



**EASA**  
European Aviation Safety Agency

**7<sup>th</sup> IORS Workshop Occurrence  
Reporting - Challenges, Best practices  
and lessons learnt**

# Technical Communication related to Occurrences between Organisations and EASA

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- IORS and CAW
- Current Working Methods
- Development of Best Practices
- On-going Improvements



# IORS and Continuing Airworthiness (CAW)

- The Internal Occurrence Reporting System (IORS) was created to establish a database which assures that all reported occurrences are properly analysed and appropriate actions were taken by the responsible organisations and to enable global analysis.
- The need for a reporting system was not new since Part 21.A.3(a) and (b) includes obligations for design approval holders (DAH) and methods to maintain continued airworthiness of the type design based upon reports from operators, maintenance organisations and production organisations.



# Current Working Methods in IORS

- When a new occurrence report is received as input to the IORS data base, the system will send information to the responsible PCM for an affected product and also to identified stakeholders within EASA.
- The EASA PCM has the task to acknowledge the IORS occurrence, to initiate/monitor the progress of the root cause analysis, and finally indicate closure with reference to the applicable resolution.
- Each individual occurrence that is allocated to a PCM has its own workflow that must be completed.



# Technical Review of Occurrences

- Typically, there is a need to review detailed information from the event, the root cause analysis, risk assessment and communication with certification experts and experts from the reporting organisation (DAH).
- If necessary, corrective actions must be defined, developed and mandated by the Airworthiness Authorities by means of Airworthiness Directives (AD) or recommendations can be issued by means of Safety Information Bulletins (SIB).
- For closure of a workflow the responsible PCM is asked to confirm that the updated report and proposal of the DAH is agreed and in accordance with the individual risk.



# IORS and Continuing Airworthiness (CAW)

- The number of Occurrences is increasing every year due to the growth of the aviation sector and efforts to improve the reporting culture.
- It can be assumed that the number of safety issues will not increase proportional to the number of occurrences.
- To cope with the high number of reports it is important to develop methods that are risk based and efficient.
- Therefore, it is important to filter and group occurrences based upon their risk and identify similarities.

Concentrate on Specific Items that are relevant for safety.



# IORS and Continuing Airworthiness (CAW)

- The majority of reports comes from the DOAs (aircraft manufacturers)

## Take Advantage of DAH systems and existing procedures for CAW

- EASA has agreed with major reporting organisations (DOAs) to rely upon their regular occurrence screening system and initial risk classification based upon agreed procedures.
- Occurrences will be reported in a systematic way that allows to initiate new workflows for new technical issues and to link generic occurrences (GENOCC) or repeaters to existing safety items (multi-occurrences).
- Depending upon the individual DAH, these can be
  - Airworthiness Review Items (ARS) for events that have a potential safety risk and may require systematic corrective actions.
  - Tracking Files for events that are not considered unsafe conditions but need to be monitored w.r.t. the overall occurrence rate.
- Individual occurrence workflows with the conclusion that design safety is not affected can be closed EASA when the affected aircraft has been repaired, with conclusions that design safety is not affected.



# IORS and Continuing Airworthiness (CAW)

- EASA agreement to closure of IORS workflows and regarding CAW activities is required.

This decision must be based upon technical information that requires detailed information beyond the content of text fields.

Effective communication and data exchange is important.

- In the past, IORS reports via EX5 format contained text but seldom file appendices were used.
- Initial Occurrence reports, typically require evidence in form of pictures, damage reports, etc.
- Report updates, typically include more detailed information and data, e.g. risk assessments.

Review of IORS text data alone is not sufficient.

- Technical communication to exchange supporting data in form of pictures, drawings is necessary and was typically performed within a separate flow of emails in the frame of regular continued airworthiness activities for a product. The „Dual Flow“ resulted in additional workload and the fact that the IORS data base does not contain all information to the necessary technical detail. Supporting documents were stored within the project files on the EASA server and not manually imported into IORS.





# IORS on-going actions and improvements

## Eliminate Dual Flow communications

- EASA has initiated intensive discussions with the major reporting organisations to achieve consistent and comprehensive occurrence reporting within the E5X format to include file appendices with pictures and documents.
- As a future improvement DAHs could use the same report format to request opening of a new workflow for a Specific Item (GENOCC, REPEATER, ARS, RTF)
- Further on, it is planned to introduce direct communication functionality within the tool to allow a technical dialogue for traceability and to communicate closure agreements without further need of individual emails.



# IORS on-going actions and improvements

- Good cooperation between all stakeholders is essential to develop best methods and implement them into the IT systems of the individual organisations to maximize the automatism and reduce of manual data input and duplication of administrative effort.
- It is planned to further develop the IORS data base tool into a Safety Data Management tool (SDM) that includes communication interfaces that allow direct access by users within EASA, NAAs and also for reporting organisations (DAH) as necessary for their responsibilities.
- The existing data format for initial occurrence reports and occurrence updates will remain unchanged.



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**Thank you for attention**  
**Questions?**

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# Backup Slides

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# Technical Communications / Discussions

- The DAH needs agreement from EASA for the conclusions w.r.t. closing an occurrence or determination of corrective actions and mitigating means.
- For specific items (e.g. ARS) there are many discussions and document reviews to assure common understanding and agreement before such item can be closed.
- Typically, the discussions are within emails, MoM for adhoc meetings (WEBEX) and regular Airworthiness Review Meetings (ARM)



# IORS Closure Statements

Standard closing Statement	Description/definition
Single or Isolated event/occurrence	Single or isolated event/occurrence - corrected for the affected aircraft (e.g. individual repair, no previous similar occurrence), No airworthiness impact is foreseen at fleet level.
Condition not unsafe	The event analysis together with the risk assessment (Impact on airworthiness) allow the conclusion to reclassify as not potentially unsafe.
AD action	Airworthiness Directive has been issued.
SIB action	Safety Information Bulletin has been issued.
Corrective actions for the fleet are needed	Corrective actions for the fleet are to be analysed and developed under a specific item (ARS or similar)The reference number should be entered in the closing remarks field.
Multi occurrence for issues that require tracking	Multi occurrence for trend monitoring of issues that are not immediately safety relevant (RTF or similar) The reference number should be entered in the closing remarks field.
Safety issue followed by correction action plan	The cause has been identified and there is an action plan to tackle the detected unsafe or potential unsafe condition.
Non-mandatory SB action	Non-mandatory Service Bulletin has been issued.
Corrective actions implemented by the approved organisation	The case when the issue was tackled and all the necessary corrective actions were implemented by the approved organisation (DOA, POA, P145, ATO, etc.), e.g. to restore the acceptable level of safety.
Limitation of privileges	Organization's scope of approval has been limited as consequence of the assessment of the occurrence.
Suspension/revocation of Certificate/Approval	Organization's approval or product certification has been revoked or suspended as consequence of the assessment of the occurrence.
Transferred to the Primary Certifying Authority	The information has been sent to the Primary Certifying Authority.
Transferred to the Competent Authority	The information has been sent to the Competent Authority.
Transferred to the organisation responsible for the design of the aircraft, engine, propeller or parts & appliances	The information has been sent to the organisation responsible for the design of aircraft, engine, propeller or parts & appliances.
Closed due to lack of data	The necessary information to perform the full assessment is not available.
Closed according to the closed upon receipt criteria	To be used by the Occurrence Administrators when the occurrence meets closing criteria agreed with PCMs, OA TL, FP, etc.
Occurrence Captured for Information	Occurrence was captured to extend / complete the dataset and / or for information exchange, includes accidents/serious incidents notified to the Agency by Safety Investigation Authorities until further actions for EASA are determined.
Other	To be used when none of the values above are found describing the reason for closure. Free text field is available to input the reason for closure.



# Examples for Routine Occurrences with known Consequences

The term GENOCC is used for known subjects that are typical in-service occurrences that cannot be avoided/excluded by design.

- Bird strike with damage that is in line with certification assumptions
- Accidental damage on ground that needs individual repair but has no fleet impact
- Tire failure with damage that is in line with certification assumptions

For those items, there is no need for a new risk assessment and they can be put into one box for each item to do a statistical evaluation, if requested.

Other typical items that relate to repeaters or tracking files are

- Engine failures (will be reviewed periodically)
- Runway excursion without a technical cause and no injuries (will be reviewed periodically)
- APU inflight shutdown/failure (will be reviewed periodically)
- De-pressurization due to multiple bleed loss (potential MMEL dispatch)
- Cracks found during mandatory inspections based upon indications that triggered an ARS and AD
- Escape Slide issues during maintenance/test that are analysed individually and reviewed periodically.  
New root causes will lead to an individual ARS to determine a fix.

This is not a comprehensive list but and there is some variation how those items are treated within the differing projects.