

CHAPTER 3 - INVESTIGATION CLASSIFICATION SYSTEM

BACKGROUND

1. The CAF FS Program encompasses detailed processes for reporting and investigating safety situations and the DND/CAF Airworthiness Program mandates the requirement to conduct investigations of matters related to aviation safety. Also, in an effort to identify hazards before they cause serious occurrences, the FS Program encourages all personnel associated with flying operations to report all situations that have the potential to cause a FS incident or accident. The purpose of investigating is to analyse the information derived from these investigations and to develop effective PMs to reduce the risk of reoccurrence.

REPORTING INFORMATION AND SECURITY

2. Reporting FS information is vital to the Flight Safety and Airworthiness Investigation Program. However, there will be times when Operational Security (OPSEC) and Operational/time sensitive information could have implications on active operations. In these cases, the method and security associated with reporting must be adjusted to counter the possible negative effects that public release of information or knowledge of an occurrence could impart on non-friendly forces. For example, it may not be appropriate to transfer information in an unsecure manner on an occurrence for an air asset that is actively engaged in operations in a forward area since the knowledge of this event could be advantageous to enemy operations. For such circumstances, reports must still be made as indicated within timelines outlined in the A-GA-135 but in a secure manner so as to preclude any advantages such knowledge might impart on these non-friendly forces.

REPORT TYPES

3. It is important that airworthiness investigation reports are completed by the appropriate AIA's authorized individuals and forwarded in a timely manner. However, not all occurrences are investigated to the same degree due to a number of factors. Therefore, there are several types of airworthiness investigations, as well as various timelines by which the investigation reports are to be produced. Similarly, there is a hierarchy associated with the authorized individuals (investigators) that are assigned to complete the investigations and associated reports, based upon the individuals' training, position, experience, certification and AIA delegated authority that must be matched with the investigation class and complexity (as outlined in Chapters 4, 5 & 6). A summary of the different types of airworthiness investigation reports and the time in which they would normally be completed follows.

4. Initial Reports (IR). IRs are required for all occurrences and should normally be submitted by the unit of occurrence within 12 hours of the

occurrence. These reports give the initial details noted around the situation and a brief description of the unsafe nature of the occurrence.

5. Supplementary Reports (SR). SRs are normally completed within 30 calendar days of the occurrence. SRs give details revealed from the investigation related to the cause of an occurrence, assign cause factors and recommend PMs. This is normally the conclusion of most occurrence investigations.
6. Combined Reports (CR). CRs are complete occurrence reports (IR and SR) in a single submission and format and are normally submitted within 48 hours. Usually this is for simple investigations where detailed investigation is not required or where the occurrence is one that has occurred before and the associated details are known.
7. Enhanced SR (ESR). An Enhanced SR will be used for occurrences that are sufficiently complex to warrant a more thorough investigation than a normal SR but do not require the same degree of scrutiny that is required for an FSIR, such as for a Class II investigation. The ESR format will generally follow the International Civil Aviation Organisation (ICAO) Annex 13 format. In compiling an ESR, a number of interim reports are prepared with various distribution protocols. These reports and their associated timelines are as follows:
 - a. From the Investigator. The FTI summarizes the information in the Preliminary Report and is extracted from the “synopsis” section of that report. It is a high level perspective of the occurrence’s factual information, for consumption by DND/CAF, public, and media audiences, and is published in a bilingual format on the DFS website and in Flight Comment magazine. The FTI should be distributed within 30 days of the occurrence;
 - b. ESR Draft for Comment. The ESR Draft for Comment is simultaneously distributed to all Persons (Parties) of Direct Interest (PDIs) for review and comment in order to confirm the accuracy and completeness of the draft report. The ESR Draft for Comment should be distributed to PDIs within seven months of the occurrence. Replies are returned directly to the AIA (DFS) to ensure privileged information is protected as required by the *CTAISB Act*;
 - c. Final ESR. The Final ESR is the comprehensive bilingual report on the occurrence and is a refined version of the Draft for Comment Report that includes valid PDI inputs and should be distributed within 12 months of the occurrence. The AIA (DFS) is the tasking and release authority for the report. It is published on the DFS website; and

- d. Epilogue. The Epilogue, which is extracted from the synopsis in the Final ESR, is a summary of the investigation written with a high level perspective consumption by DND/CAF, public, and media audiences. Similarly, it should be distributed in bilingual format within 12 months of the occurrence, concurrent with the Final ESR's public release. It is published on the DFS website and in Flight Comment.

8. Flight Safety Investigation Reports (FSIRs). FSIRs are designed to provide a comprehensive report on a Class I occurrence, are usually produced by a team of investigators chosen for the particulars surrounding the occurrence, and generally follow the ICAO Annex 13 format. In compiling an FSIR, a number of interim reports are prepared with various distribution protocols. These reports and their associated timelines are as follows:

- a. Preliminary FSIR. The Preliminary FSIR is distributed to the senior leadership and provides the initial factual information pertinent to the occurrence and makes recommendations for immediate PMs. It should be distributed within 30 days of the occurrence;
- b. From the Investigator. The FTI summarizes the information in the Preliminary Report and is extracted from the "synopsis" section of that report. It is a high level perspective of the occurrence's factual information, for consumption by DND/CAF, public, and media audiences, and is published in a bilingual format on the DFS website and in Flight Comment magazine. The FTI should be distributed within 30 days of the occurrence;
- c. FSIR Draft for Comment. The FSIR Draft for Comment is simultaneously distributed to all PDIs for review and comment in order to confirm the accuracy and completeness of the draft report. The FSIR Draft for Comment should be distributed to PDIs within seven months of the occurrence. Replies are returned directly to the AIA (DFS) to ensure privileged information is protected as required by the *CTAISB Act*;
- d. Final FSIR. The Final FSIR is the comprehensive bilingual report on the occurrence and is a refined version of the Draft for Comment Report that includes valid PDI inputs and should be distributed within 12 months of the occurrence. The AIA (DFS) is the tasking and release authority for the report. It is published on the DFS website; and
- e. Epilogue. The Epilogue, which is extracted from the synopsis in Final FSIR, is a summary of the investigation written with a high level perspective consumption by DND/CAF, public, and media audiences. Similarly, it should be distributed in bilingual format

within 12 months of the occurrence, concurrent with the Final FSIR's public release. It is published on the DFS website and in Flight Comment.

9. It must be emphasized that the timelines outlined in the aforementioned paragraphs are planned target dates and may vary depending on the complexity of the investigation and investigator workload.

AIRWORTHINESS INVESTIGATIONS

10. There are two key factors that must be addressed when considering airworthiness investigations. The first factor is that investigations are focussed on developing effective and reasonable PMs though not all occurrences will yield them. The second factor is that the perceptions of all personnel involved in DND/CAF air operations are critical to the FS and the DND/CAF Airworthiness Programs. Timely and accurate reporting are basic tenets of both programs. Consequently the overall health of these programs will suffer if the perception is created that reporting is being ignored. Therefore, the investigation program must focus the system's limited resources on those investigations that will yield effective PMs while ensuring that personnel continue to report all occurrences.

11. The objectives of conducting airworthiness investigations are to:
- a. focus valuable investigation resources on those occurrences that will identify useful, relevant and effective PMs;
 - b. identify PMs as quickly as possible and advise the CoC of those PMs that require immediate attention;
 - c. complete investigations efficiently and, wherever possible, in accordance with (IAW) the appropriate timelines; and
 - d. continue to foster a reporting culture.

CONCEPT OF OPERATIONS

12. The practise of reporting all aircraft occurrences will continue as well as the policy of urging all personnel to report all incidents and hazards. All occurrences will continue to be entered into the FSOMS for critical trending and analysis purposes. However, not all aircraft occurrences will be investigated to the same degree so a means to determine the investigation level required must be initiated so that the appropriately qualified, certified and authorized individuals are assigned to the investigation. The first step to determine this is to classify the occurrence category based on:

- a. aircraft damage level (ADL); or

- b. personnel casualty level (PCL) as determined by a medical officer IAW CFAO 24-1.

AIRCRAFT DAMAGE LEVEL (ADL)	PERSONNEL CASUALTY LEVEL (PCL)	OCCURRENCE CATEGORY
Destroyed or Missing	Fatal or Missing	A
Very serious damage	Very serious injury/illness	B
Serious damage	Serious injury/illness	C
Minor damage	Minor injury/illness	D
Nil	Nil	E

Table 1. Occurrence Category

13. Investigations will also be focused on selected occurrences that are deemed to provide the best potential for developing effective PMs. To accomplish this objective, the occurrence investigation classification system is utilized. Investigations are assigned to a classification based on three criteria:

- a. the occurrence category;
- b. the Safety of Flight Compromise Level (SFCL); and
- c. other aggravating factors.

FACTORS			INVESTIGATION	
SFCL	OTHER AGGRAVATING FACTORS	CLASS	AGENCY	REPORT TYPE
Extreme	Extreme	I	DFS	FSIR
High	High	II	DFS	ESR
Medium	Medium	III	WFSO or UFSO	SR
Low	Low	IV	UFSO	SR or CR

Table 2. Flight Safety Investigation Classes

14. Table 2 is a guide only as AIA may determine the class of investigation into any category of occurrence. The AIA is the tasking authority for investigations requiring an FSIR or ESR. Considerations that the AIA will undertake are as follows:

- a. Occurrence category: The occurrence category is based on the combination of the ADL and PCL per Table 1;

- b. Safety of Flight Compromise Level: The SFCL indicates the actual level of risk experienced by the crew and / or aircraft during an occurrence or the potential SFCL if it was assessed as nil for the flight; and
 - c. Other Aggravating Factors: There are other factors that may elevate the level at which an occurrence is investigated. If a higher level of investigation might lead to a more effective reduction of risk to persons, property or the environment, then this level should be assigned. Consideration shall also be given to the maintenance of trust in the FS Program by CAF personnel and the general public.
15. Once an occurrence has been reported, unit and wing FS staffs will conduct an initial assessment as to determine the level of investigation. If the occurrence is categorized as either A, B or C, the matter shall be referred to DFS. For FS occurrences that do not meet these criteria, unit or wing FS personnel will conduct a preliminary evaluation using the SFCL and Aggravating Factors discriminators. If this assessment indicates that a higher level of investigation may be required, collaboration of FS staffs at all levels is required.