



ICAO

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Agenda Item 4: ICAO / Member State / Industry Presentations

IATA OPERATIONAL SAFETY AUDIT (IOSA)

(Presented by the International Air Transport Association (IATA))

SUMMARY

The IATA Operational Safety Audit (IOSA) Program is an internationally recognized and accepted evaluation system designed to assess an airline's operational management and control systems. The 35th Session of the ICAO Assembly recognized the value of the IATA Operational Safety Audit Program (IOSA) as a complementary measure to the regulatory oversight activities of States. This recognition was reiterated in Assembly Resolution A37-5. In the 38th Session of the Assembly, the Technical Commission expressed its support for the IOSA programme and recommended that ICAO continue its support of IOSA and the additional elements under Enhanced IOSA as a complementary source of information for State safety oversight activities.

With the intention to further contribute to the lowering of global accident rates, IATA will introduce a risk-based approach to IOSA audits. Such incremental safety assurance will be achieved through more efficient and effective audits.

The Meeting is invited to:

1. recognize the evolution of the IATA Operational Safety Audit (IOSA) to a risk-based audit programme as a necessary and important step to improve safety in line with the ICAO GASP.
2. recognize the value of IOSA as an industry assessment programme that can provide useful information to civil aviation authorities to complement their safety oversight functions.

1. INTRODUCTION

1.1 The IATA Operational Safety Audit (IOSA) programme is an internationally recognised and accepted evaluation system designed to assess an airline's operational management and control systems. IOSA has been recognised for its global safety benefits by the 35th and 38th Sessions of the ICAO General Assemblies.

1.2 IOSA represents an industry safety standard, enabling and maximising the joint use of audit reports by airlines and civil aviation authorities to complement safety monitoring and oversight. This has saved the industry over 6400 redundant audits and continues to lead to extensive efficiency for IOSA-participating airlines.

1.3 The safety performance of IOSA registered operators is approximately 2.5 times better than that of non-IOSA operators (all accident rate of IOSA vs non-IOSA in the 2017-2021 period was 0.81 vs 2.21 accidents per 1 million flights).

1.4 To ensure the IOSA Programme continued to meet industry needs during the COVID-19 crisis, the IOSA Support Program was developed to provide operators unable to undergo an onsite audit with a remote limited scope audit for IOSA registration renewal purposes. The industry widely adopted remote audits to enable entities with safety oversight obligations a mechanism to fulfil these.

1.5 More flexible measures that the COVID-19 crisis has forced upon the industry also bear great opportunities. These opportunities, if developed and leveraged correctly, can substantially improve the effectiveness of compliance monitoring.

1.6 In this spirit, and to ensure a natural growth towards an enhanced and more effective audit programme, IOSA will introduce risk-based audit scoping as well as a system that will allow IOSA to assess the maturity of an operator's safety management system.

2. DISCUSSION

2.1 The SMS Framework in ICAO Annex 19 recommends "prioritise inspections, audits and surveys towards those areas of a greater safety concern or need." Risk-Based IOSA audits will support this ICAO Annex 19 recommendation.

2.2 The 2020-2022 ICAO Global Aviation Safety Plan (GASP) includes "a risk-based approach to managing safety" and defines the values of "prioritising actions to address operational safety issues through a risk-based approach" and "allocating resources to identify and analyse hazards, and address their consequences or outcomes through a risk-based approach".

2.3 The nature of IOSA has proved to be an important contributor to maturing air operators' Safety Management Systems (SMS) and improving their safety performance. Over the last two decades, operators' SMS and safety culture have evolved along with their operational processes. IOSA, also needing to evolve, will do so by adapting its principles and audit procedures to a risk-based approach.

2.4 IOSA, to support the continuous evolution of the industry, will move forward with risk-based auditing that will target the delivery of the following goals:

- An audit bespoke for each airline that focuses on individual operator profiles, including risk, organisational performance and audit history.
- Improved benefits in audits by adding a focus on safety performance in addition to compliance.
- Expanding auditor competency through a new and modern approach to support safety conversations during audits to support the seamless transition to risk-based auditing.
- Enhanced standardisation of auditors through direct management of the IOSA auditor pool by IATA to improve confidence in auditor competency and consistency of approach during audits.
- Improved and enhanced quality assurance program focused on auditor performance and delivery of audits that support the continued evolution of IOSA in safety audit programs.
- Evolve registration periods where, utilising the IOSA Maturity Assessment, registration periods will consider an airline's audit and safety performance.

- Safety insights captured to deliver safety improvements which support the continuous reduction in global accident rates.
- Support the long-term sustainability, agility, and flexibility of the IOSA program through the direct management of an insourced product.
- A continual focus on reducing regulatory burden.

2.5 The IOSA risk framework differentiates two steps in assessing audit priorities. First, priority levels are identified on the program level and for all IOSA Standards and Recommended Practices (ISARPs) of the IOSA Standards Manual (ISM). The second step is performed in the context of each IOSA audit based on the operator's profile, audit history, etc.

2.6 The Risk Based IOSA ISARPS are categorized in 3 different risk categories. High, Medium, and Low assessing the risk level of the ISARP and the risk of a particular ISARP establishing a priority, which will determine the focus of the audit and allow for a deeper assessment of specific risks.

2.7 In 2019, IOSA introduced the "effectiveness" method to assess how the operator implements critical SMS-related provisions. This method was inspired by SM ICG's SMS Evaluation Tool ('Present', 'Suitable', 'Operating' and 'Effective') and is similar to various practices in place in the industry to measure the SMS¹.

2.8 The IOSA Maturity Model is the evolution of the "effectiveness" method. It establishes a degree to which an operator's safety-relevant systems and programs are mature, i.e., robust, suitable, and effective. To support members, the ISARPs will be developed to provide criteria to support and standardise against the maturity levels.

2.9 Today, IOSA uses accredited Audit Organizations (AO) to conduct audits. With the transition to Risk-Based IOSA, IATA will conduct and wholly manage audits with auditors selected, qualified, and contracted directly with IATA. This will enhance the sustainability, integrity, and robustness of IOSA as it continues to evolve through a risk-based approach.

2.10 In 2022, IOSA will conduct a set of audits to test risk-based audit methods and audit management processes within a sandbox environment. Risk-Based IOSA audits will be progressively implemented through 2023 and 2024 until a program-wide implementation in 2025. Audits, run by AO, be phased out during this time.

2.11 Utilizing a risk-based approach that concentrates on pertinent safety risks while maintaining a baseline of safety will produce the following benefits:

- Tailored audit scope focusing efforts where needed the most.
- Improved audit methods through maturity evaluation.
- Improved management and standardisation of auditors.
- Safety insights captured and assessed for the delivery of IATA safety improvement initiatives to reduce the all-accident rate in aviation.
- New insights through improved audit reporting.
- Long-term sustainability of the IOSA program through direct management of insourced products

¹ Cranfield University study for the FAA (Stolzer Ph.D., 2017 p 37)

3. ACTION BY THE MEETING

3.1 The Meeting is invited to:

- a) Recognize the evolution of the IATA Operational Safety Audit (IOSA) to a risk-based approach as a necessary and important step to improve safety in line with the ICAO GASP
- b) Recognize the value of IOSA as an industry assessment programme that can provide useful information to civil aviation authorities to complement their safety oversight functions

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