



INFORMATION PAPER

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Salvador, Bahia, Brazil, 14 – 15 November 2022

Second GREPECAS–RASG-PA Joint Meeting

Salvador, Bahia, Brazil, 15 November 2022 (13h00 local time)

Agenda Item 7: Any Other Business

IATA OPERATIONAL SAFETY AUDIT (IOSA) EVOLUTION TO RISK-BASED AUDIT

(Presented by IATA)

EXECUTIVE SUMMARY	
<p>The IATA Operational Safety Audit (IOSA) Program is an internationally recognized and accepted evaluation system designed to assess the operational management and control systems of an airline.</p> <p>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.</p> <p>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.</p>	
Action:	<p>The RASG-PA plenary is invited to:</p> <ol style="list-style-type: none"> 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.
Strategic Objectives:	<ul style="list-style-type: none"> • Safety
References:	<ul style="list-style-type: none"> • ICAO Annex 19 • 2023-2025 ICAO Global Aviation Safety Plan (GASP)

1. Introduction

1.1 The IATA Operational Safety Audit (IOSA) programme is an internationally recognized and accepted evaluation system designed to assess the operational management and control systems of an airline. IOSA has been recognized 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 maximizing 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 are approximately 2.5 times better than the performance of non-IOSA operators (all accident rate of IOSA vs non IOSA in 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. Remote audits were widely adopted by the industry 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 bears great opportunities. These opportunities, if developed and leveraged correctly, can provide for substantial improvements in 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 Safety Management Systems (SMS) Framework in ICAO Annex 19 recommends to “prioritize inspections, audits and surveys towards those areas of greater safety concern or need.” Risk-Based IOSA audits will support this ICAO Annex 19 recommendation.

2.2 The 2023-2025 ICAO Global Aviation Safety Plan (GASP) includes “a risk-based approach to managing safety” and defined the values of “prioritizing 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 been evolving 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 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 standardization of auditors, through direct management of 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 as the gold-standard in safety audit programs.
- Evolve registration periods where, utilising the IOSA Maturity Assessment, registration periods will consider the audit and safety performance of an airline.
- Safety insights captured to deliver safety improvements which support the continuous reduction in the 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 to reduce regulatory burden.

2.5 The IOSA risk framework differentiates two steps in assessing audit priorities. First, priority levels are identified on 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 individual IOSA audit based on the operator's profile, audit history, etc.

2.6 ISARPs are categorized in order of risk priority, which will determine the focus of the audit and will allow for a deeper assessment of specific risks as explained below.

2.7 In 2019, IOSA has introduced the effectiveness method which is aimed at assessing how key SMS related provisions are implemented by the operator. This method was inspired from the 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 and 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, audits will be conducted, and wholly managed, by IATA 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

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

implemented through 2023 and 2024 until a program wide implementation in 2025. Audits, run by AO, be phased out during this time.

3. **Conclusion**

3.1 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 standardization 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 IOSA program through direct management of insourced products.

3.2 The RASG-PA Plenary is invited to:

- i. 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
- ii. 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