STAR 010 V2 – December 2014	Flight Data Monitoring

Introduction

Flight Data Monitoring [FDM] provides guidance to aircraft operators, national aviation authorities, system suppliers and other interested parties on the provision of FDM as part of an Operator's accident prevention and flight safety programme. FDM is the systematic, pro-active and non-punitive use of flight data from routine operations to improve aviation safety.

The purpose of this STAR is to provide an understanding of FDM and guidance on its application.

Flight Data Monitoring – EU-OPS Rulemaking Requirements

EU-OPS is to be applied from July 2008 and requires the following:

EU-OPS 1.037

Accident prevention and flight safety programme

> *(a) An operator shall establish and maintain an accident prevention and flight safety programme, which may be integrated with the Quality System, including:*
> > *(1) Programmes to achieve and maintain risk awareness by all persons involved in operations; and*
> > *(2) An occurrence reporting scheme to enable the collation and assessment of relevant incident and accident reports in order to identify adverse trends or to address deficiencies in the interests of flight safety. The scheme shall protect the identity of the reporter and include the possibility that reports may be submitted anonymously; and*
> > *(3) Evaluation of relevant information relating to accidents and incidents and the promulgation of related information, but not the attribution of blame; and*
> > *(4) A flight data monitoring programme for those aeroplanes in excess of 27 000 kg MCTOM. Flight Data Monitoring (FDM) is the pro-active use of digital flight data from routine operations to improve aviation safety. The flight data monitoring programme shall be non-punitive and contain adequate safeguards to protect the source(s) of the data; and*
> > *(5) The appointment of a person accountable for managing the programme.*
> *(b) Proposals for corrective action resulting from the accident prevention and flight safety programme shall be the responsibility of the person accountable for managing the programme.*
> *(c) The effectiveness of changes resulting from proposals for corrective action identified by the accident and flight safety programme shall be monitored by the Quality Manager, and the FDM working group.*

Understanding Flight Data Monitoring

For an operator embarking on the establishment of a flight Data Monitoring programme in their company there are some initial important issues to be understood.

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- The purpose of flight data monitoring is to run a pedagogical tool for identifying incident precursors and assisting the crews in learning from exeedances of the normal flight operation envelope or from incidents. The tool allows the understanding and timely detection of operational safety, hazards, thus enabling the airline to formulate counter strategies throughout the whole organisation. An agreement with the pilot community regulates in detail the access, evaluation and use of all data recorded with flight data monitoring equipment on board aircraft operated by the airline, as well as all data that can be sent or requested via data link.
- FDM can be used to prepare statistics for airline management, provide a learning field for pilots to learn from others mistakes without having to fear punishment and provide, with crew consent, lessons learnt to the pilot corps. Cases closer to home are usually more readily acceptable for training. It can also be used to improve and vary standard operating Procedures (SOP) in the light of experience
- Trigger values are usually determined in cooperation with the respective fleet and manufacturer's limitations to allow for operationally sensible figures.
- Operators have to be willing to provide the resources (manpower, infrastructure and finance). A successful process of conviction can be accomplished by demonstrating the cost benefit of other areas of FDM e.g. fuel consumption stats, engine monitoring, unplanned maintenance downtime, ATC approach efficiency etc
- An FDM unit has to be independent from line or executive management e.g. the FDM unit cannot be forced to divulge the crews' identities.
- The person responsible for FDM has to be assessed and chosen very carefully and has to be acceptable to the pilots. Trust is the keyword. In this case the flight safety department is the ideal custodian. Team members will be properly trained to interpret the data and communicate with the crews
- A confidential approach is of paramount importance for FDM. Crews need to feel safe and this can be accomplished by establishing the appropriate framework.
- An FDM, which allows the crews to be contacted on an individual basis is directly linked to the just culture issues.
- Crews should have the possibility of having a specific flight analysed if they feel that a limit or SOP may have been breached.

Implementing FDM

- Airlines must have a mature non-punitive safety reporting culture in place and already proving its effectiveness.
- Flight and cabin crews must already have trust in the current reporting system and the independence of the FSO.
- The Accountable manager must make it known through words and deeds that they are fully supportive of the FDM programme and the non-punitive policy.
- The primary objective should be surveillance of all air operations in relation to compliance with operational limits and Operating Policies to ensure flight safety. This activity should be totally autonomous and under the explicit protection of confidentiality as a "non punitive systems".
- Regular meetings should be scheduled between all interested parties to discuss the outcome of data received; the de-identified results of crew contacts and to decide what actions should be taken to reduce the risk of re-occurrence.
- There should be an agreement and consultations that governs access, analysis and use of all data, the type of recording equipment on board aircraft and flight simulators and also how such data is collected.
- Maintenance/engineering departments must be instructed to ensure the regular download of

data, at agreed intervals from aircraft and the security and storage of the media
- Where a third party is responsible for the analysis and storage of data a strong contract must be in place to ensure the principles of confidentiality and security are maintained

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