



ADVISORY BULLETIN FOR STATES

Subject: INFORMATION TO STATES ON CREW RESOURCE MANAGEMENT TRAINING

Date: 08/10/2003

Initiated by: COSCAP-SA

Bulletin No: AB (SA) 003

1. PURPOSE

- a. The purpose of this Advisory Bulletin is to provide States' with information on Crew Resource Management (CRM) Training as mandated by the ICAO Standards (and Recommended Practices).
- b. The contents of this Bulletin are intended to assist States who are required to develop appropriate legislation, regulations and standards for implementation of the ICAO Standards (and Recommended Practices).
- c. This Bulletin is developed to comply with the decisions of the Project Steering Committee taken at its 10th Meeting on 24-25 September, 2002 on ' Implementation Plan for Training – CRM and implement the SARAST recommendations (Para 6.2 (g) of the Minutes refer). This Bulletin has been updated and reflects current changes in CRM concepts.

2. BACKGROUND

- a. Investigations into the causes of air operator accidents have shown that human error is a contributing factor in 60 to 80 percent of all air operator incidents and accidents. Long term research has demonstrated that these events share common characteristics. Many problems encountered by flight crews have very little to do with the technical aspects of operating in a multi-person cockpit. Instead, problems are associated with poor group decision making, ineffective communication, inadequate leadership, and poor task or resource management. Pilot training programs historically focused almost exclusively on the technical aspects of flying and on an individual pilot's performance; they did not effectively address crew management issues that are also fundamental to safe flight.

- b. The application of team management concepts in the flight deck environment was initially known as Cockpit Resource Management. As CRM training programs evolved to include cabin crews, maintenance personnel and others, the phrase Crew Resource Management has been adopted. Briefly defined, crew resource management is the effective use of all available resources, i.e. equipment, procedures and people, to achieve safe and efficient flight operations. CRM training is one way of addressing the challenge of optimizing the human/machine interface and accompanying interpersonal activities. These activities include team building and maintenance, information transfer, problem solving, decision making, maintaining situation awareness, and dealing with automated systems.
- c. Industry and government have come to consensus that training programs should place emphasis on the factors that influence crew coordination and the management of crew resources. The need for additional training in communication between cockpit crew members and cabin crews has been specifically identified.
- d. CRM training is based on awareness that a high degree of technical proficiency is essential for safe and efficient operations. Demonstrated mastery of CRM concepts cannot overcome a lack of proficiency. Similarly, high technical proficiency cannot guarantee safe operations in the absence of effective crew coordination. The Human Factors research community has a fundamental contribution to the implementation of Human Factors training for flight crews. The effectiveness of CRM/LOFT as a vehicle for Human Factors training is beyond question. Line-Oriented Flight Training (LOFT) is a group performance training exercise. LOFT can have a significant impact on aviation safety through improved training and validation of operational procedures.
- e. There is sufficient evidence supporting the effectiveness of CRM to warrant its use in the training environment. This conclusion is based upon several types of evidence. The programmes have a high degree of validity. That is, they reflect sound operating principles and are focused on areas of known weaknesses as supported by accident / incident data. The skills that are targeted for improvement in these programmes and the means to achieve that improvement have been incorporated into effective programmes already in use in other areas, such as business management.

3. SCOPE

- a. The scope of this Bulletin is designed to identify the applicable ICAO Standards on CRM (Human Factors).
- b. It is also intended to identify the CRM training requirements as may be made applicable to the Operator(s) for implementation of ICAO Standards.

4. ICAO STANDARDS

Amendment 21 to Annex 6 Part I carries important consequences for the international aviation community, including trainers and training developers, regulators and Human Factor researchers. The requirement to develop Human Factors knowledge and skills amongst flight crew members has the same weight as that related to systems, normal, abnormal and emergency procedures.

- a. The Human Factor Standards in Annex 6, Part I, Chapter 9 under the heading ‘Flight Crew member training programmes (9.3.1) indicates that:

“...The training programme shall also include training and knowledge in skills related to human performance...” and it further requires that “... The training programme shall be given on a recurrent basis, as determined by the State of the Operator and shall include an examination to determine competence”.

- b. For Cabin Crew, the ICAO Standards in Chapter 12, section 12.4 mandates that:

“An operator shall establish and maintain a training programme, approved by the State of the Operator, to be completed by all persons before being assigned as a cabin crew member. Cabin crew shall complete a recurrent training programme annually. These training programmes shall ensure that each person is: (f) knowledgeable about human performance as related to passenger cabin safety duties including flight crew-cabin crew coordination”

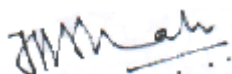
5. ACTION BY STATES

- a. States may or may not have yet incorporated the ICAO Standards for Crew Resource Management (CRM) Training into their legislation or rules / requirements:

- (1) States that are yet to do so are requested to initiate action to bring their requirements on CRM training in conformity with ICAO Standards at the earliest.
- (2) States that find it impracticable to comply with any such international standards or procedures are requested to give notification to ICAO of the ‘difference’.

- b. States may issue the attached Advisory Circulars after appropriate modifications as may be considered necessary:

- (1) AC No. COSCAPSA – 003A CREW RESOURCE MANAGEMENT TRAINING
- (2) AC No. COSCAPSA – 004 COMMUNICATION AND COORDINATION BETWEEN FLIGHT CREW MEMBERS AND CABIN CREWS
- (3) AC No. COSCAPSA – 005 LINE OPERATIONAL SIMULATIONS



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