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Agenda Item 13: Aviation Security — Policy

DEVELOPMENT OF A COMPREHENSIVE RISK ASSESSMENT MANUAL FOR AVIATION SECURITY PURPOSE

(Presented by Bangladesh)

EXECUTIVE SUMMARY

A risk-based approach is essential for effective aviation security, enabling States to apply proportionate measures against evolving threats. ICAO Annex 17 requires States to conduct Security Risk Assessments and broader Risk Assessments to ensure flexible and targeted security controls. While ICAO provides foundational guidance, practical tools and standardized methodologies are limited, creating challenges for consistent implementation, especially in resource-limited States. Additionally, sensitivities around security data restrict sharing of methodologies, which affects harmonization.

This paper provides information on the need for a dedicated ICAO Risk Assessment Guidance Manual to support States with standardized approaches, practical tools, and capacity-building in order to strengthen global aviation security risk management.

<i>Strategic Goals:</i>	This information paper relates to the Strategic Objective: Every Flight is Safe and Secure
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<i>Financial implications:</i>	Not Applicable.
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<i>References:</i>	Annex 17 — <i>Security</i> Doc 8973 — <i>Aviation Security Manual (Chapter 13)</i> Doc 10108 — <i>ICAO Risk Context Statement</i>
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1. INTRODUCTION

1.1 A risk-based approach is fundamental to modern aviation security, enabling States to allocate resources efficiently and implement proportionate measures that address the most significant threats without imposing unnecessary burdens on operations. ICAO Annex 17 recognizes this principle and embeds it across multiple SARPs, ensuring that States maintain effective, flexible, and risk-commensurate security controls.

1.2 A risk-based approach is fundamental to modern aviation security, enabling States to allocate resources efficiently and implement proportionate measures that address the most significant threats without imposing unnecessary burdens on operations. ICAO Annex 17 recognizes this principle and embeds it across multiple Standards and Recommended Practices (SARPs), ensuring that States maintain effective, flexible, and risk-commensurate security controls.

1.3 A key provision, Annex 17 Standard 3.1.3, requires each Contracting State to continuously monitor threats to civil aviation and conduct risk assessments that consider international, national, and regional conditions. Security measures must remain adaptable and proportionate to evolving risk levels. Accordingly, National Civil Aviation Security Programmes (NCASPs) should establish robust risk management systems to obtain reliable threat information and perform timely, accurate, and up-to-date risk assessments.

1.4 Numerous provisions within Annex 17 explicitly mandate States to conduct either Security Risk Assessments or a broader Risk Assessments, reinforcing the integration of a risk-based approach across diverse aviation security functions and operations. These assessments enable States to identify vulnerabilities, prioritize resources, and implement tailored security measures that effectively mitigate threats while maintaining operational efficiency.

1.5 This approach aligns with the ICAO Global Aviation Security Plan (GASeP) *Global Priority 1-Enhance risk awareness and response*-which urges States to develop policies and establish measures that are effective, proportionate, and sustainable by identifying, understanding, and managing risk as a fundamental element. The systematic use of risk assessments ensures that resources are directed toward the areas of greatest need, maximizing impact and proactively addressing emerging threats. Therefore, it is critical that appropriate and accurate risk assessment methodologies are applied consistently for the various purposes required under Annex 17.

2. DISCUSSION

2.1 Current ICAO Framework on Risk Assessment: Annex 17 places risk assessments at the core of aviation security measures, requiring States to systematically evaluate threats, vulnerabilities, and operational environments to inform effective policies, procedures, and resource allocation. These assessments are broadly categorized into **Security Risk Assessments**, focusing on threat-specific vulnerabilities, and broader **Risk Assessments**, addressing operational and management considerations.

2.2 Security Risk Assessment

2.2.1 Threat Monitoring: States must continuously monitor the evolving threat environment and perform regular risk assessments that reflect international, national, and regional contexts. Security controls should be adaptable to changing risk levels. NCASPs must establish

robust risk management systems to obtain reliable threat information and conduct timely, accurate, and up-to-date assessments.

2.2.2 Domestic Operations: Risk assessments guide the application of safeguards for domestic aviation, differentiating from international operations while considering factors such as passenger and cargo movement, airport size, aircraft range, and potential impacts on national and international aviation security.

2.2.3 Unidentified Baggage and Suspicious Objects: Procedures to manage risks from unidentified or suspicious items must be based on security risk assessments performed by competent authorities.

2.2.4 Security Restricted Areas (SRAs): The designation and control of SRAs within airports are determined through security risk assessments focusing on high-risk zones within the airport perimeter and terminal facilities.

2.2.5 Aircraft Security Checks: Decisions on whether to conduct security checks or searches on originating aircraft must be informed by risk assessments considering threat levels, aircraft status, origin, destination, and operator details.

2.3 Risk Assessment

2.3.1 Quality Control Programs: Risk assessments guide the prioritization and scheduling of audits, inspections, and tests to ensure compliance and address high-risk entities or activities effectively. Factors include airport operations scale, flight volumes, cargo handling, history of compliance, emerging threats, and significant changes in airport or aircraft operations.

2.3.2 Vehicle Access to Restricted Areas: Security measures for vehicles accessing SRAs, including screening and inspections, must be based on risk assessments unless a full vehicle search is mandated.

2.3.3 Mitigation of MANPADS and Similar Threats: States must mitigate risks from MANPADS or similar weapon attacks through risk assessments that include vulnerability analyses and mitigation strategies in critical airport areas.

2.3.4 Landside Security: Security measures for landside areas must be established and implemented based on risk assessments to prevent unlawful interference.

2.3.5 Protection of Critical ICT Systems: Operators must identify critical ICT assets used for civil aviation and apply protective measures derived from risk assessments to guard against cyber threats and unauthorized interference.

2.4 ICAO Resources and Identified Gaps: ICAO has developed foundational resources to support risk assessment practices for states and industry, including:

- Aviation Security Global Risk Context Statement (Doc 10108)
- Global Cyber Risk Considerations (Doc 10213)

- Risk Assessment Manual for Civil Aircraft Operations Over or Near Conflict Zones (Doc 10084)
- UNOCT/ICAO Threat Assessment Models Project
- Aviation Security Manual (Doc 8973)
- Aviation Security Oversight Manual (Doc 10047)

2.5 Despite these resources, practical guidance remains limited. There is a lack of standardized templates, examples, and detailed methodologies for critical areas such as:

- Proportionate safeguards for domestic operations
- Procedures for unidentified or suspicious items
- Designation of restricted areas
- Security checks for originating aircraft
- Quality control activity prioritization
- Screening and control of vehicles
- Landside security controls

2.6 Challenges Faced by States

2.6.1 **Inconsistent Implementation:** Without standardized methodologies, States interpret and apply risk assessments variably, resulting in security gaps or operational inefficiencies.

2.6.2 **Resource Constraints:** Many States, particularly developing ones, lack sufficient expertise, data, and tools to conduct comprehensive risk assessments.

2.6.3 **Operational Impacts:** Over- or under-estimation of risks may cause excessive security measures that disrupt operations or inadequate measures that leave vulnerabilities unaddressed.

2.6.4 **Oversight Non-Compliance:** Resource limitations hinder effective implementation of Critical Element 5 in the USAP-CMA oversight framework and which affect the effective implementation of quality control functions and consistent and effective implementation of security measures at airport-level.

2.6.5 **State Policy on Sharing Methodologies:** Due to the sensitive nature of security-related information, States have policies that restrict the sharing of their risk assessment methodologies. This limitation hampers opportunities for collective learning, harmonization, and the development of best practices.

2.7 **Need for a Dedicated Risk Assessment Manual for Aviation Security Purpose:** To ensure global consistency and effectiveness, a comprehensive Risk Assessment Guidance Manual is essential. It should:

2.7.1 Provide standardized methodologies aligned with Annex 17 requirements

- 2.7.2 Include practical tools such as templates, checklists, and decision trees for qualitative and quantitative assessments
- 2.7.3 Feature case studies demonstrating best practices across different airport sizes and State capabilities
- 2.7.4 Offer scalable approaches to accommodate varying resource and expertise levels
- 2.7.5 Promote information-sharing to incorporate global and regional threat intelligence into national assessments

3. **CONCLUSION**

3.1 Evolving threats in aviation security require accurate and timely risk assessments. Annex 17 establishes a clear framework, but the absence of detailed practical guidance has hindered consistent global application. A comprehensive ICAO Risk Assessment Guidance Manual would help States apply proportionate measures, strengthen aviation security resilience, and support the objectives of the ICAO Global Aviation Security Plan (GASeP).

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