INTERNATIONAL CIVIL AVIATION ORGANIZATION

First Meeting of the Africa - Indian Ocean Aviation System Planning and Implementation Group (AASPG/2)

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Agenda Item 4: Implementation of safety and air navigation goals, targets and indicators, including priorities set in the Regional Aviation Safety and Air Navigation Plans

RESPONSIBLE USE OF ARTIFICIAL INTELLIGENCE IN THE DEVELOPMENT OF ICAO RELATED DOCUMENTS

(Presented by South Africa.)

SUMMARY	
This working paper proposes a practical framework for the responsible use of artificial intelligence (AI) when using it for ICAO working papers, reports, analyses and supporting material. It recognises the efficiency and knowledge-management benefits of AI while addressing the risks created by inaccurate, outdated or untraceable technical content. The paper proposes human technical accountability, primary-source verification and a consistent academic referencing approach, using latest version APA for external sources while retaining precise ICAO document and paragraph references for ICAO technical material.	
Strategic Goals	*A- Every Flight is Safe and Secure* *C- Aviation Delivers Seamless, Accessible, and Reliable Mobility for All*

1 INTRODUCTION

1.1 Artificial intelligence is increasingly being used to search, summarise, compare, draft and review technical material. Within civil aviation, ICAO has already highlighted both the opportunities presented by AI and the need for harmonized governance, accountability and human oversight, particularly because aviation is a safety-critical environment.

1.2 ICAO and AASPG and its contributory bodies, routinely work with highly technical material, including ICAO Annexes, Procedures for Air Navigation Services (PANS), manuals, plans, implementation data, technical calculations and conclusions arising from expert interaction. In this environment, a fluent AI-generated answer can appear authoritative even when it contains an incorrect assumption, an obsolete provision, a fabricated cross-reference or a subtle change in technical meaning. AI output should therefore not be treated as a source of authority in itself.

2. DISCUSSION

2.1. Used responsibly and appropriately, AI can reduce time spent on repetitive drafting and document-handling tasks. It can support initial literature searches, summarise lengthy material, compare versions of documents, extract candidate provisions for review, improve language and consistency, assist with formatting, prepare meeting briefs and identify areas requiring closer human attention. In aviation, AI is increasingly viewed as a

tool to augment personnel and free experts to focus on complex decision-making rather than replace them.

2.2 These benefits may be particularly useful in a regional environment where participants work across different technical disciplines, languages and maturity levels of implementation. Used as a controlled support tool, AI may also assist capacity building by making complex source material easier to navigate. ISO/IEC 42001 similarly recognizes efficiency gains as a benefit of AI, while emphasizing structured governance, traceability and risk management.

2.3 The same capabilities that make generative AI useful also create specific risks for ICAO, AASPG and its contributing bodies work. These include:

a) confident but incorrect statements, invented references, incomplete quotations or reliance on outdated editions and amendments;
b) errors in calculations, unit conversions, formulas, rounding or technical assumptions that may be difficult to detect from the wording alone;
c) loss of context when interpreting provisions, including the hierarchy between Standards, Recommended Practices, PANS, guidance material, regional procedures and local implementation constraints;
d) oversimplification of expert discussion, diplomatic nuance, consensus language or the operational context in which a technical conclusion was reached; and
e) data protection, confidentiality, cybersecurity, intellectual-property and source-provenance concerns when material is uploaded to or generated through external AI services.

2.4 AI sources information and/or data from all online content, whether that information and/or data is factual and has been verified or not. The output is largely based on the input (prompts) and how the request is phrased and articulated.

2,5 AI may also assist meetings through transcription, translation support, preparation of summaries, identification of action items and comparison of proposed text. These uses can improve efficiency, but they introduce additional risks: specialist terminology may be mis transcribed, speakers or positions may be misattributed, qualifying statements may be lost, and AI may flatten the distinction between discussion, a proposal and an agreed conclusion. Where AI is used during or after a meeting, the approved meeting record and the judgement of participants should remain authoritative, and sensitive deliberations should only be processed in approved systems.

2.6 ICAO has specifically noted risks such as loss of critical-thinking competencies, lack of explainability, loss of source provenance, cybersecurity vulnerabilities and data-privacy concerns in the aviation context. Generative AI risk-management guidance likewise emphasizes the need to manage trustworthiness throughout the design and use of lifecycle.

2.6 A proportionate approach is proposed rather than a prohibition on AI. The following minimum principles would allow the Group to obtain the benefits of AI without weakening technical integrity:

a) The author, rapporteur, project team or responsible subject-matter expert remains accountable for the final content. AI may assist with the work but may not be the final technical decision maker.
b) Every substantive technical statement generated or located through AI should be checked against the authoritative source before inclusion. For ICAO material, references should identify the Annex or Doc number, applicable edition/amendment and, where practicable, the Part, Section, Chapter, paragraph, table or figure. AI-generated citations should never be accepted without opening

and verifying the cited source.

c) AASPG should encourage the same source discipline commonly expected in university and technical research. The most recent APA edition should be used for external academic, scientific, standards and web sources, with in-text citations and a reference list. This should supplement, not replace, ICAO's document-number and paragraph-level referencing, which remains essential for technical traceability.

d) Numerical results, formulas, coordinates, unit conversions, criteria, assumptions and rounding should be independently reproduced or checked by a competent person using the authoritative procedure or dataset before circulation.

e) Unpublished, restricted, sensitive or personally identifiable material should not be entered into public or unapproved AI services. The tool used should be appropriate to the information classification and applicable organizational requirements.

f) Where AI materially contributes to analysis or drafting, the working file should retain enough information to reconstruct the source trail and human verification performed. A short disclosure may be appropriate where AI use is substantive, subject to any future ICAO policy.

g) AI-assisted technical content should remain subject to the same, or stronger, subject-matter review as conventionally drafted material. Members should also receive basic AI literacy training covering limitations, verification, data handling and automation bias.

2.7 A simple risk-based distinction may assist authors: low-risk use includes grammar, formatting and non-substantive editing; medium-risk use includes first drafts, source discovery and document comparison and therefore requires source verification; high-risk use includes interpretation of technical provisions, safety or compliance conclusions, calculations and proposed normative wording and should require independent expert validation before the material is used in AASPG decision-making.

2.8 This approach is consistent with the broader direction of international AI governance, which favors transparency, traceability, risk management and human oversight rather than uncritical adoption or blanket exclusion. It also reflects ICAO discussions calling for harmonized approaches to AI within civil aviation.

3 ACTION BY THE MEETING

3.1 The meeting is invited to:

a) note the potential benefits of AI in supporting the preparation, review and management of AASPG documentation, together with the technical, governance and information-security limitations described in this paper;

b) agree, in principle, that AI should be used as an assistive tool and not as an authoritative source or substitute for accountable expert judgement;

c) support the use of primary-source verification, precise ICAO document/paragraph references and utilizing the latest version of APA referencing external sources in AI-assisted technical material; and

d) consider requesting the Secretariat, in coordination with relevant AASPG contributory bodies, to develop a short guidance note or checklist for responsible AI-assisted drafting, technical verification, disclosure and referencing for future ICAO, AASPG and its contributing bodies documentation.