ICAO Human Factors Digest No. 8: Human Factors in Air Traffic Control (Circular 241)

Submitted by superadmin on Mon, 10/22/2012 - 14:45
HP Activity Categories:
Design of working environment and human-machine interfaces [1]
Resource Type:
Guideline
Abstract:

The ICAO Human Factors Digest No.8 deals with human factors issues related to air traffic control. Its objective is to provide practical human factors guidance to those concerned with ATC systems. It is intended to show human capabilities and limitations, which can influence task performance and safety. Sources of human factors knowledge are also identified.

References

Developer and source:
ICAO Circular 241


Year of development / publication, updates etc:
1993

General Description

Purpose:

The target audience includes air traffic controllers and supervisors, ATC managers and planners, civil aviation administrators and equipment designers. It is useful for the design of an Integrated Controller Working Position.

Useful in the design of an air traffic controller service with an emphasis on the design of the system and HF requirements including selection of personnel.

Type (e.g. observation, questionnaire, interview, checklist, measurement instrument, etc.):

Guidance material

Technical description of method or tool etc

Description of the content/study:
This digest contains the following:

- Chapter 1 describes the evolution of ATC, including a brief account of how to consider human factors within a system;
- Chapter 2 deals with requirements associated with the design of controllers' workspaces and makes recommendations about them;
- Chapter 3 explains the human factors issues raised by the introduction of automated equipment into ATC workstations;
- Chapter 4 outlines selection criteria for controllers and discusses issues regarding air traffic controller training;
- Chapter 5 considers specific human attributes relevant to ATC systems; and the Appendix provides a list of references and recommended reading.

Technical requirements for using the method, tool, etc:

None

Measure/Response Type:

n/a

Results obtained and interpretation:

n/a

Evaluation

Advantages:

Provides a good overview of HF areas that may be further investigated when designing a ATC system and can be used as a checklist to ensure HF elements are covered.

Disadvantages:

Some of the examples and advice may be a little dated and may not reflect recent technological developments.

Alternative Methods:

n/a

Usability (ease of use, efficiency, effectiveness)

The digest is easy to use, clear and well written.

Ease of use:

high

Efficiency:

high

Effectiveness:

high

Constraints concerning conditions of use:
None

Reliability:

n/a

Validity:

n/a

Required effort (to conduct & to analyse):

n/a

**Level of HF expertise needed (required user qualification)**

A medium level of expertise in HF would be required to use the Digest to its best effect though even people with low levels of HF expertise will find this useful and informative.

Medium: limited level of expertise required, some training required
Other expertise needed (required user qualification):

n/a

**Cost Information**

Freely available from ICAO

Experiences of use by SESAR partners (including references):

None

Reported and/or published experiences of use (including references):

None

Applicability to lifecycle phase (E-OCVM):

Applicable in all areas of lifecycle

Application Area:

Air Traffic Control

Keywords:

Air Traffic Control, human factors, ergonomics, anthropometry, workstation design, controller working position, selection of controllers, automation.

Short Description:

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Links