ADOPTION OF POLICIES AND PROCEDURES TO ADDRESS HUMAN FACTORS

1. Introduction

Flight safety is the major objective of the International Civil Aviation Organization. Considerable progress has been made, but additional improvements are needed and can be achieved. Many accidents result from less than optimum human performance, indicating that any advance in this field can be expected to have a significant impact on the improvement of flight safety.

This was recognized by the ICAO Assembly, which in 1986 adopted Resolution A26-9 on Flight Safety and Human Factors. As a follow-up to the Assembly Resolution, the Air Navigation Commission formulated the following objective for the task:

> *"To improve safety in aviation by making States more aware and responsive to the importance of human factors in civil aviation operations through the provision of practical human factors material and measures developed on the basis of experience in States."*

One of the methods chosen to implement Assembly Resolution A26-9 was the publication of a series of digests which addressed various aspects of Human Factors and their impact on flight safety. In addition a number of guidance documents have been published by ICAO.

Air navigation service providers should adopt policies and procedures to address human factors principles in a manner consistent with applicable ICAO standards, recommended practices and associated guidance material.

2. Human Factors Principles

ICAO Annex 4 defines Human Factors Principles as "principles which apply to aeronautical design, certification, training, operations and maintenance and which seek safe interface between the human and other system components by proper consideration to human performance."

ICAO Doc 9683 (Human Factors Training Manual) provides an overview of fundamental human factors concepts. The subject of Human factors is considered multidisciplinary in nature. It is oriented towards the practical consideration of factors that influence human performance as

it relates to the safety of a facility or activity over all phases including design, construction, commissioning, operation, maintenance and decommissioning.

As noted in an ICAO Journal article there are two possible approaches to addressing human factors issues in modern systems; during the design, or in an operational context after the systems have been implemented. In terms of maximising the safety and cost effectiveness of CNS/ATM[1] systems it is considered that "best time to address human factors issues is during technology design, thereby anticipating the negative consequences of human error"[2].

3. ICAO Human Factors Documentation

ANS providers (ANSPs) should adopt policies and procedures on human factors principles.

Human factors policies and procedures should be consistent with ICAO guidance on the subject as documented in the following:

ICAO Doc 9758: Human Factors Guidelines for Air Traffic Management (ATM) Systems

Human Factors Digest No. 7: Investigation of Human Factors in Accidents and Incidents
Discusses the background and introduces a protocol for the investigation of Human Factors issues in accidents and incidents. (Circular 240)

Human Factors Digest No. 8: Human Factors in Air Traffic Control
Discusses basic Human Factors issues in air traffic control, including workstation design and personnel selection and training. (Circular 241)

Human Factors Digest No. 10: Human Factors, Management and Organization
Introduces the concept of systemic safety, and presents the background information as well as a protocol to implement safety Programmes. (Circular 247)

Human Factors Digest No. 11: Human Factors in CNS/ATM Systems
Introduces the concept of human-centered automation. (Circular 249)

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[1] CNS / ATM: Communications, Navigation, Surveillance / Air Traffic Management
[2] ICAO Journal June 1998 article: http://www.icao.int/ANB/humanfactors/ICAO_supports_proactive.pdf

4. Human Factors Regulatory Requirements

It should be noted that the documents referenced within this notice supplement but do not replace existing human factors related regulatory requirements including;

- Directive 2006/23/EC and associated S.I. No. 305/2008: The Directive includes the requirement to cover human factors as part of the initial training undertaken by air traffic controllers.
- EC Regulation 2096/2005 requires providers of air traffic services and providers of CNS to have working methods and operating procedures in compliance with the standards documented in the specific ICAO Annexes applicable to such providers.
- S.I. No. 333/200 Irish Aviation Authority (Personnel Licensing) Order: This includes requirements for knowledge of the subject of human factors/human performance for the issue of radio officer and flight information service officer licences.

5. Further Information

Further detailed information on human factors (including guidance documents, reports and best practices for integrating human factors considerations with the system design lifecycle) is available from the Eurocontrol website:

http://www.eurocontrol.int/humanfactors/public/subsite_homepage/homepage.html

Requests for further information on the contents of this notice should be addressed to ansdinfo@iaa.ie.

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Chief Executive.
Irish Aviation Authority.

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