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FLIGHT OPERATIONS

IMPLEMENTATION OF APPROACH AND LANDING ACCIDENT REDUCTION (ALAR) MEASURES AMONG AIR OPERATORS

1. PURPOSE

- 1.1 The purpose of the implementation of ALAR measures among air operators is to reduce the risk of Approach and Landing Accidents (ALAs) by increasing the awareness of air operators management and flight operations personnel of the factors which contribute to ALAs and by modifying, as appropriate, operator's policies, procedures and training related to ALAR.

2. APPLICABILITY

- 2.1 The implementation of ALAR measures is applicable to all commercial air operators of aeroplanes of a maximum certificated take-off mass of greater than 5,700 kilograms. These measures are in line with ICAO Annex 6 Chapter 3 para. 3.2.

3. BACKGROUND

- 3.1 By far the largest number of airplane hull losses worldwide are the result of Approach and Landing Accidents (ALAs). Controlled Flight into Terrain (CFIT) comprises the largest category of ALAs. Major initiatives have been undertaken on a global basis to reduce the world wide accident rate. The FAA Commercial Aviation Safety Team (CAST) and the JAA Joint Strategic Safety Initiative (JSSI) are jointly involved in data-driven studies of accidents world wide which lead to the development of global intervention strategies to counter the precursors of those accidents. A major focus of both of these initiatives is the reduction of ALAs, including CFIT.
- 3.2 In keeping with the ICAO Global Aviation Safety Plan (GASP), and in consonance with other global strategies to reduce accidents, an ICAO-administered program within the Southeast Asia region, known as "Cooperative Development of Operational Safety and Continuous Airworthiness Program - Southeast Asia (COSCAP-SEA)", has undertaken the task of implementing existing, globally-developed safety interventions among its 12 Member States. This implementation is being done through a component of COSCAP-SEA known as the "Southeast Asia Regional Aviation Safety Team (SEARAST). COSCAP-SEA and SEARAST membership includes the aviation regulatory authorities of its 12 Member States/Administration within the Southeast Asia region, together with the donor agencies, the "Industry Partners" (Airbus and Boeing) and "Associate Members" (European Commission and FAA).

- 3.3 One of the first major products of the world wide effort to reduce hull losses is known as the Flight Safety Foundation (FSF) ALAR Tool Kit, which was developed by FSF ALAR Task Force. The ALAR Tool Kit contains one CD-ROM, a number of checklist, briefing notes, videos, presentations and other documents for use by operators (and other relevant organizations) to enhance ALA awareness and inspire changes in corporate cultures, SOPs, training and equipment.
- 3.4 A comprehensive review of the ALAR Tool Kit was undertaken in the course of SEARAST meetings and it was concluded that the regulatory authorities of its Member States would act to ensure the implementation of the various elements of the ALAR Tool Kit among air operators which they oversee.
- 3.5 This circular the steps to be taken by air operators to review and implement the various interventions contained in the FSF ALAR Tool Kit.

4. GENERAL ACTION REQUIRED OF AIR OPERATORS

- 4.1 Air operator is to ensure that each component (tool) of the ALAR Tool Kit is reviewed and implemented to the extent which tool is relevant to the operation and is consistent with company operating philosophy. When a thorough review of a tool suggests that a change to air operator SOP is warranted, air operator will take appropriate steps. Operator training programs will be amended as necessary to incorporate specific ALAR modules.

5. SPECIFIC ACTIONS REQUIRED OF OPERATORS

- 5.1 **Tool Kit Review and Implementation** : The following is the brief description of each component of ALAR Tool Kit together the specifics steps to be taken by air operators concerning each component.

5.1.1 Standard Operating Procedures (SOP)Template :

- 5.1.1.1 The Template contains example of subject areas which should be addressed within an operator's manual system. The list is not all-inclusive and all of the items are not relevant to every operations. Nonetheless, the Template (which is derived from FAA Advisory Circular 120-71) is recognized by industry as being a valuable resource for identifying subject areas for which guidance should be provided to crew members.

- 5.1.1.2 **Required Action** : Air operator will review the content of the ALAR Tool Kit Standard Operating Procedures Template and compare to the guidance contained in their manual system. If there are subject areas listed in the Template which are relevant to the air operator's circumstances and for which guidance is lacking or insufficient, air operator will make changes or additions to their SOP as necessary.

5.1.2 Approach and Landing Risk Reduction Guide :

- 5.1.2.1 This guide contains a checklist in four sections, which should be reviewed by chief pilots, line pilots, dispatchers or schedulers as specified in the introduction to each section. It is a strategic (long term) planning tool to evaluate specific flight operations and to improve crew awareness concerning ALAs.

- 5.1.2.2 **Required Action** : Air Operator will complete the checklist contained in the ALAR Tool Kit Risk Reduction Guide in order to identify possible shortcomings in their organization structure, equipment and training. Where shortcomings are indicated, air operator will take corrective action.
- 5.1.3 **ALAR Briefing Notes** :
- 5.1.3.1 The notes contains 34 documents, on a variety of subject areas, which are based upon the conclusions and recommendations of the ALAR Task Force. The briefing notes were developed as an aid to education and training and can be used by airline management and flight operations professionals. Provided that they do not conflict with current company SOP, a number of the briefing note may be used "as is" to convey useful information to line pilots. For chief pilots and other management personnel, the briefing notes will serve as an additional tool to evaluate the adequacy of an air operator's organization, policies and procedures which have a direct veering on approach and landing accident reduction.
- 5.1.3.2 **Required Action** : Air operator will review the content of the ALAR Briefing Notes and decide whether or not and to what extent of each note can be incorporated into company manuals and/or used in training and safety awareness programs. When the content of a briefing note is relevant to an air operator's specific operation, the information in the note will be made available to flight operations personnel in some form. When the information, recommendations, or procedures contained in any note (provided that the note is relevant to operator's specific operation) conflicts with current SOP, the operator will either modify the information contained in the note before making it available to flight operations personnel or modify their SOPs in consideration of the information presented in the note.
- 5.1.4 **Approach and Landing Risk Awareness Tool** :
- 5.1.4.1 The tool is a one page (two-sided) document designed to assist flight crews evaluating risk factors associated with each approach and landing. This tool is intended for use in the cockpit to supplement the normal approach briefing in order to increase awareness of hazards associated with a particular approach.
- 5.1.4.2 **Required Action** : Air operator will review the Approach and Landing Risk Awareness Tool and consider incorporating it in its SOP as an additional briefing item prior to approach. It is recognized that cockpit crews already have a high workload prior to descent, particularly on short sectors, which may dictate against using the Tool on a routine basis. If air operator deems it is not practical to use the Tool routinely as an additional briefing item, it should nonetheless be distributed to crews for their information, included in the cockpit as an additional resource, and made part of training programs and check flight briefings in order to increase ALA awareness among flight crews.
- 5.1.5 **CFIT Checklist** :
- 5.1.5.1 This checklist is divided into three parts, in which numerical values are assigned by the operator to various factors which have a bearing upon the CFIT posture of the airline. A numerical total is calculated to arrive at a CFIT Risk Score. A negative Risk Score will serve to highlight factors in the operation which may require attention to reduce the risk of CFIT.

5.1.5.2 **Required Action** : Air operator is to follow the CFIT Checklist to calculate a CFIT Risk Score for their operation(s) and will address areas of weakness which are brought to light by the Checklist.

5.2 **ALAR Training**

5.2.1 Approved operator training programs will reflect the following provisions:

5.2.1.1 ALAR classroom training will be provided to all flight crew members for the purpose of increasing awareness of ALA causes and means of prevention. Such training will be designed in consideration of all of the major items contained in the ALAR Tool Kit. Every flight crew member will receive at least one 4 hour classroom training, either as a stand-alone training segment or in connection with another category of training such as initial, upgrade or transition training. An appropriate training segment on ALAR will also be included in recurrent ground training programs for flight crew members. ALAR awareness may also be increased by incorporating ALAR items in flight simulator training segments, proficiency check briefings, briefings for Certificate of Test (base check).

5.2.1.2 The major tools in the ALAR Tool Kit which are summarized above provide a wealth of information which can be used in the operators' training programs. Additionally. There are a number of other items contained in the ALAR Tool Kit which are highly useful in the development of an ALAR training programs. These are:

- a. ALAR Operations Training - Data, procedures, and recommendations for pilots presented on 32 slides with explanatory notes.
- b. An Approach and Landing Accident : It Could Happen to You - A 19-minute video presentation of specific data, findings and recommendations generated by FSF ALAR Task Force studies.
- c. Pilot Guide to Preventing CFIT - CFIT accident data and lessons learned, plus a review of approach obstruction-protection criteria, presented on 43 slides with explanatory notes.
- d. CFIT Awareness and Prevention - A 32-minute video presentation of CFIT statistics, plus analyses of three representative CFIT accidents and how they might have been avoided.
- e. Air Traffic Control Communication - Improving pilot-controller communication and understanding of each other's operating environments, presented on 22 slides with explanatory notes.
- f. Selected Flight Safety Foundation Publications - A large reference library containing previously published FSF articles concerning ALAs and CFIT.

6. **IMPLEMENTATION**

6.1 **Implementation Date.** All applicable air operators to implement the Approach and Landing Accident Reduction measures by 31 June 2004.

- 6.2 **Implementation Tracking.** The DCA will track the progress of air operator's implementation of the ALAR Tool Kit and ALAR Training. Air operators are required to submit to DCA the progress report on a monthly basis. The first progress report is to be submitted to DCA by 29 Februari 2004.
- 6.3 Although the contents of the Tool Kit are designed for commercial operations using large, turbojet aeroplanes, a number of the tools are appropriate for applications in any type of fixed-wing operations even for aeroplane below 5700 kg. Air operators in this category are encouraged to adopt ALAR measures as specified above.

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