

TWU Pilots Flight Safety Conference

FRMS CASA Update:

Flight Crew Member Participation

FRMS approvals are initially issued as trial approvals based on the suitability of the fatigue limits and the management processes within the operator's FRMS Manual. These trial periods must run for at least 12 months before an application for a full implementation approval may be sought. In most cases, additional time is granted as the cultural shift to an FRMS relies on FCM participation and alertness data collection.

Presently, there are 23 ongoing FRMS Trial approvals across diverse operations from high-capacity passenger transport to rotary wing EMS and aerial work operations.

During the trial period CASA monitors the operations of the FRMS through observations of FSAG meetings and communications with FRMS managers as the FRMS manual procedures are operationalised and demonstrate effectiveness. The Trial period provides opportunities for procedures to become fully operational, effective and capable of delivering continuous improvement. Once these goals have been achieved, a full FRMS implementation approval can be considered.

The initial phase of the CAO 48.1 rollout has focused on AOCs transitioning from Standard Industry and other exemptions to FRMSs. The key difference between these operating environments is measurement and oversight. A common theme that has come-to-light is FCM participation within the assessments conducted by operators. There is a new concept of pilot contribution to fatigue management by completion alertness assessments. It may assist to go over some of the "basics" associated with pilot participation in an FRMS.

As an FRMS is a data driven system that uses scientific principles and knowledge along with operational experience to manage fatigue risk, a core feature is the operator's assessment of the level of flight crew alertness to ensure that the operations are occurring with reasonable, expected and confirmed levels of fatigue.

This is why FCM participation is essential.

Fatigue risk can be estimated and assumed to conform to scientific knowledge but the actual experience of the FCM is the only way to confirm these predictive assumptions. Therefore, the operator must gather FCM-based alertness data to assess that the fatigue risk management processes are suitable, operating, and effective. During a trial, if processes are not working as anticipated (because the data shows a deficiency) they need to be modified with new procedures and/or controls or mitigations. If the data from FCMs reveals no significant impact to alertness, then the system can continue with the procedures in place. As noted previously, the FRMS must be shown to be effective before exiting from trial to full implementation.

Across the various Appendix choices within CAO 48.1, assessment of FCM alertness within operations is required. However, the question that has often been asked is when should alertness measures be completed within an FDP? Within an FRMS the assessment of fatigue must target not only conditions that would fall within an Appendix, but the areas of operation that extend beyond set limits of duty length, time of day or consecutive exposures to WOCL infringing duties. That is, the self-imposed rule

sets of an AOC require specific measurement times to meet their particular flying pattern and conditions.

The individual AOCs should consider times and types of alertness inputs that reflect the needs of the AOCs' flying patterns. Examples of possible areas to assess include but are not limited to:

- start and end of duty,
- at the top-of-descent,
- whenever duty periods are extended or there is a change to flight programming.

There are the standard assessments when fatigue incidents or events occur and/or at a fatigue call off or duty stoppage that are also conducted as they arise, but these measures are part of a fatigue report, rather than assessing FCM alertness during duties.

Questions about data gathering methods can be found in CAAP 48-01. The CAAP can be found in the FRMS section of the CASA website at: [Applying Appendix 7 Fatigue risk management system | Civil Aviation Safety Authority \(casa.gov.au\)](#)

Higher participation rates of pilots in the data gathering process equates to higher effectiveness of the FRMS.

Note: CASA considers the completion of the assessments to be a data point rather than a report. It is important that data is gathered on all levels of fatigue not just elevated levels.

If a flight crew member is, at the time of the assessment, experiencing a low level of fatigue then they should complete the assessment as this is also valuable information for the FRMS.

The operator must make changes to the FRMS fatigue limits, or other changes, if the data indicates that actual fatigue levels across the flight crew group are not ensuring safe operations.

In short, without sufficient data the FRMS will not be effective and efforts to improve fatigue management and rosters will be inhibited.

In addition, CASR 91.520(4) prevents an operator assigning a flight duty to a pilot if they believe, on a reasonable basis, that the pilot may be, or may become, unfit for the duty due to fatigue.

There is a mutual obligation placed on flight crew by CASR 91.520(1) not to commence a flight duty, or continue a duty, if they are, or become, unfit for the duty due to fatigue.

Where a flight duty is declined or discontinued due to fatigue (commonly called fatigue call-offs) this forms a highly valuable data source for the FRMS also.

CASA's interest in the data and reports gathered by the operators is purely to ensure that correct management processes are in operation.

For example, CASA expects that alertness data will be available in a de-identified form that allows a statistical assessment of trends and how it is used by the operator to inform pairings and rostering practices.

CASA applies a Just Culture approach to the use of safety information. The information is examined as "group" data to evaluate the effectiveness of an FRMS and not the alertness of individuals. There is a Director of Aviation Safety (DAS) Directive that places strict limits on the use of information by CASA officers and delegates. The Directive can be found on the CASA website at: [Directives, instructions and policy notices | Civil Aviation Safety Authority \(casa.gov.au\)](#)