

Investigation of safety occurrences

[EGSMM, Part 1, Chapter 10]

Objective

- The prevention of accidents or incidents by identification of risk areas and hazards, causal and contributory factors and appropriate remedial actions

Input

- ICAO Annex 13 - Aircraft Accident and Incident Investigation
- EUROCONTROL ESARR 2 and related guidance material
- Directive 2003/42/EC on occurrence reporting in civil aviation
- Directive 94/56/EC establishing the fundamental principles governing the investigation of civil aviation accidents and incidents
- National safety regulatory requirements
- Best practices
- Organisation's Safety policy
- ANS related legislation and regulations
- Operations and system maintenance manuals
- Operational data records
- Occurrence reports from the mandatory reporting system
- Reports from the voluntary reporting system
- Other reports

Training

- Trainee effort:
 - Safety experts - for procedures and guidance material development, and conduct of investigations (various modules)
 - Specialists (investigators) - for conduct of investigations (various modules, e.g. data/records collection and processing; occurrence analysis/assessment; HF related modules)
 - Safety experts/investigators - for safety database use
- Training provision effort
 - External (e.g. IANS)
 - Internal (for example courses for investigators)
- Other cost (e.g. missions, facilities, material)

Tasks

- Review applicable regulatory requirements
- Review guidance material and available best practices
- Review existing in-house investigation arrangements and practices and perform gap analysis
- Establish list of data to be recorded, recording and records management procedures
- Establish the occurrence investigation procedure, including severity classification and risk assessment schemes
- Carry out internal consultation, coordinate with NSA/AAIB
- Appoint investigators

- Define investigation methodology, guidelines and techniques
- Define the necessary support tools, templates, software and data base structure
- Communicate to all staff the objectives and main steps of the procedures; explain staff involvement and required support
- Carry out the investigations **n** times:
 - Collect records/data to be used in the investigation process
 - Conduct interviews with concerned persons
 - Carry out initial analysis and assessment/classification of the occurrence
 - Produce preliminary report
 - Assess the need of more detailed (full scale) investigation
 - Carry out detailed analysis of the occurrence (team of experts/specialists)
 - Establish conclusions and recommendations
 - Produce final investigation report
- Review and endorse the investigation report (and recommendations)
- File the information into the safety data base
- Disseminate the reports to the units/staff concerned and NSA/AAIB, as required
- Provide feedback to reporters and staff concerned by the investigation
- Follow-up the implementation status of the recommendations and their effectiveness

Infrastructure and equipment

- Standard office equipment
- Data recording and playback facilities
- HW/SW for recorded data processing
- Safety data base

Human effort

- Expert effort - for requirements review, gap analysis, establishment and update of the procedure
- Expert/specialist effort – to conduct investigations
- Expert/specialist effort - for analysis and review of recommendations
- Management effort – for review and approval of the procedure
- Management effort - for review of recommendations
- External effort (e.g. procedure design, HF specialists) (option)

Output

- Occurrence investigation procedure, guidance materials, templates
- Occurrence investigation reports (preliminary and final)
- Safety data base records
- Safety improvement recommendations

Note 1. - The safety data base is fed and used by several procedures: mandatory reporting, voluntary reporting, investigation of occurrences, safety monitoring, safety records and risk assessment.