International Civil Aviation Organization

MIDANPIRG/22 and RASG-MID/12 Meetings

(Doha, Qatar, 4 May 2025)

Agenda Item 4.2:   **Outcomes of the SEIG Meeting**

FROM ORGANIZATIONAL INSIGHT TO STATE OVERSIGHT: A SCALABLE SAFETY RISK
PROFILE APPROACH

(Presented by Saudi Arabia)

SUMMARY

This paper presents a scalable approach for developing
Safety Risk Profiles (SRPs) at the organizational level and
integrating them into a State's safety oversight system. It
outlines how insights gained within individual aviation
organizations can feed into a broader national risk picture,
enabling regulators to prioritize oversight based on actual
risk. The aim is to illustrate a framework that moves from
organizational insight to State oversight by systematically
using data-driven safety risk profiles. Action by the
meeting is at paragraph 3.1

REFERENCES

− ICAO 9859 Doc.

1.   **INTRODUCTION**

1.1   The aviation industry continues to improve safety by adopting proactive, risk-based
approaches. In recent years, the focus has shifted from reactive approach towards anticipating and
mitigating risks before they lead to incidents or accidents. States, in line with the ICAO Global Aviation
Safety Plan (GASP), are encouraged to implement risk-based oversight so that safety efforts are directed
where they are needed most, proportionate with the level of risk in the state aviation system.

1.2   A key challenge for the states is having a clear and specific understanding of the safety
risks faced by each aviation service provider. Traditional oversight approaches – such as uniform inspection
schedules or reactive inspections following incidents – may not capture the unique risk factors of different
organizations. Important safety data are often available within each organization (through their Safety
Management Systems), but these organizational insights are not always fully utilized at the State level.

1.3   The concept of a Safety Risk Profile (SRP) addresses this challenge by providing a
systematic performance-based summary of an organization's principal safety risks and performance. An
SRP is essentially a service provider safety performance management tool that highlights an organization's
operational scope and complexity, identifies the key hazards and risks in its operations, and reflects its
safety performance record (including incident history and compliance level). Each SRP gives a snapshot of

where an individual operator or service provider faces the most significant safety risks. When kept up to date, this profile becomes a living tool that can highlight areas of concern.

1.4　　　　Developing SRPs at the organizational level and then scaling this approach to the state level can significantly enhance the state oversight system. By aggregating and analyzing the SRPs of all its service providers, a state gains a comprehensive view of safety risk across the entire aviation system. In essence, this approach enables a shift from organizational insight to State oversight: safety insights gathered within each organization are systematically fed into the State's decision-making for oversight. This paper explores the framework for building such profiles and integrating them into a state oversight model that is both scalable and effective.

2.　　DISCUSSION

2.1　　　　**Current Oversight Practices and The Need for Risk Profiling**

Many States are moving towards performance-based and risk-based oversight, yet in practice, oversight practices can still be one-size-fits-all or reactive in nature. Without a detailed risk profile of individual organizations, states might allocate oversight resources evenly or based only on broad indicators like size of operations. This can lead to situations where high-risk areas do not receive necessary consideration, or low-risk service providers are burdened with unnecessary inspections. Furthermore, crucial safety information may remain siloed within service providers. There is a need for a more tailored approach and methodology that uses safety data from each organization to guide oversight activities. Some of the challenges in traditional oversight that a risk-profile approach seeks to address include:

> a) **Reactive focus:** Oversight often reacts to accidents or incidents after the fact, rather than being proactive in predicting and preventing risks.
> b) **Limited differentiation:** Without enough risk information, authorities may treat all operators similarly, missing the opportunity to focus on those with higher risk factors.
> d) **Resource allocation:** Without a structured approach to risk profiling, states may inadvertently misallocate inspection resources—focusing too heavily on operations that pose minimal risk, while potentially overlooking areas that require closer oversight.

2.2　　　　**Organizational Safety Risk Profiles – The Building Blocks**:

An Organizational Safety Risk Profile (SRP) forms the cornerstone of this scalable oversight framework. It is tailored for each aviation service provider—such as an airline, airport, air navigation service provider, or maintenance organization—and consolidates key information relevant to the organization's safety risk exposure. To develop an SRP, the organization's operational context must first be understood, including the scale, complexity, and operating environment of its activities. Both quantitative and qualitative data are then integrated, encompassing historical safety performance—such as incidents, accident reports, and audit findings—as well as current risk evaluations drawn from the organization's Safety Management System. The SRP synthesizes this data into a concise representation of the organization's safety risk picture. Each profile is distinct and, crucially, must be treated as a dynamic resource—subject to regular updates as operations evolve and new risks emerge.

2.3　　　　**From Individual Profiles to a State-Wide Risk Picture:**

Once individual organizations have developed their Safety Risk Profiles (SRPs), the State oversight authority—such as the GACA in the Kingdom of Saudi Arabia—can begin reviewing them collectively. This scalable integration enables the regulator to assess safety risks at both the organizational (micro) and national (macro) levels. The process is guided by a structured methodology comprising the following steps:

a) **Data collection and sharing:** Establish consistent channels for the regular submission of safety data from each organization. Standardized reporting formats are essential to ensure comparability and consistency across all SRPs.
b) **Profile development:** Analyze the operational data of each service provider to identify inherent risks and assess safety performance trends. This analysis forms the basis for constructing or updating each organization's SRP, with a focus on significant risk areas and notable safety concerns.
d) **Oversight planning:** Align the State's oversight activities with the risk levels identified in the SRPs. Entities with higher-risk profiles may warrant more frequent inspections, targeted audits, or direct regulatory support. Conversely, organizations with lower-risk profiles may require only routine oversight, allowing more efficient allocation of resources.
e) **Aggregate analysis:** Review the full set of SRPs to uncover recurring themes or systemic issues within the national aviation system.
g) **Continuous improvement:** Treat each SRP as a living document. Regularly update both the profiles and corresponding oversight strategies to reflect new data, evolving risks, and changes in performance. This ensures the oversight framework remains dynamic and responsive to the real-time safety environment.

2.4 Benefits of a Scalable SRP Approach

Integrating Safety Risk Profiles (SRPs) into State oversight offers a range of clear, practical benefits. Foremost among them is the ability to implement targeted oversight. States can concentrate their efforts on areas of highest risk, ensuring oversight is both effective and resource-efficient. Service providers with elevated risk profiles receive focused attention until safety levels improve, while those demonstrating strong safety performance can be monitored through standard surveillance, minimizing unnecessary regulatory burden.

This risk-based prioritization supports optimal use of limited oversight resources by directing attention where it is most needed, rather than applying a uniform approach across all service providers.

The development and review of SRPs also foster greater transparency and trust between state and service providers. By jointly reviewing risk data and agreeing on mitigation measures, both parties gain a shared understanding of safety priorities, ultimately contributing to a stronger and more collaborative safety culture.

2.5 Alignment with State Safety Programmes and ICAO Objectives

The Safety Risk Profile (SRP) approach serves as a valuable input to the State Safety Programme (SSP), which each ICAO Member State is required to implement. Within the SSP framework, States are expected to conduct safety risk management at the national level—an objective that is strongly supported by the development of structured SRPs for individual aviation service providers.

Organizational SRPs offer critical input into sector-wide and national safety risk profiling, ensuring that a State's oversight priorities are grounded in comprehensive, real-time data drawn from across the industry. This data-driven strategy aligns closely with ICAO's emphasis on predictive risk management and supports ongoing oversight through mechanisms.

Furthermore, widespread implementation of SRPs at both the organizational and State levels will contribute to a more resilient and responsive global aviation safety framework—one in which oversight is adaptive, targeted, and informed by the areas of greatest risk.

3. **ACTION BY THE MEETING**

The meeting is invited to:

A. note the concept of scalable Safety Risk Profiles and the information provided in this paper on leveraging organizational safety data for improved State oversight;

B. encourage States to consider developing Safety Risk Profiles for their aviation service providers and integrating these profiles into their national safety oversight and State Safety Programme frameworks, with a view to enhancing risk-based oversight;

C. agree that ICAO and States should collaborate in sharing experiences and best practices related to Safety Risk Profiles; and

D. consider the development of further guidance or regional initiatives to support the implementation of this approach in the MID Region and beyond..

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