



Agenda Item 3: Review of AIM Planning and Transition issues

3.3 Review of the development of AIM human factors applications (AIS/MAP), relating to ICAO strategic objectives A: Safety and D: Efficiency in the ICAO operational safety areas

(Presented by the Secretariat)

SUMMARY

Regarding Appendix C to the AIM QM/TF/3 Report, this working paper will try to establish a connection with ICAO strategic objectives **A: Safety** and **D: Efficiency** to which ICAO is more associated. This is with the aim to direct human factors elements under ICAO vision to improve different human resources in accordance with the Mission and Objectives practices of the new AIM concept.

References:

- Annex 15
- Doc 8126 – *Aeronautical Information Services Manual*
- Doc 9683 – *Human Factors Training Manual*
- ICAO Strategic Objectives

1. Introduction

1.1 ICAO works to achieve its mission and view of a safety development protected and sustainable of civil aviation through the members States cooperation, in order to carry out this view, ICAO has established the following strategic objectives for the period 2005-2010.

- A: Safety** – Enhance global civil aviation safety.
- B: Security** – Enhance global civil aviation security.
- C: Environmental protection** – Minimize the adverse effect of global civil aviation on the environment.
- D: Efficiency** – Enhance the efficiency of aviation operations.
- E: Continuity** – Maintain the continuity of aviation operations.
- F: Rule of Law** – Strengthen law governing international civil aviation

1.2 Human Factors principles have been sufficiently studied in order to reduce human error in events of civil aviation safety risks. In this sense, par. 4), 6) and 8) of Strategic A Objective, regarding AIM Services (AIS) are a fundamental part of the implementation of new technologies of processing and distributing Information/aeronautical Data, routine, essential and critical in traditional printed format and in digital format. This represents new challenges to the assigned personnel due to the precision, resolution, integrity and opportunity that, most of the cases, exceed the normal capacities of human element and might induce to safety errors.

1.3 The ICAO International Standards, Quality and Human Factors face new scenario for decision-making, impact the human factor performance, and the importance of their implementation and integration of all operational structure, from AIM (AIS), pilots, clearance office, air traffic control, maintenance area, among others that are interacting with aeronautical operations. For this reason, more quality and less risks induction is searched, as it is shown in the following Measures of Objectives A and D:

Strategic Objective A: Safety – Enhance global civil aviation safety:

1. Identify and monitor existing types of safety risks to civil aviation and develop and implement an effective and relevant global response to emerging risks.
2. Ensure the timely implementation of ICAO provisions by continuously monitoring the progress toward compliance by States.
3. Conduct aviation safety oversight audit to identify deficiencies and encourage their resolution by States.
4. Develop global remedial plans that target the root causes of deficiencies.
5. Assist States to resolve deficiencies through regional remedial plans and the establishment of safety oversight organizations at the regional or sub regional level.
6. Encourage the exchange of information between States to promote mutual confidence in the level of aviation safety between States and accelerate the improvement of safety oversight.
7. Promote the timely resolution of safety critical items identified by Regional Planning and Implementation Groups (PIRGs).
8. Support the implementation of safety management systems across all safety-related disciplines in all States.
9. Assist States to improve safety through technical cooperation programmes and by making critical needs known to donors and financial organizations.

Strategic Objective D: Efficiency – Enhance the efficiency of aviation operations.

To increase the efficiency of aviation operations solving problems that limits the efficient development of the global civil aviation through the following:

1. Develop, coordinate and implement air navigation plans that reduce operational unit costs, facilitate increased traffic (including persons and goods), and optimize the use of existing and emerging technologies.
2. Study trends, coordinate planning and develop guidance for States that supports the sustainable development of international civil aviation.
3. Develop guidance, facilitate and assist States in the process of liberalizing the economic regulation of international air transport, with appropriate safeguards.
4. Assist States to improve efficiency of aviation operations through technical cooperation programmes.

2. Discussion

2.1 In ICAO, as in the States' normative entities, defense mechanisms have been developed and implemented to "avoid human error". It is important to stress that in Doc 8126 – *Aeronautical Information Services Manual* indicates that the "*Organization of an AIS, as well as the design, contents, processing and distribution of Aeronautical Information, must take into consideration Human Factors principles which facilitate its optimum utilization*", Chapter 1, Introduction, par. 1.5.

2.2 If defensive barriers are reduced in the Organizations in operational field, the systems are under the incidence of events which might lead to an accident. Specifically, AIM (AIS) personnel in charge of aeronautical information process, now in digital formats, should be aware of the high responsibility and sensitivity (essential and critical data) of the aeronautical information for users: pilots, planners and flight dispatchers, air traffic controllers, technicians of other air navigation services and organizations which produce aeronautical charts and other related documents on aeronautical information.

2.3 The efficiency (Objective D) and quality of systems focused in the human being are under interactive and complex systems responsible for the operation safety in navigation system, especially in the handling of Information/Aeronautical data and in the air traffic control systems, which with the use of automation technology has generated changes in communication systems in the display panel, data link, among others. There is always the possibility to isolate human operators of the operation itself and to reduce its awareness or the situation status or of the system to be operated.

3. Conclusion

3.1 Human factors are part of the operational requirements, especially quality requirements of aeronautical information/data which increase the Efficiency. The need of planning and assuring the operational safety it is highly important. From the priority to implement human factors principles within AIM, it is essential to implement a guide which facilitates its application in CAR/SAM States.

4. Suggested action

4.1 The Meeting is invited to:

- a) take note of the importance of the Working Paper; and
- b) support the work and conclusion on the item developed by the respective task force.