Common Maintenance Factors Taxonomy - Guidance Notes

Aims.

The Common Maintenance Factors Taxonomy (CMFT) has been developed to offer part 145 aircraft maintenance organisations a standard tool to assist with classification of factors related to occurrence reports. This will then facilitate the sharing of anonymised safety data to allow improved trend monitoring among organisations that contribute to the data set. Although regulators are also working on similar projects, long development timelines and slow rate of change has necessitated a more agile and disruptive approach to this data sharing activity.

Taxonomy.

The taxonomy is developed from other civilian and military taxonomies but specialised for Part 145 maintenance activities. For each occurrence several factors may be identified, and these can be classified using the list available from www.cmft.info.

If you wish to include the taxonomy as part of your safety manual, please credit the source as www.cmft.info

Data Sharing

When organisations use the common maintenance taxonomy as part of their occurrence reporting system they will be able to pull data and share it into the CMFT Database. Initially this data will be collected quarterly but by submitting a completed CSV or Excel File to CMFT by email – safetydata@cmft.info

If you have any 2024 data or decide to go back and add the classification to historic data this can be sent at any time.

We aim to produce an initial report at the start of 2025.

The deadlines for submission for 2025 are

- 24th March 2025

- 23rd June 2025

- 22nd September 2025

- 22nd December 2025

This data will then be complied and shared with some analysis. Below is a list of the fields and explanation about their permitted values for import into the system.

Data Fields

Month – The month of the year that the occurrence happened.

Year – They year that the occurrence happened.

Factor Type – One of the following options

Causal Factor –   those factors which, in isolation or in combination with other causal factors and contextual details, led directly to the incident or accident. Therefore, if a causal factor was removed from the accident sequence, the accident would not have occurred.

Contributory Factor – those factors which made the accident more likely to happen. That is, they did not directly cause the accident. Therefore, if a contributory factor was removed from the accident sequence, the accident may still have occurred.

Aggravating Factor –   those factors which made the outcome of the accident worse. However, aggravating factors do not cause or contribute to the accident. That Is, in the absence of the aggravating factor, the accident would still have occurred.

Other Factor -   those factors which, whilst shown to have been present played no part in the accident in question but are noteworthy in that they could contribute to or cause a future accident. Typically, other factors would provide the basis for additional recommendations or observations.

Area

Environmental – any factor relating to the environment that affected the event.

Individual Factors – any factor relating to the individual involved that affected the event.

Non-Identifiable – any factor not fitting into another area.

Third Party Control – any factor relating to third parties that affected the event

Organisation Factors – any factor relating to the organisation that influenced or affected the event.

Team/Task Factors – any factor relating to teamwork or performance of the task that resulted in the event.

Technical Factors – any factor relating to the aircraft design or equipment/tooling used for maintenance that affected the event.

Category

For Environmental there are the following categories

- Natural Environment – a factor contributing due to natural sources
- Workspace – a factor contributing due to human controlled sources

For Individual Factors there are the following categories

- Staff Competence – Factor relating to a staff members capacity to perform the task to the required standard.
- Performance – Factor relating to the performance of the task relative to their level of competence.
- Precondition – A factor that may affect any staff member's actions.

For non-identifiable the only category is non-identifiable

For Third Party Control there are the following categories

- Third Party Control – Factor that results from a third party organisation.
- Third Party Staff Competence – Factor that results from a third party staff members competence.

For Organisational Factors there are the following categories

- Acquisition/Provision – A factor related to the availability due to provision of an item required for a task.
- Communication – A factor related to communication within the organisation.
- Culture – A factor related to the culture present in the organisation.
- Information – A factor related to the information available related either to the task or organisation.
- Management – A factor related to the actions of management in the organisation.
- Policy – A factor related to a decision made to comply with a company policy.
- Regulation/ Oversight – A factor related to the regulation or oversight of the organisation or lack thereof.

For Team/Task Factors there are the following categories

- Communication – A factor related to communication within the team performing a task.
- Culture – A factor related to the specific culture of a team or group working on a task.
- Management – A factor related to management of a team or group working on a task.
- Planning – A factor related to the planning of a task or lack thereof.
- Process/Task – A factor related to the steps or process of a task either defined or normal practice.
- Provision – A factor related to the availability of equipment or material required for the task.
- Regulation – A factor related to the outcome of adherence to regulation or the lack thereof.

For Technical Factors there are the following categories

- Aircraft – Factors relating to design, access or operation of the aircraft.
- Equipment/Tools – Factors relating to tools or equipment used in the performance of a task or activity.

Factor

Each category inside each area has several factors. Select the factor that most closely matches the situation in the occurrence.

AC Manufacturer – The TC holder of the aircraft or "Non-Aircraft" if if was not a directly aircraft related event.

Risk Level of Case –

Different organisations may use different methods or assessing the urgency or risk level of occurrence reports. As such the required input for this area is that a case is:

Red – Critical safety issue resulting in a stop work or grounding of an aircraft.

Yellow – Safety issue requiring investigation.

Green – Safety report recorded for trending with minimal investigation required.

Age of Reporting. –

Ages of reporting are a useful tool for answering the question of "how do you measure your safety culture?". This classification can be applied to all reports in a safety system and gives context to if it was a proactive or reactive report.

1st Age –   Reports about objects – i.e. the equipment is broken

2nd Age –   Reports about other's actions – i.e. I saw Ben break the piece of equipment

3rd Age –   Reports about own actions - i.e. I, Ben, Broke the piece of equipment.

4th Age –   Reports about own near misses – i.e. I, Ben, nearly broke the equipment because I have not received sufficient training.

The tool can easily be implemented into SMS Software like Centrik or included as part of a manual excel based system.

If you have any questions about implementing the maintenance factors taxonomy in your organisation, please contact – safetydata@cmft.info