



LEGISLATION

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FATIGUE
GUIDELI

In recent times, it has become increasingly evident that pilot fatigue could have been a contributing or a significant factor in many aircraft incidents or accidents. The International Civil Aviation Organization (ICAO) has recognised that more up-to-date and science-based management of fatigue is essential for continual improvement to aviation safety.

In general, ICAO supports two distinct methods of managing fatigue:

- › a prescriptive approach that requires the operator to comply with the limits defined by the State, while managing fatigue hazards using safety management system (SMS) processes that are in place for managing safety hazards in general
- › a performance-based approach that requires the operator to implement a fatigue risk management system (FRMS) that is approved by the State.

In response to Australia’s obligations to ICAO, CASA’s CAO details three options that are available to operators for managing fatigue. An operator can take a prescriptive approach by adopting appendices 1 to 6 without modification, a prescriptive approach with an approved minor variation to appendices 2 to 6, or an FRMS detailed in appendix 7 (see Figure 1).

The following are the key sections taken from the CAO and rewritten in a concise and more personal style.

Application and effect (4)

Application

The responsibility for management of fatigue rests with the operators and pilots working under:

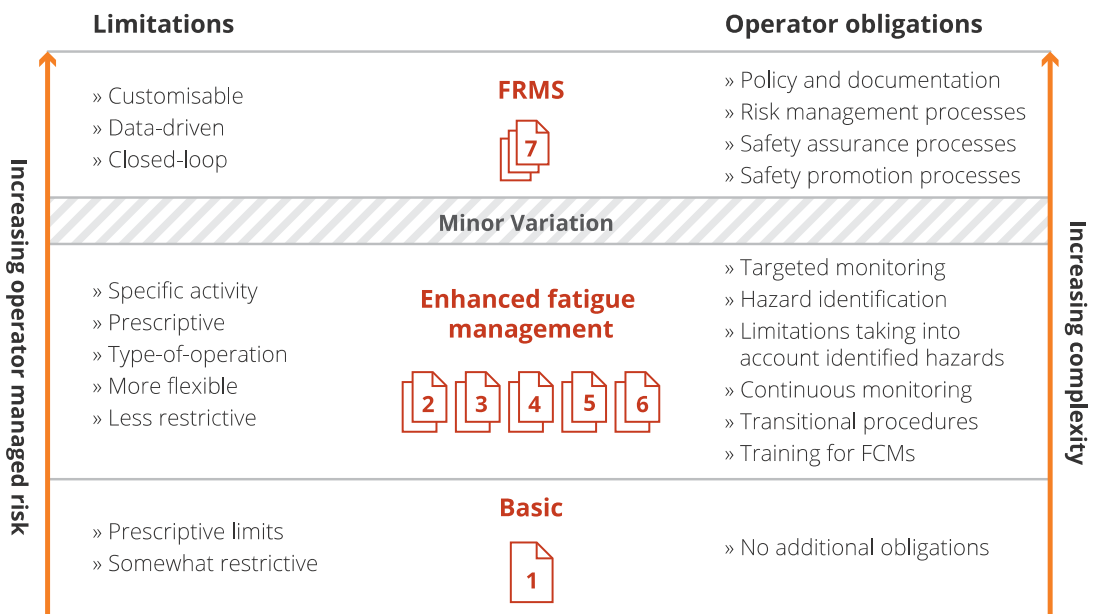
- › an Air Operator’s Certificate (AOC)
- › a certificate issued under CASR Part 141 or Part 138.

It is a condition on every flight crew licence (including private pilot licences) that a pilot must not conduct a flight if they are or are likely to be fatigued.

Note: The pilot in command (PIC) is responsible for safety of the aircraft and persons on board. Therefore, the PIC always has authority to reject a proposal to extend a flight duty period (FDP) or flight time even if it is permitted in an appendix.

The CAO does not apply to the pilots for (and operators of) Part 141 or 142 flight training organisations that only use synthetic flight training devices or to Foreign Air Transport AOC holders..

Figure 1: Obligation matrix



Effect

This CAO commences on 2 December 2021 for private pilots; existing operators and their FCM.

Commencement for those who have applied for an AOC or certificate; and their FCM - will be from the date of issue of the AOC or certificate.

Approval of non-compliance

(5A)

CASA may conditionally approve a limited or minor variation to specified provisions of the CAO if an acceptable level of aviation safety can be preserved. These are called 'Minor Variations'.

Refer to the [minor variation policy](#) for further details.

General conditions on operators ⁽⁸⁾ and pilots ⁽⁹⁾

An operator must ensure that each pilot does not operate if they are or are likely to be unfit to fly due to fatigue.

A pilot must not operate either privately or for an operator if they are or are likely to be unfit to fly due to fatigue.



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Operator limits and requirements ⁽¹⁰⁾

An operator must choose to operate in accordance with one or more of the appendices shown in Table 1 relevant to their intended operation. The appendices chosen shall be specified in the operations manual.



Be aware that your operations manual may contain fatigue management policies and procedures that are more restrictive than those expressed in the CAO or the appendices.

Table 1: Limits and requirements for operations

Operation	Appendix
Any operation.	1
Any multi-pilot operation, except flight training.	2
Any multi-pilot operation, except: (a) a complex operation (b) flight training.	3
Any operation.	4
Any balloon operation.	4A
Any of the following: (a) a medical transport operation (b) an emergency service operation (c) flight training for an operation mentioned in paragraph (a) or (b) (d) an operator proficiency check for an operation mentioned in paragraph (a) or (b) (e) a flight review for an operation mentioned in paragraph (a) or (b).	4B
Any of the following: (a) an aerial work operation (b) flight training associated with aerial work (c) an operator proficiency check for an operation mentioned in paragraph (a) (d) a flight review for an operation mentioned in paragraph (a).	5
Any of the following: (a) an aerial work operation conducted during daylight hours only (b) flight training associated with aerial work conducted during daylight hours only (c) an operator proficiency check for an operation mentioned in paragraph (a) (d) a flight review for an operation mentioned in paragraph (a).	5A
Any of the following: (a) flight training (b) a proficiency check (c) a flight review.	6
Any operation	7

Note: Use of appendix 7 requires CASA approval.

Part 137 operations (11)

Part 137 applies to aeroplane aerial application operations only and not those conducted in a helicopter.

The CAO does not apply to operators or pilots engaged in aeroplane aerial application operations, instead they must comply with [Flight/duty and other time limitations-Subpart 137.Q of CASR](#).

Before aeroplane aerial application operations can be conducted, the operator must ensure that its pilots have received awareness material or training in fatigue-related risk management relevant to their duties.

Pilot to be fit for duty (137.300)

A Part 137 pilot must not commence an aerial application operation if they are not fit for duty.

The operator must not allow the pilot to commence the operation if they have reason to believe that the pilot is not fit for duty.

A pilot is not fit for duty if:

- › they have not had adequate rest, food or drink, or
- › they are adversely affected by a medical condition (this includes psychological and psychiatric conditions) or a psychoactive substance (this includes alcohol, drugs and volatile solvents, but not coffee and tobacco).

Private operations (12)

The CAO does not apply to an operator when its pilots fly privately.



Exception: *If you conduct a private flight before or between a non-private flight for an operator, the private flight time must be included as part of your FDP. When a private flight is conducted after the final non-private flight, then the private flight time must be included as part of your duty period. Such private flights must not be taken to be off-duty periods.*



You should inform your operator when you conduct a private flight so that the operator can adjust:

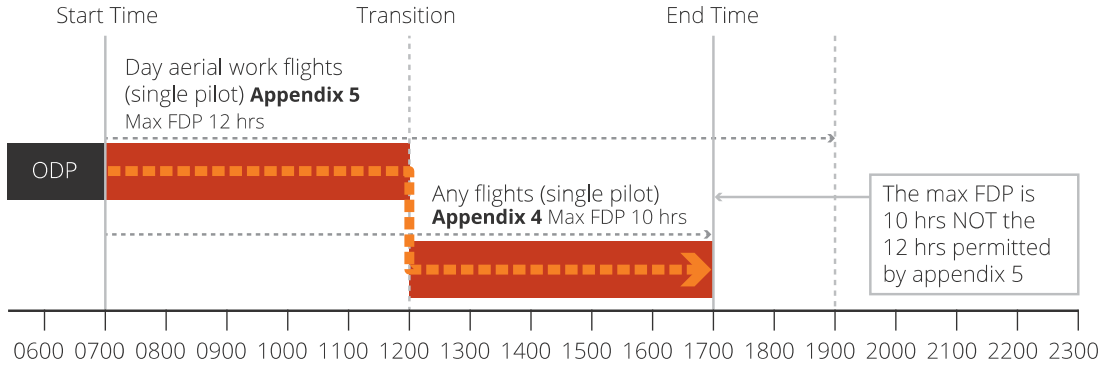
- › your FDP commencement time (for private flights conducted before the non-private flight)
- › your duty time (for private flights conducted after a non-private flight).

Operations under multiple appendices (13)

Where you operate under multiple (two or more) appendices (see [Figure 2](#)), your maximum FDP or maximum flight time is that specified in the appendix under which the operation is currently being conducted (the applicable appendix). Elapsed flight (or duty) time must be calculated from the time an FCM commenced their first flight duty.

Note: When operating under multiple appendices, the cumulative duty and cumulative flight time limits are those specified in the applicable appendix.

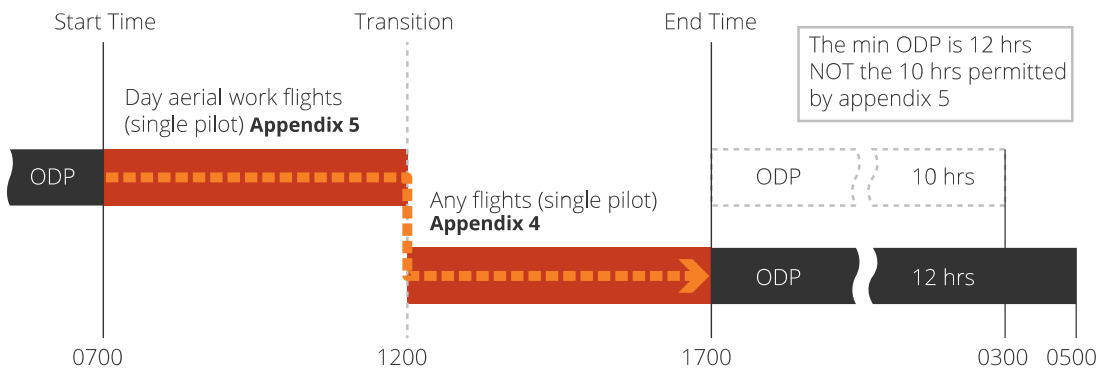
Figure 2: Maximum FDP when operating under two or more appendices in a single FDP



Note: If the order of flights was reversed the max FDP would be 12 hrs (0700–1900).

Subject to the following transition requirements (in 13A), the minimum off-duty period (ODP) following an FDP conducted under multiple appendices is that specified in the appendix that requires the longest off-duty period, as if the entire FDP were performed under that appendix (see Figure 3).

Figure 3: Minimum ODP (in home base) when operating under two or more appendices in a single FDP



Off-duty requirements when transitioning from appendix 4B, 5 or 5A, or Subpart 137.Q of CASR ^(13A)

A pilot transitioning from an FDP or standby period under appendix 4B, 5 or 5A, or Subpart 137.Q of CASR, to another appendix must have had at least 6 days off duty in the previous 28 days.

Except when transitioning to appendix 1 – if you have not had the minimum number of days off following an FDP as required by the appendix under which you were last operating or you have not had at least 6 days off in the previous 28 days, you may nevertheless commence a new FDP or standby provided that:

- › the off-duty period immediately before your new FDP or standby under the other appendix is at least 12 hours
- › the report time for your new FDP is not earlier than 0700 hours local time
- › your previous FDP was less than 8 hours
- › your new FDP is less than 8 hours in duration
- › after the new FDP you will have no more than 1 subsequent FDP that is also of less than 8 hours duration.

Operator obligations ⁽¹⁴⁾

Fitness for duty

An operator must not assign a pilot for a flight duty if they reasonably believe that the pilot is unfit to perform the duty because of fatigue.

Limits

The limits and requirements that apply to pilots must be determined in accordance with the appendix chosen by the operator.

Operations manual

The operations manual must include the maximum and minimum flight and duty limits, noting an operator may select maxima and minima that are more restrictive than those set out in the appendix, as these are set following a hazard identification process. The operations manual must also include the details of any approved minor variations.



An operator with an FRMS implementation approval must include relevant limits in their operations manual (see appendix 7).

Employee responsibilities

The operations manual must set out their employees' responsibilities for operational fatigue management and fatigue risk management.

Meals

Where an FDP will exceed 5 hours, the operator must provide an opportunity for the pilot to access adequate sustenance (food and drink) during the first 5 hours and periodically thereafter, so that no more than 5 hours elapse between each meal.

Note: For operations under appendix 7, it is expected that the FRMS would provide the opportunity for FCMs to have access to adequate sustenance at appropriate intervals.

Records and reports

Records (including relevant reports and documents) of the following must be maintained:

- › pilot rosters
- › actual duty periods
- › actual flight times of each pilot when acting in an FCM capacity
- › actual split-duty rest periods, standby periods and off-duty periods
- › any FDP or flight time that was extended under the relevant provision (if any) of the appendix or FRMS that an operator has chosen, including information about the extensions in such detail as enables the operator to continuously improve its fatigue management and fatigue risk management policies.



Reassignment to a new flight duty that is longer than that originally planned but which is still within the maximum FDP does not qualify as an extension and therefore an extension report is not required.

A record of each FDP extension (including copies of any relevant reports and documents) must be securely retained for at least 5 years from the date it was made.

Records of an extension of an FDP or a flight time limit must be:

- › studied and used by the operator to provide for continuous improvement of their fatigue management and fatigue risk management policies
- › given to CASA promptly if requested in writing.

Home base

Except for operators operating to appendix 5 or 5A, an operator must:

- › determine the home base for each pilot (a home base determination)
- › inform each pilot of their home base
- › set out in their operations manual procedures for making a home base determination that ensure that each determination, and any changes to it, do not adversely affect aviation safety.

Note: A determination of home base should be assigned with a degree of permanence.

Rosters

An operator must publish each roster in advance to give a pilot a reasonable opportunity to plan adequate rest before they commence their duty.

Note: More detailed guidance for operators with regards to their obligations is contained in [CAAP 48-01](#).

Enhanced fatigue management obligations (15)

The following enhanced fatigue management obligations apply in addition to those expressed in section 14 for operators who choose to operate under one or more of appendices 2, 3, 4, 4A, 4B, 5, 5A or 6.

Operations manual procedures for hazards, multiple appendices etc.

The operations manual must include procedures for:

- › identifying any reasonably foreseeable hazard that may compromise a pilot's alertness during their FDP
- › modifying the limits and requirements determined to be appropriate compliance with the general obligations on AOC and other certificate holders to consider possible hazards
- › the continuous monitoring and evaluation of operator policies, limits, practices and relevant organisational experiences, considering any reasonably foreseeable hazard that may compromise a pilot's alertness during an FDP with a view to continuous improvement of fatigue management and fatigue risk management
- › transitioning between appendices so as to ensure safety is not adversely affected and to comply with the general provisions for *Operating under multiple appendices* (13) and the more specific provisions for *Transitioning from appendix 4B, 5, 5A, or subpart 137Q* (13A)
- › training and assessment obligations relevant to enhanced management of fatigue.

Note: The procedures mentioned in this paragraph may be met, at least in part, by existing procedures such as those for an SMS.

Training

Subject to [Recognition of initial training \(CAO 48.1 2019 section 15A\)](#), an operator (as applicable) must provide, and require each pilot to undertake, initial and recurrent fatigue-related risk training relevant to their duties, and on completion, assess their knowledge and learning.

Note: The training required may be incorporated into existing training programs such as an operator's human factors and non-technical skills training program.

Initial training

Initial training must take place within 6 months of the person commencing their employment, and must be in accordance with a syllabus that:

- › provides a thorough knowledge and understanding of:
 - » fatigue causes
 - » fatigue-related impairment
 - » the management of risks associated with fatigue
 - » an operator's fatigue risk management obligations and procedures under the operations manual and the CAO
- › equips each pilot with the ability to comply with their obligations.



Exemplar fatigue training syllabus:
www.casa.gov.au/fatigue-training-syllabus-recommendations

Recurrent training must occur at appropriate intervals and:

- › be in accordance with a syllabus
- › revise the knowledge and understanding acquired during initial training
- › deliver a thorough knowledge and understanding of any changes in the operator's operating practices, or fatigue risk management obligations and procedures, that have occurred since the pilots were last trained.

Records of training and assessment must be maintained and securely retained by the operator for at least 12 months after a pilot ceases to be employed.

Note: Guidance for operators on these additional obligations is contained in [CAAP 48-01](#).

The requirement to pass an assessment of pilot knowledge of fatigue and fatigue risk management is shown in the table below.

Appendix/ obligation	Be aware	Be trained	Be assessed
Basic (1)	No	No	No
Enhanced (2, 3, 4, 4A, 4B, 5, 5A, 6)	Yes	Yes	Yes
FRMS (7)	Yes	Yes	Yes
Subpart 137.Q of CASR	Yes	No	No



If an operator has enhanced fatigue management obligations, its operations manual should:

- › set out what pilots need to know about fatigue
- › establish a training and assessment process/cycle
- › provide:
 - » a fatigue occurrence reporting mechanism
 - » a hazard identification tool
 - » an alertness considerations table/tool
 - » an FDP extension reporting mechanism
- › establish a fatigue review committee and a meeting cycle with a view to making improvements to the fatigue management system.



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Recognition of initial training

(15A)



If an AOC holder is not reasonably satisfied as to the suitability or acceptability of an FCM's prior fatigue risk management training, they are not obliged to recognise it.

In this section:

currency time means the period of time that is the appropriate interval at which an operator requires recurrent training to occur.

Note: For example, the interval may be every 18 months, or every 24 months. Further guidance is provided in [CAAP 48-01](#).

initial training means fatigue-related risk training relevant to a person's duties as an FCM.

An operator is required to ensure that its pilots successfully complete initial and recurrent fatigue risk management training and pass a competency assessment.

This requirement does not apply where a pilot has already completed such training with:

- > a previous operator or its agent, or
- > the current operator or its agent during a previous period of employment, or
- > a registered training organisation that can deliver initial training, provided that:
 - » the initial training was completed within the currency time immediately before the pilot commenced employment with the current operator
 - » the current operator is satisfied that:
 - the initial training complied with the initial training syllabus and delivered a thorough knowledge and understanding of fatigue causes, fatigue-related impairment and the management of risk associated with fatigue
 - the new pilot complied with the recurrency requirements following their initial training

- » authentic records of the training exist
- » within 4 weeks of being employed by the current operator, the pilot successfully completes an induction course to inform them of any fatigue-related risks and information specific to the current operator
- » authentic records of the FCM's initial and recurrent training and details of the induction course are:
 - included with FCM records for the operator
 - retained for at least 12 months after the FCM ceases employment with the operator.

Flight crew member obligations (16)

A pilot licence holder must not commence any task for a flight – whether non-private or private – if due to fatigue they are or they are likely to be unfit to perform a task that they must perform.

The maximum FDP and flight time limitations specified in an AOC holder's operations manual must not be exceeded except in accordance with the applicable extension provisions.

Note: The pilot in command has the authority under CASR 91.215 to not permit an extension to occur even if it is otherwise permitted within an appendix.

Note: Operations manual fatigue management policies and procedures may be more restrictive than those expressed in the CAO.



Regardless of the legality of a planned FDP, if at any time you do not feel fit to fly or you believe that at some point in the FDP you will be unfit to fly then you have an obligation not to commence the duty.



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