



WORKING PAPER

AVSEC/FAL/RG/6 — WP/11

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SIXTH MEETING OF THE AVIATION SECURITY AND FACILITATION REGIONAL GROUP (AVSEC/FAL/RG/6)

ICAO NACC Regional Office, Mexico City, Mexico, 6 to 10 June 2016

Agenda Item 4: Programmes and Projects - Aviation Security (AVSEC)
4.5 Civil aviation cybersecurity – Coordinator State: Jamaica

REPORT ON THE CYBER SECURITY AWARENESS WORKING GROUP

(Presented by Argentina, Colombia and Jamaica)

EXECUTIVE SUMMARY

In 2014 ICAO Secretary General called for member States to be more proactive and to promote a robust cybersecurity culture. The Cyber Security Awareness Working Group supports this initiative and has been tasked by the AVSEC/FAL Regional Group to develop and deliver a Cyber Security Awareness Course. This report provides an update on the progress of the project and to provide State with a framework on how to manage cyber security in the aviation industry.

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| Action: | Suggested actions are presented in Section 4. |
| Strategic Objectives: | <ul style="list-style-type: none">• Security & Facilitation |
| References: | <ul style="list-style-type: none">• Doc 9941 <i>TRAINAIR Plus Training Development Guide</i>, 2011• ICAO AVSEC/FAL/RG/5 Final Report, 2015• <i>Latin American + Caribbean Cyber Security Trends</i>, Organization of American States Report, June 2014• ICAO News Release, "Uniting Aviation", 2014• Government of Jamaica, "National Cyber Security Strategy", 2015• Journal of Aviation Management "Emerging Threats from Cyber Security in Aviation Challenges and Mitigations", 2014 |

1. Introduction

1.1 The ever changing nature of the threat to civil aviation has become increasingly evident as the world moves deeper into the technological era. The increased sophistication with which calculated attacks are carried out on our industry warrants a new paradigm in the way we address these new challenges. A growing concern for the North American Caribbean Central and South America Region (NARCAR/SAM) is the threat of Cyber Terrorism and other cyber-related crimes, and our ability to adequately respond to critical incidents of this nature. Entities that seek to do harm to air transport are seemingly more minded to engage the industry in the cyber arena, the real world impact of which being potentially as devastating as a physical attack on an aviation interest.

1.2 Cybersecurity challenges have been recognised by ICAO, being proposed as a working document at the 2012 ICAO High-Level Conference for further discussion at the 12th ICAO Air Navigation Conference. This resulted into the forming of a cyber security task force to evaluate the extent of the problem. At its 25th meeting the ICAO AVSEC Panel had deliberations on a number of cyber security related matters.

1.3 The need for all member states and international agencies to work together was further emphasized, in December 2014, ICAO and four international organisations came to an agreement to align their respective actions on cyber threats. The common goal of the agreement signed by the five major international aviation organisations, as posited by Secretary General Raymond Benjamin, was to *"work more effectively together to establish and promote a robust cybersecurity culture and strategy for the benefit of all actors in our industry"*. The agreement calls on the Signatories, "*...to be more proactive in sharing critical information such as threat identification, risk assessments and cybersecurity best practices*" and for the encouragement of "*...more substantial coordination at the State level between their respective government and industry stakeholders on all cybersecurity strategies, policies, and plans.*"

2. Overview of Activities

2.1 At the ICAO/AVSEC/FAL/RG/5 Meeting held in Lima Peru, June 2015, member States agreed to include the Development of a Cyber Security Awareness Course for member States in its Strategic Plan 2016/2017. Meanwhile ICAO establishes some official guidelines on this regard. The objective of the Working Group is to report the progress of the project and to increase Cyber Security awareness to provide States with a framework on how to manage cyber risk to aviation industry.

2.2 The Working Group identified three main tasks: review of existing documentation, consultation with cybersecurity experts within the region and within other Regional UN Agencies, and identify and use of Standardized Training Package (STP) Course Developers.

2.3. The review of existing documentation developed by CANSO, AIAA, European Union, OAS and other agencies and an electronic database of current literature was developed. This was done during the period July to August 2015. The research literature is available in English only and currently consists of 16 journals and articles on the subject of aviation cyber security and cyber security risk assessment. Additional resource material will be added by the Course Developers during the development of the modules.

2.4. Technical guidance was sought and received through Jamaica Civil Aviation Training Institute which is an ICAO TRAINAIR *Plus* Member on how to approach the development of the Cyber Security Awareness Course for Industry. Technical capacity was also increased by training AVSEC Inspectors in ICAO TRAINAIR *Plus* Developers and Instructors. This was done by December 2015 with two inspectors receiving Course Developers Training.

2.5. Cybersecurity and aviation security experts have been identified to be members of the STP Course Develop Team. The issue of Course Validation was discussed and alternatives to validating the course is being considered, due to the cost of validating the course through TRAINAIR *Plus* Consultants.

2.6. Utilizing the TRAINAIR *Plus* Methodology the following processes were adopted:

- A Preliminary Study was conducted through the literature review and case studies
- Job Analysis and Population Analysis, was conducted based on the identifying the training need, which is due to a new and emerging threat that is foreseen to impact civil aviation stakeholders.
- Curriculum Design
- Design of Modules, Production and Developmental Testing. The projected date for the Module Design and Production is August 2016 in English, then to be translated in Spanish.

3. Discussion

3.1 It is agreed that States within the Region should adopt actions in keeping with the common goal of the agreement of the five major aviation organisations to include the International Civil Aviation Organization in order to adequately and effectively address the challenges posed by cyber threats to the aviation system. It is anticipated that the development of the awareness training course will address the need of cybersecurity awareness. Utilization of the AVSEC PoC network to share cyber security information throughout the region and the inclusion of cybersecurity in the conduct of aviation security risk assessments are actions recommended to support the goals of "Uniting Aviation."

4. Suggested actions

4.1 The Meeting is invited to agree:

- a) with the development of awareness training courses to address the particular need of cybersecurity awareness;
- b) to share cyber security information throughout the region and through the AVSEC PoC Network; and
- c) the inclusion by States of cybersecurity concerns in their conduct of aviation security risk assessments.

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