Republic of the Philippines
CIVIL AVIATION AUTHORITY OF THE PHILIPPINES

Advisory Circular

AC 139 – AEP/HF - 01

HUMAN FACTOR PRINCIPLES
FOR
AERODROME EMERGENCY PLAN

February 2017

Advisory Circulars (AC) are intended to provide recommendations and guidance, illustrate a means-but not necessarily the only means of complying with regulatory requirements, or to explain certain regulatory requirements by providing interpretative and explanatory materials.

CAAP will generally accept that when the provisions of an Advisory Circular have been met, compliance with the relevant regulatory obligations has been satisfied.

Where an AC is referred to in a "Note" within regulatory documentation, the AC remains as a guidance material.

ACs should always be read in conjunction with the referenced regulations.

1.0 PURPOSE

This Advisory Circular is promulgated to provide guidelines to Aerodrome Operators in adopting policies and procedures on human factors principles in the provision of Aerodrome Emergency Services.

2.0 REFERENCES.

2.1 Civil Aviation Regulations governing Aerodromes (CAR-Aerodromes)
2.2 Manual of Standards for Aerodromes (MOS)
2.3 Memorandum Circular 009-17, Application of Human Factors for Aerodrome Emergency Plan
2.4 ICAO Doc 9683- ICAO Human Factors Training Manual
2.5 ICAO Doc 9137 – Part 7 Airport Emergency Planning

3.0 BACKGROUND

Emergency planning is the process of preparing the aerodrome to cope with an emergency occurring at the aerodrome or in its vicinity. The objective of the emergency planning is to minimize the effect of an emergency particularly in respect of saving lives and maintaining aircraft operation.

The overall safety and efficiency of the civil aviation system depends on human operators as the ultimate integrators of the numerous system-elements. This dependence is unlikely to decrease, and may even increase in unanticipated ways, as additional advanced technology is implemented. To a greater extent, understanding and accounting for the role of humans, including their positive and negative contributions, will be important to maintaining and improving safety while improving efficiency.

Human Factors is about people in their living and working situations; about their relationship with machines, with procedures and with the environment around them; and also about their relationships with other people. "Human Factors is concerned to optimize the relationship between people and their activities, by the systematic application of human sciences, integrated within the framework of systems engineering".

The human sciences study the structure and nature of human beings, their capabilities and limitations, and their behaviors both singly and in groups. The

notion of integration within systems engineering refers to the Human Factors practitioner's attempts to understand the goals and methods as well as the difficulties and constraints under which people working in interrelated areas of engineering must make decisions. Human Factors uses this information based on its relevance to practical problems.

The industry need for Human Factors is based on its impact on two broad areas, which interrelate so closely that in many cases their influences overlap and factors affecting one may also affect the other.

These areas are:

a. Effectiveness of the system
   i. Safety
   ii. Efficiency
b. Well-being of operational personnel.

4.0 GUIDANCE AND PROCEDURES

4.1 Definitions

Human Factors Principles mean 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.

4.2 General

The human factors concept concerns the interaction between:

a. People and people
b. People and equipment
c. People and the environment
d. People and procedures

4.3 Three key concepts are involved in human factors understanding and eventual implementation. These are; Human-centered Automation, Situational Awareness and Error Management.

4.3.1. Human-centered Automation

Automated aids can be designed from a technology-centered perspective or from a human-centered perspective. A technology-centered approach automates whatever functions it is possible to automate and leaves the