



ICAO

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North American, Central American and Caribbean Office

WORKING PAPER

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**Eighth Meeting of the North American, Central American and Caribbean Directors of Civil Aviation
(NACC/DCA/08)**

Ottawa, Canada, 31 July to 2 August 2018

Agenda Item 9: ICAO 13th Air Navigation Conference (AN-Conf/13)

AREAS OF INTEREST FOR THE CANADA AT ICAO'S 13TH AIR NAVIGATION CONFERENCE

(Presented by Canada)

EXECUTIVE SUMMARY

This paper provides a summary of the issues Canada plans to bring forward at the 13th ICAO Air Navigation Conference and at the 40th Session of the ICAO General Assembly in 2019.

Canada is presenting this paper as part of its effort to promote awareness, share information, and seek collaboration with its international partners regarding top-of-mind issues affecting the safety, security, efficiency, and sustainability of the global civil aviation system.

Action:	The suggested actions are presented in Paragraph 4.
<i>Strategic Objectives:</i>	<ul style="list-style-type: none">• Safety• Air Navigation Capacity and Efficiency• Security & Facilitation

1. Introduction

1.1 Canada plans to present positions and information concerning a range of global aviation issues at the 13th International Civil Aviation Organization (ICAO) Air Navigation Conference (AN-Conf/13), and in preparation for the 40th Session of the ICAO General Assembly in 2019.

1.2 Canada places great value on its engagement with its international partners in order to ensure robust and continuous collaboration to improve aviation safety through strong, harmonized, accessible, and interoperable standards, procedures and technologies.

2. Discussion

2.1 Canada plans to advance a number of issues at the AN-Conf/13 that seek to improve long-term safety, efficiency, and international collaboration in the management of the global air transportation system. The issues Canada plans to bring forward are summarized below.

a) True North Reference System:

ICAO Annex 4 Eleventh Edition section 9.81 requires bearings, tracks and radials to be published in degrees magnetic except under exceptional circumstances where bearings, tracks and radials may be aligned to True North or Grid. With the switch from analogue to digital aircraft systems, magnetic variation discrepancies have and will continue to cause operational errors in PBN procedures, CAT II/III auto-coupled approaches and landings and AIRAC 424 coding for all course and heading legs. The aviation industry spends millions of dollars annually in the management of magnetic variations. The Working Paper will recommend that Member States switch their bearings, tracks and radials and entire aviation operating system to a True North reference system by 2030.

b) Evolving Aviation Phraseology Challenges:

Creation of adequate Performance Based Navigation (PBN) phraseology material and a better integration of datalink communication in a standardized ICAO format would help enable a safer and more efficient aviation system. Development of dedicated phraseology training and regular assessments for Pilots and ATCO's on their communication skills would help aviation professionals keep the system safe and reduce communication related safety events. The Working Paper will recommend that ICAO: (1) develop more PBN phraseology provisions and guidance for inclusion in a dedicated manual; (2) closely monitor, and develop a plan to mitigate, any elements that differentiate datalink communication from standard ICAO phraseology; (3) track significant global differences in phraseology and evaluate the reasons for these differences to formulate a plan for a better harmonization; (4) urge Member States to report to ICAO any significant differences in their phraseology; and (5) review any provisions linked to phraseology proficiency requirements for ATCO's and Pilots to make them as robust as possible.

c) Cyber Security In Aviation:

This Working Paper briefly introduces the concept of a system-of-systems, and establishes why such an approach would be suitable in the context of addressing cybersecurity considerations in the civil aviation environment; as well as the notion of security-by-design, and how the integration of this concept within the aviation system will improve its resilience. It will be recommended that the Conference (1) urge ICAO to acknowledge that the cyber resilience of the aviation system depends on continued coordination among all relevant stakeholders; (2) request that ICAO acknowledge the necessity of coordination among managers of sub-systems to develop systems that are "secure by design"; (3) urge ICAO to develop a framework that directs states to implement measures to mitigate the threat or impact of a potential cyber-attack; and (4) recognize the concepts contained in the Information Paper entitled: Considerations about Cyber Security in Aviation.

d) **RPAS Traffic Management in Canada:**

The growing popularity of remotely piloted aircraft systems (RPAS) for civilian applications, both commercial and recreational, along with the different flight patterns and airspace use of these aircraft, is challenging administrations and air navigation service providers to examine their current means of managing air traffic, and how they can be adapted or complemented to meaningfully include RPAS traffic. Canada's Information Paper examines many of the questions relating to traffic management and technological advances pertaining to remotely piloted aircraft systems of all sizes.

e) **RPAS – What's in a name?**

This Information Paper presents Canada's decision to broadly refer to drones as Remotely Piloted Aircraft Systems (RPAS), instead of Unmanned Aircraft Systems (UAS) or Unmanned Aerial Vehicles (UAV). Whereas ICAO uses the term RPAS to describe a specific type of 'unmanned aircraft' —one that can be integrated into airspace with traditional 'manned' aviation, Canada has taken the approach that all drones fall under the RPAS umbrella; and has replaced the term 'unmanned' with 'remotely piloted.' Informed by the public's perception of drones, international trends in nomenclature, a reflection on the technology itself and perhaps most importantly, gender considerations, Canada's regulatory designation for drones is gender-neutral and describes a technology that men and women are welcome to pilot. The Conference will be invited to reconsider ICAO's use of the term 'unmanned' to describe aviation without a crew, given the current social and technological environment.

f) **USOAP Simulated Audits through Self-Assessment and Peer-Assessment:**

While ICAO has provided strong guidance for the interpretation of expectations in Universal Safety Oversight Audit Programme (USOAP) simulated audits, understanding of specific questions and subjects often differs. Peer-assessments provide the opportunity to further clarify ICAO's expectations and encourage harmonization of the audit process. Canada's Working Paper will recommend (1) recognition of the benefits of USOAP simulated audits through both self-assessment and peer-assessment; (2) provision of increased structure for a peer-assessment methodology; and (3) further encourage results of self-assessments as a precursor to expedited audits and bilateral agreements.

g) **The Global Aviation Safety Oversight System (GASOS)**

In response to growing aviation safety oversight challenges experienced globally, ICAO is proposing the establishment of GASOS within the framework of the Global Aviation Safety Plan (GASP). GASOS would be a voluntary and standardized assessment and recognition mechanism for safety oversight organizations (SOOs) including State civil aviation authorities, regional safety oversight organizations (RSOOs) and other State-based mechanisms. GASOS aims to promote the delegation of safety oversight functions by States to ICAO recognized SOOs while maintaining the Member States' obligation and responsibility for safety oversight under the Convention on International Civil Aviation (Doc 7300).

Canada will recommend ICAO (1) develop an ICAO global aviation safety oversight system (GASOS) comprised of voluntary and standardized competency assessments of safety oversight organizations for recognition of safety oversight functions provided to States, including its legal framework and assessment mechanisms while ensuring those States maintain their obligations and responsibilities under the Convention; (2) develop appropriate guidance for States to support the delegation of safety

oversight functions and monitor SOOs accepting delegations; (3) design adequate interfaces between GASOS and other ICAO programmes and to avoid duplication of activities between GASOS and the USOAP CMA; (4) present GASOS for endorsement at the 40th Session of the Assembly; (5) encourage safety oversight organizations, including regional safety oversight organizations (RSOOs), State civil aviation authorities (CAAs) and other State-based mechanisms, to participate in GASOS in order to expand and enhance the safety oversight support provided to States; and (6) encourage Member States to support the development of GASOS.

h) Challenges with the Implementation of the Concept of Acceptable Level of Safety Performance

Annex 19 requires States to establish the acceptable level of safety performance (ALoSP) to be achieved through their State Safety Programme. This paper presents the challenges faced by States in implementing ALoSP and calls for a review of the ALoSP concept. Canada will recommend noting the challenges faced by States in implementing ALoSP; and request that ICAO review the ALoSP concept, taking into consideration the experience of Member States that have sought to implement ALoSP.

i) Inventory of Safety Risk Management Practices

This paper highlights challenges that States may encounter in identifying and obtaining information on Safety Risk Management (SRM) approaches in aviation used by other States as they seek to adopt new SRM practices; and puts forward a recommendation to (1) reduce some of these challenges through the creation of an International Civil Aviation Organization (ICAO) inventory of SRM practices and tools used by Member States. This inventory would facilitate and increase access to information and best practices on SRM as ICAO States work to implement Annex 19 and Safety Management Manual (SMM) requirements. Canada's Working Paper will also (2) encourage Member States to facilitate the establishment of the ICAO Inventory of State Safety Risk Management Practices by providing documentation on their respective SRM practices.

j) Laser Attacks Strategy Promoting Aviation Safety in Canada:

This paper presents an overview of Canada's comprehensive Laser Attack Strategy to address the critical safety issue of hand-held laser attacks targeting aircraft. Hand-held lasers, when directed at aircraft, can cause flash blindness and distraction of pilots, potentially endangering the safety of crew members and passengers. The International Civil Aviation Organization (ICAO) has highlighted laser attacks as a safety concern and has urged its member States to take appropriate actions, introduce legislative measures and raise public awareness to address this issue. With this paper, Canada will invite (1) Member States to share information and best practices to support ICAO in reducing laser attacks against aircraft to promote global aviation safety.

k) Implementation of SARPS:

Given increasing complexity and rapid growth in the global aviation system, ICAO Standards and Recommended Practices (SARPs) continue to play a key role in promoting safety, regularity and efficiency in international civil aviation. Accordingly, ICAO Member States' continued implementation of SARPs is imperative and must continue to benefit from strong international support.

Canada will recommend continued support for (1) Chicago Convention provisions applying to the ANC and established sub-commissions (panels and study groups) and the Member States and the ANC's fundamental role and responsibility for the development of quality and timely standards and recommended practices, procedures and guidance; (2) important ongoing contribution of industry organizations and experts in assisting in SARP development, procedures and guidance material; (3) development of a flexible, progressive, and risk-based strategy to improve global implementation of SARPS; and (4) development of a solution that provides web access, free of charge, to safety standards, manuals, and other technical documents to assist all Member States in building, accessing, and maintaining a safe and reliable global air transport system.

3 **Conclusion**

3.1 Canada looks forward to collaborating with ICAO and regional counterparts in the identification of mutual challenges, and taking common approaches for improving aviation safety and efficiency worldwide. This paper highlights initiatives that seek to proactively address current and emerging safety issues for which Canada is seeking support from both ICAO and our regional partners.

3.2 Canada believes in strong cooperation and collaboration to continuously improve aviation safety; and build upon lessons learned and experiences from Member States and international partners.

4. **Actions**

4.1 The Meeting is invited to:

- a) note the information provided in this paper; and
- b) use the information contained in this paper to coordinate and collaborate with Canada in identifying and advancing commonalities during the upcoming AN-Conf/13.