

**58th CONFERENCE OF
DIRECTORS GENERAL OF CIVIL AVIATION
ASIA AND PACIFIC REGIONS**

*Dhaka, Bangladesh
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AGENDA ITEM 3: AVIATION SAFETY

**FDM MONITORING AND STANDARDISATION OF THE
PRECURSOR EVENTS**

(Presented by India)

INFORMATION PAPER

SUMMARY

ICAO Annex 6 requires that an aircraft operator, subject to maximum certificated take-off mass of an aircraft establishes and maintain a flight data analysis programme as part of its safety management system. India has established the requirements to ensure that Aircraft Operators engaged in commercial air transport operations have Flight data Analysis programme in place as part of their Safety Management System. To ensure uniformity in the exceedance values and corrective actions and support State Safety Programme, India has standardized exceedance values/Precursor events in consultation with service providers & domain experts for certain aircraft types operating in India.

FDM MONITORING AND STANDARDISATION OF THE PRECURSOR EVENTS

1. INTRODUCTION

1.1 Para 3.3.2 of ICAO Annex 6 Part I requires, "The operator of an aeroplane of a maximum certificated take-off mass in excess of 27,000 kg shall establish and maintain a flight data analysis programme as part of its safety management system".

1.2 Para 3.3.1 of ICAO Annex 6 Part I recommends, "The operator of an aeroplane of a certificated take-off mass in excess of 20,000 kg should establish and maintain a flight data analysis programme as part of its safety management system".

1.3 Para 1.3.1 of ICAO Annex 6 Part III Section II recommends, "the operator of a helicopter of a certified take-off mass in excess of 7,000 kg or having a passenger seating configuration of more than 9 and fitted with a flight data recorder should establish and maintain a flight data analysis programme as part of its safety management system".

1.4 Guidance on the establishment of flight data analysis programmes is included in the Manual on Flight Data Analysis Programmes (FDAP) (ICAO Doc 10000).

1.5 Model advisory circular for establishment of flight data analysis programmes published by ICAO Regional office, Bangkok.

1.6 DGCA CAR Section 5 Series F Part II contains requirements for establishing and maintaining flight data analysis programme by a service provider for supporting the implementation of their safety management system.

1.7 The Civil Aviation Requirement stipulates that all operators equipped with DFDR, shall develop procedures, establish facilities and monitor DFDR/ QAR/ PMR data of all flights to determine exceedances in flight parameters from the stipulated limits as per the certificated take off mass category of an aircraft:

- a) Scheduled Operators of an aeroplane of certificated take off mass In excess of 20,000 Kgs
- b) Non Scheduled Operators of an aeroplane of certificated take off mass In excess of 27,000 Kgs
- c) Helicopter operators engaged in offshore operations.
- d) In addition following categories of aircraft operator are required to establish flight data analysis programme and analyse DFDR for each aircraft per quarter:
 - Scheduled and Non-Scheduled operators of a helicopter of its certified take off mass in excess of 7000 kgs or having a passenger seating configuration of more than nine and engaged in onshore/ inland operations.
 - Scheduled / Non Scheduled operators engaged in operation of aeroplane of certified take off mass in excess of 5700 Kgs and equipped with DFDR.

2. DISCUSSION

2.1 The exceedance values prescribed in the requirements are generic to cater for all type of aircraft. Due to this there were differences in the grading of the exceedances depending upon the severity level by different operators causing difficulties in developing a standard database to identify Safety Hazards and categorize them as Soft, Medium & Severe.

2.2 For appropriate integration of the information gathered from the flight data analysis programme in State Safety Program and to ensure uniformity in detection of the exceedance, corrective

actions, the exceedance values for a particular aircraft type have been standardized across the industry. The information obtained from the flight data analysis program forms the backbone of State Safety Program and Airline Safety Management System.

2.3 The standardization programme has involved active participations by the Airline operators and the process was led by the regulator. During the process the existing exceedance programme, manufacture data, data of the service providers and operational complexities were reviewed and factored. The programme has so far covered A320, B-737, B-787 and ATR 72 types of aircraft which constitute majority of fleet in India. The standardized parameters have been published in the form of Air Safety Circular 02 of 2023.

2.4 This process would provide a standardized output for the management of key safety priorities i.e. Loss of control, Runway Excursion and Controlled flight into Terrain identified in National Aviation Safety Plan. In addition, it also provides a focused approach for safety management system of an organization.

3. ACTION BY THE CONFERENCE

3.1 The Conference is invited to note the information contained in this Paper.

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