of adequate support
        from the Government and associated recruitment problems made it difficult for those
        States to attract, recruit and retain qualified and experienced personnel, as they are not
        capable to compete with the industry for such personnel. None of the thirty-six States
        has developed a formal initial and recurrent training policy and programme for
        technical personnel, and, as a result, inspectors are not provided with adequate initial,

recurrent and specialized training. Funding of the civil aviation authorities, in most of these States, is provided entirely through a government budget and is mostly insufficient to enable the authorities to adequately fulfill their safety oversight responsibilities;

c)   in the field of personnel licensing and training, the majority of the thirty-six Contracting States have not clearly defined the functions and responsibilities of the Personnel Licensing Sections and there is a lack of trained personnel licensing officers; as a result, they are not capable of maintaining adequate oversight over the licensing functions. Nineteen States have not established a system for the designation and supervision of flight examiners to ensure that they have the required experience and skills, and also to ensure the consistency of examinations and the reliability of tests performed. Twenty-four States have not established a system, policy or procedures for the designation of medical examiners and, in some of the States, medical doctors have been designated by the authority to conduct aviation medical examinations although they have not received training in aviation medicine. In addition, twenty-eight States have not developed procedures for the validation/conversion of licences, and the authenticity check of the original licence and related skills is not routinely carried out. Finally, twenty-four States have not developed adequate checklists or procedures for the certification and surveillance of aviation training institutes;

d)   in the field of operation of aircraft, most of the thirty-six Contracting States lack adequate budget allocations, which prevents the civil aviation administrations concerned from recruiting qualified full-time operations inspectors and from developing initial and recurrent training programmes on certification and supervision of air operators, supervision of designated examiners, enforcement, cabin safety, accident prevention and flight safety programmes or on the safe transportation of dangerous goods by air. For the most part, the authorities concerned have not developed requirements for flight duty time limitations for cabin crew, or requirements for flight operations officers/flight dispatchers. Most of these States did not have a sufficient number of aviation flight safety inspectors with qualifications and type ratings compatible with the scope of activities and type of aircraft used by operators in the State. Procedures handbooks were not always available or comprehensive to provide operations inspectors with guidelines and checklists to accomplish their tasks in a satisfactorily manner. In many of these States, essential documentation, such as the operations manual and training manual of Air Operator Certificate (AOC) holders and related authorizations could not be found. Although some inspection records were available, others could not be found, such as records for station facility inspections, ramp inspections, flight-following and flight crew training. The follow-up of discrepancies noted during inspections is not adequate: not all deficiencies are brought to the attention of the air operators; no deadlines for correcting deficiencies are provided; action is not often taken by authorities to ensure that discrepancies are corrected; and serious discrepancies seem to have no impact on the decision to issue, renew, suspend or revoke an AOC.;

e)   in the field of airworthiness of aircraft, the majority of the thirty-six Contracting States have a shortage of airworthiness inspectors. Thirty States do not have an adequate technical library containing the required documentation from aircraft/engine design organizations. The majority of the thirty-six States do not maintain the master minimum equipment lists (MMELs), minimum equipment lists (MELs), maintenance procedures manuals and maintenance programmes for all air operators, and have not

established effective procedures for the approval of modifications and repairs and for the escalation of the maintenance programme of operators. A number of States have not established requirements or procedures for the designation of experts who carry out airworthiness activities on behalf of the authority. No system for type design approvals and validations exists in twenty-eight of the thirty-six States, and nineteen States have not established an adequate system for the provision of certificate of airworthiness. Maintenance certification of commercial air transport operators is not conducted in twenty-eight States, and thirty-two States have not established a maintenance programme and maintenance control manual. Thirty-one States have not developed specific operations provisions and still need to develop detailed requirements and procedures pertaining to reduced vertical separation minimum (RVSM), minimum equipment lists (MELs) and maintenance programme approvals. These States still need to develop procedures and a methodology for specialized aircraft maintenance approvals, such as CAT II and CAT III all weather operations. Twenty-nine States have not established the required system, policy and procedures for the approval of maintenance organizations, and twenty-three States experience difficulty maintaining or monitoring the compliance status of aircraft airworthiness directives (ADs), including aircraft manufacturer airworthiness documentation. As a result, air operators were not being monitored to ensure that repetitive inspections required in ADs are being adequately carried out. The absence of, or the very limited on-going surveillance conducted by the majority of these States' airworthiness departments, which results from the lack of adequate staff and resources, is an issue of significant concern. Thirty States are not in a position to exercise effective supervision and control over aircraft airworthiness activities; and

f)   with respect to resolution of identified problems, sixteen of the thirty-six Contracting States have not implemented a viable system for the compliance and enforcement of their national regulations and, as a result, have had difficulty enforcing their own regulations.

2.2.2   A35-WP/63 outlines a unified strategy to assist Contracting States experiencing difficulties in correcting safety deficiencies. The unified strategy, which responds to Assembly Resolution A33-9, provides for the identification of problems, the analysis of root causes, the tailoring of solutions and implementation methods at a regional, sub-regional or State level. Increased transparency, partnership, cooperation and assistance are the basic principles of the strategy.

3.   **USOAP ACTIVITIES OTHER THAN AUDITS AND AUDIT FOLLOW-UPS**

3.1   **ISO 9001-2000 certification of the Safety Oversight Audit Section**

3.1.1   The 33rd Session of the Assembly (Resolution A33-8, operating clause 6 refers) requested the Secretary General to undertake a study on the establishment of an independent quality assurance mechanism to to monitor and assess Programme quality and report to the Council. Accordingly, in addition to the bi-annual audit of USOAP by the external auditors of ICAO, it was decided to seek certification of the Programme under the International Organization for Standardization (ISO) to further enhance the quality of its implementation and to strengthen the confidence of all Contracting States in its management.

3.1.2   The Safety Oversight Audit Section (SOA) was audited by AOQC Moody International Inc. and found to be compliant with ISO 9001-2000 requirements. As a result, a certificate indicating that SOA has met all the requirements to be ISO-certified was presented to the Secretary General by the President of AOQC Moody International Inc. on 18 October 2002. SOA was re-audited by Moody International, Inc. in November 2003 to ensure that it has maintained its ISO-based Quality Management System and, as a result of the positive findings, the certificate has been renewed for another year. An ISO certificate renewal audit is scheduled for November 2004 to ensure that the Programme continues to meet the requirements.

3.2   **Training of auditors**

3.2.1   Due to financial considerations, ICAO does not have the resources to employ all the auditors that are required to conduct safety oversight audits. It has, out of necessity, to resort to the secondment of experts from States, both short and long-term, to complement its own staff.

3.2.2   Since its inception in 1999, SOA has conducted numerous auditor training courses. More than 100 experts, including officers from ICAO Headquarters and regional offices and officials seconded by Contracting States to ICAO to support the Programme on a long- or short-term basis, have been trained. Training has also been provided on the SOA Quality Management System and on ISO requirements applicable to the management of the Programme in general and the conduct of audits in particular. Annual recurrent training courses to SOA staff members and all auditors are planned.

3.3   **Conduct of safety oversight-related seminars and workshops**

3.3.1   Since 1999, SOA has developed and conducted safety oversight-related seminar/workshops in all ICAO regions. Seminar/workshops directly provided or supported by USOAP covered a variety of subjects such as: safety oversight management systems; specific subject-related seminar workshops (operations and airworthiness of aircraft); and safety management systems. Appendix B provides detailed information on training and seminar/workshops provided and supported by SOA. In addition, SOA has been invited to support conferences, seminars and workshops organized by Contracting States, and international and regional civil aviation organizations. Safety oversight-related seminar/workshops conducted by ICAO provide State officials and their staff with practical examples which guide them in the establishment and management of an effective safety oversight system.

3.3.2   Support for continuing and increasing the number of seminars and workshops has been voiced by Contracting States, the ICAO Council and the Air Navigation Commission on several occasions. Seminars and workshops have been regarded as a major tool to provide generic assistance to Contracting States, and it is expected that safety oversight-related seminar/workshops will continue at the rate of three per year, starting in 2005.

3.4   **Development of guidance material related to safety oversight**

3.4.1   The development and provision of technical guidance material is one more of the support tools made available to Contracting States by ICAO. Guidance material enables States to implement SARPs in a harmonized manner. Safety oversight-related guidance material continues to be developed and updated, and new editions of the *Safety Oversight Manual,* Part A — *The Establishment and Management of a State's Safety Oversight System* (Doc 9734) and the *Safety Oversight Audit Manual (Doc 9735)* have already been developed in preparation for the continuation and expansion of the Programme. In addition, Doc 9734, Part B, dealing with the Establishment and Management of a Regional Safety Oversight System has been completed during this year. Safety oversight-related manuals have also been developed to assist States in the implementation of the relevant Annex provisions.

3.5   **Development of a database and a tool for the analysis of audit results**

3.5.1   The Audit Findings and Differences Database (AFDD) developed in 2001 to store findings and differences arising from safety oversight audits and audit follow-ups carried out under USOAP has been further improved. AFDD has provided ICAO with the ability to identify safety concerns based on the safety oversight critical elements identified in Doc 9734, and to conduct a detailed analysis with the aim of determining possible courses of action for the resolution of safety concerns.

3.5.2   The information derived through analysis of the audit and audit follow-up findings has been used to assess the possible impact on the safety of aircraft operations at various levels, thus enabling ICAO, international and regional organizations, groups of States and individual States, to prioritize actions directed at resolving identified and quantified safety concerns. Information extracted from AFDD also supports the efforts of the Planning and Implementation Regional Groups (PIRGs) in the identification of deficiencies. Reports derived from AFDD have been used to develop proposed amendments to Annex provisions and/or introduce new provisions, thus enhancing aviation safety. For example, audit information on flight crew licensing difficulties, including the validation of licences, is being used by the Flight Crew Licensing and Training Panel (FCLTP) to develop amendments to flight crew licensing provisions in Annex 1.

3.5.3   The latest improvements to AFDD provide ICAO with a mechanism to monitor the level of States' compliance with SARPs. A unique identification number has been assigned to each and every SARP. This number is being introduced initially in the compliance checklists applicable to each Annex which States will be requested to complete during the preparatory phase of an upcoming audit. The resulting data will be stored in AFDD, allowing ICAO to continuously monitor the level of SARPs implementation on a timely basis and to review Annex provisions as necessary.

3.6   **Support provided to USOAP by Contracting States**

3.6.1   As indicated above, the work of USOAP could not be progressed effectively without the support provided by a number of Contracting States. This support from States has been received mainly in the form of experts to assist ICAO to conduct audits and audit follow-ups on the basis of long-term and short-term secondments. In this respect, and since the progress report to the 33rd Session of the Assembly in 2001, France continued to support the Programme with long-term and short-term seconded experts, while Cameroon, Cuba, Germany, Ghana, Italy, Niger, Nigeria, Singapore, the United Kingdom, and the United States, continued to provide experts on a short-term basis. As resources available to the Programme from ICAO are limited, the support provided by these States was valuable and significantly contributed to the success of USOAP.

4.   **CONCLUSIONS**

4.1   The report shows that ICAO has satisfactorily met the challenges of its mandate to conduct safety oversight audits of all Contracting States. USOAP, from its inception, enjoyed the support of all Contracting States and has proven to be an essential tool available to ICAO and Contracting States for auditing the status of implementation of SARPs and the effective implementation of safety oversight critical elements and SARPs in States. In addition, the Programme continued to enable ICAO to perform detailed analyses of the audit and audit follow-up findings and continue to determine areas of safety concern requiring attention by the audited States.

4.2   All Contracting States continued to show increasing interest in the Programme, as manifested through their acceptance, with few exceptions, of the audit and audit follow-up missions on the basis of the Memorandum of Understanding approved by the Council and their willingness to submit a corrective action plan within the specified period. Approximately 76 per cent of the audited States and visited on a follow-up

mission have satisfactorily implemented the State corrective action plan submitted to ICAO following the initial audits. Approximately 24 per cent of the States visited on an audit follow-up mission did not satisfactorily implement the State corrective action plan. The majority of those States might continue to experience problems in meeting their safety oversight obligations unless a system to assist them in meeting their obligations is devised.

4.3   The data collected and the analysis made of the audit and audit follow-up findings continued to enable ICAO to identify and quantify safety oversight-related deficiencies and to prioritize possible solutions. Such prioritization would eventually lead to a more vigorous global safety oversight system and enhance the safety of air navigation, which is the ultimate goal of the Organization. The Programme has been successful in identifying deficiencies, recommending solutions and encouraging States to rectify the problems. However, the continuing success of the Programme depends on the will of each Contracting State to implement the recommendations forwarded and, thereafter, to maintain the desired level of implementation of ICAO SARPs. The results of the follow-up missions have shown the progress made since the initial audits were conducted. This clearly indicates that maintenance of an ICAO regular audit programme, covering all safety-related activities, will encourage States to effectively implement the critical elements of a safety oversight system and SARPs.

4.4   The principle and concept of "regular audits" is based on the establishment of a system which will continuously monitor the safety of the global aviation system. Audit programmes are maintained and periodic audits are conducted to determine if the safety standards are maintained at the desired level. Even where a previous audit indicates that there was no immediate concern, a fundamental principle of internationally accepted audit systems is to monitor that a safe condition is maintained through regular and systematic audits. Continuing audits is therefore an essential part of ensuring the maintenance of the safety standards. Safety oversight audits conducted by ICAO constitute a major step toward resolving deficiencies and enhancing safety and, as such, are part of the remedial process.

4.5   The Programme has shown that accurate, factual and timely information enables Contracting States and the aviation community, in general, to assist in the resolution of identified safety concerns. This requires that the information gathered by ICAO be updated on a regular basis. All States, which received an audit follow-up mission indicated that they had benefited from the audits in several ways. Besides helping them to identify shortcomings within their safety oversight systems, the audits have also served to raise the awareness of high-level decision makers to provide the civil aviation authorities with the required funds and support. States have been unanimous in their recognition of the ICAO Universal Safety Oversight Audit Programme as an essential safety tool which should continue to exist as a core activity of the Organization.

5.   **ACTION BY THE ASSEMBLY**

5.1   The Assembly is invited to:

a)   note the implementation of the ICAO Universal Safety Oversight Audit Programme, review the progress made and experience gained as presented in this paper; and

b)   provide further instructions as it may deem necessary for the continued implementation of the Programme.

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Critical Elements of a Safety Oversight System - Lack of Effective Implementation (%)

Legend:
- Global - Initial Audit = 32.34%
- Global - Revised = 18.58%
- 152 States - Initial Audit = 29.3%
- 152 States - Follow-up = 13.3%

Categories (x-axis):
- Primary Aviation Legislation
- Specific Operating Regulations
- CAA Structure and Oversight Functions
- Technical Guidance Material
- Qualified Technical Personnel
- Licensing and Certification Obligations
- Continued Surveillance Obligations
- Resolution of Safety Issues

— END —

APPENDIX A