



Australian Government
Civil Aviation Safety Authority

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I, PHILIPPA JILLIAN SPENCE, Director of Aviation Safety, on behalf of CASA, make this instrument under regulations 11.068 and 172.022 of the *Civil Aviation Safety Regulations 1998*.

[DRAFT ONLY – NOT FOR SIGNATURE]

Pip Spence
Director of Aviation Safety

[month] 2023

**Part 172 (Air Traffic Service Providers) Amendment (Fatigue Rules)
Manual of Standards 2023**

1 Name of instrument

This instrument is the *Part 172 (Air Traffic Service Providers) Amendment (Fatigue Rules) Manual of Standards 2023*.

2 Commencement

This instrument commences on the day after it is registered.

3 Amendment of the Manual of Standards for Part 172

Schedule 1 amends the Manual of Standards issued by CASA under regulation 172.022 of CASR.

Note See the definition of *Manual of Standards* in regulation 172.010 of CASR.

Schedule 1 Amendments

[1] Subsection 1.2.2, table, before the table row relating to the definition of “Flight path monitoring”

insert

Fatigue	See section 4.02.
Fatigue risk management system, or FRMS	See section 4.02.

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[2] After subsection 1.2.2.1

insert

1.2.2.2 In addition, see section 4.02 for other definitions in this instrument of words and phrases appearing in Chapter 4 (Fatigue Management).

[3] After paragraph 2.1.2.1 (o)

insert

(oa) the details of the ATS provider's fatigue risk management system;

[4] At the end of subsection 2.1.2.1

insert

Note: For paragraph (oa), Chapter 4 provides for the requirement for an ATS provider to have and implement a fatigue risk management system (FRMS).

[5] Paragraph 6.1.1.1 (h)

omit

services.

insert

services;

[6] After Paragraph 6.1.1.1 (h)

insert

(i) the processes for integrating the ATS provider's fatigue risk management system (the FRMS) into the safety management system.

[7] Subsection 6.1.1, note

substitute

Note 1: Guidelines for the preparation of a safety management system are published by CASA in Advisory Circular AC 172-01, as existing from time to time.

Note 2: For subparagraph (i), Chapter 4 provides for an ATS provider to have and implement a fatigue risk management system for the management of fatigue in its provision of air traffic services.

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[8] Chapter 4

substitute

CHAPTER 4: FATIGUE MANAGEMENT

4.01 Scope of Chapter 4

This Chapter sets out requirements for the management of fatigue in the provision of air traffic services by an ATS provider.

4.02 Definitions

In this instrument:

duty means any task that a person who is employed by an ATS provider as an operational person is required to carry out by the ATS provider, including tasks performed during time-in-position, administrative tasks and training.

duty period means a period of time which:

- (a) starts when an operational person is required by an ATS provider to report for, or commence, duties; and
- (b) ends when that person is free of all duties.

fatigue, for an operational person, means a physiological state of reduced alertness or capability to perform mental or physical tasks, which:

- (a) may impair the ability of the person to perform the person's safety-related duties; and
- (b) is caused by one or more of the following:
 - (i) the person's lack of sleep;
 - (ii) the person's extended wakefulness;
 - (iii) the person's circadian phase at any time;
 - (iv) the person's workload of mental activities, or physical activities, or mental and physical activities at any relevant time.

fatigue risk management system, or ***FRMS***, means a data-driven means of continuously monitoring and managing fatigue-related safety risks, based upon scientific principles, knowledge and operational experience that aims to ensure relevant personnel are performing at adequate levels of alertness.

FRMS manager means the person in an ATS provider's organisation who is appointed by the chief executive officer of the organisation to be responsible for the day-to-day implementation, management and continuing effectiveness of the ATS provider's fatigue risk management system.

non-duty period means a continuous and predefined period of time during which an operational person is free of all duties associated with his or her employment.

operational person, in relation to an ATS provider, means a member of the ATS provider's personnel to whom the ATS provider gives responsibility:

- (a) for an air traffic control function to be performed in connection with an air traffic service it provides; or

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- (b) for a flight service function to be performed in connection with an air traffic service it provides.

Note Under regulation 172.120 of CASR, an ATS provider must not give responsibility to a person for an air traffic control function, or a flight service function, unless the person is qualified as mentioned in that regulation or is under the supervision of a person who is qualified as mentioned.

Part 65 Manual of Standards means the Manual of Standards issued by CASA under regulation 65.033 of CASR.

Note See the definition of *Manual of Standards* in regulation 65.010 of CASR.

time-in-position, for an operational person, means a period of time which:

- (a) starts when the person starts performing an air traffic control function, or flight service function; and
- (b) ends when the person stops performing the function.

4.03 General condition on ATS provider's approval under Subpart 172.F

For the purposes of regulation 11.068 of CASR, it is a condition of the approval under Subpart 172.F of CASR, of a person as an ATS provider, that the ATS provider must:

- (a) comply with each requirement for the ATS provider set out in this Chapter; and
- (b) comply with the limits and requirements for an operational person, as provided for by the ATS provider's FRMS; and
- (c) ensure that each of the ATS provider's operational persons, when acting as such, complies with each requirement imposed by section 14.02 or 14.03 of the Part 65 Manual of Standards on the person's ATC licence or flight service licence.

Note Section 14.02 of the Part 65 Manual of Standards imposes a condition on an ATC licence that requires the holder of the licence not to carry out an air traffic control function if, due to fatigue, the holder is, or is likely to, be unfit to perform the task. Section 14.03 of that Manual of Standards imposes a condition in similar terms for holders of flight service licences.

4.04 ATS provider's obligations

Fitness for duty

- (1) An ATS provider must not assign a duty to an operational person to perform an air traffic control function, or a flight service function, if the ATC provider reasonably believes that the operational person is unfit to perform the function because of fatigue.

Limits

- (2) The limits and requirements that apply to an ATS provider's operational persons must be determined in accordance with the ATS provider's FRMS.

4.05 Requirement for fatigue risk management system

- (1) An ATS provider must have a fatigue risk management system (an *FRMS*) that is appropriate for the size, nature and complexity of the ATS provider's operations.

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- (2) The FRMS must include each of the following elements:
 - (a) the policy and objectives, and related documentation, in accordance with section 4.07;
 - (b) the practical operating procedures in accordance with section 4.08;
 - (c) the hazard identification, risk assessment and mitigation processes in accordance with section 4.09;
 - (d) the safety assurance procedures in accordance with section 4.10;
 - (e) the safety promotion procedures in accordance with section 4.11;
 - (f) the change management process in accordance with section 4.12.

Note See also subsection 6.1.1 (about safety management systems). Paragraph 6.1.1.1 (i) requires the provider's safety management system (SMS) to include processes for integrating the FRMS with the SMS.

4.06 Application for approval of FRMS

- (1) The ATS provider may apply to CASA for:
 - (a) a trial FRMS implementation approval; or
 - (b) a full FRMS implementation approval.

Note An ATS provider is not eligible for a full implementation approval until the FRMS has been in effective operation for at least 12 months from the date of a trial implementation approval: see section 4.14.
- (2) For a trial or full FRMS implementation approval:
 - (a) an FRMS must include CASA approval of each of the elements of the FRMS mentioned in subsection 4.05(2); and
 - (b) CASA must be satisfied that the FRMS is integrated with the ATS provider's safety management system.
- (3) Before CASA issues a trial FRMS implementation approval, CASA must be satisfied that the FRMS:
 - (a) comprises all of the elements mentioned in subsection 4.05(2); and
 - (b) is a safe, data-driven system which appears to be reasonably capable of continuously and effectively monitoring and managing fatigue-related safety risks using scientific principles and knowledge, and operational experience; and
 - (c) will enable the ATS provider to assess the extent to which operational persons and other relevant personnel perform at levels of alertness sufficient to ensure the safety of operations.
- (4) Before CASA issues a full implementation approval, CASA must be satisfied that the FRMS:
 - (a) comprises all of the elements mentioned in subsection 4.05(2); and
 - (b) is a safe, data-driven system which will continuously and effectively monitor and manage fatigue-related safety risks using scientific principles and knowledge, and operational experience; and
 - (c) will enable the ATS provider to ensure that operational persons and other relevant personnel perform at levels of alertness sufficient to ensure the safety of operations.

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4.07 FRMS policy and documentation

- (1) The ATS provider must have an FRMS policy that refers to all the elements of the FRMS mentioned in subsection 4.05(2).
- (2) The policy must require that all the operations to which the FRMS applies be clearly defined in the operations manual.
- (3) The policy must:
 - (a) make it clear that while primary responsibility for the FRMS lies with the ATS provider, its effective implementation requires shared responsibility by management, operational persons, and any other relevant personnel; and
 - (b) clearly indicate the safety objectives of the FRMS; and
 - (c) be approved in writing by the chief executive officer of the ATS provider's organisation; and
 - (d) be accessible to all relevant areas and levels of the organisation in a way that indicates the ATS provider's specific endorsement of the policy; and
 - (e) declare management commitment to:
 - (i) effective safety reporting; and
 - (ii) provision of adequate resources for the FRMS; and
 - (iii) continuous improvement of the FRMS; and
 - (f) require that clear lines of accountability are identified for management, operational personnel, and all other relevant personnel; and
 - (g) require periodic reviews to ensure the policy remains relevant and appropriate.
- (4) The policy must:
 - (a) be in a written statement; and
 - (b) require that each other element of the FRMS mentioned in subsection 4.05(2) be described in a written statement.
- (5) In addition to the requirements under subsection (4), and the relevant limits and procedures contained in the operations manual in accordance with this Chapter, the FRMS must also be supported by the following documentation, namely, up-to-date identification, description and records of the following:
 - (a) the personnel accountabilities, responsibilities and authorities for effective implementation of the FRMS, including the FRMS Manager;
 - (b) the mechanisms for ongoing involvement in fatigue risk management of management, operational personnel, and all other relevant personnel;
 - (c) the FRMS training programs, training requirements and records of attendance at training;
 - (d) scheduled and actual duty and non-duty periods and break periods between periods of time-in-position in a duty period with significant deviations and reasons for deviations noted;

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- (e) the FRMS outputs, including findings from collected data, and recommendations and actions taken.

Note An ATS provider's operations manual must contain the details of the FRMS: see paragraph 2.1.2.1 (oa).

4.08 FRMS practical operating procedures

- (1) The FRMS practical operating procedures must set out:
 - (a) maximum values for each operational member for the following:
 - (i) the number of hours in a duty period;
 - (ii) the number of consecutive work days;
 - (iii) the number of hours worked in a defined period;
 - (iv) the time in position in a duty period; and
 - (b) minimum values for each operational person for the following:
 - (i) the duration of a non-duty period;
 - (ii) the number of non-duty days required in a defined period;
 - (iii) the duration of breaks between periods of time-in-position in a duty period.

Note The terms *duty period* and *non-duty period* are defined in section 4.02.

- (2) For the purposes of subsection (1), the values for each operational person must be based on scientific principles and knowledge and subject to safety assurance processes.
- (3) Subject to subsection (4), if an ATS provider acquires data from an FRMS which indicates that the maximum and minimum values required under paragraphs (1)(a) and (b) are too high or too low, respectively, the ATS provider must amend the FRMS to ensure that these values are acceptable.
- (4) For subsection (3), an amendment may only be made in accordance with section 4.12.

4.09 FRMS hazard identification, risk assessment and mitigation procedures

FRMS hazard identification procedures

- (1) FRMS hazard identification procedures must be based on the following processes for fatigue-related hazard identification:
 - (a) the predictive process;
 - (b) the proactive process;
 - (c) the reactive process.
- (2) The predictive process must be capable of identifying fatigue-related hazards by examining the scheduling of operational persons and taking into account the following:
 - (a) factors known to affect sleep;
 - (b) factors known to affect fatigue;
 - (c) the effects of the factors mentioned in paragraphs (a) and (b) on an operational person's performance.

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- (3) The proactive process must be capable of identifying fatigue-related hazards within current operations.
- (4) The reactive process must be capable of identifying the contribution of fatigue-related hazards to actual events that could have affected, or did affect, safety, with a view to determining how the effects of fatigue on each event could have been minimised.

FRMS risk assessment procedures

- (5) FRMS risk assessment procedures must be capable of determining the following:
 - (a) the probability of events occurring or circumstances arising that create a fatigue-related hazard;
 - (b) the potential severity of fatigue-related hazards;
 - (c) when the safety risks associated with paragraph (a) or (b) require mitigation.
- (6) For the purposes of subsection (5), the FRMS risk assessment procedures must ensure that identified fatigue-related hazards are examined in relation to the following:
 - (a) the relevant operational context and procedures in which the identified fatigue-related hazard arose;
 - (b) the probability of the fatigue-related hazard arising in those circumstances;
 - (c) the possible consequences of the fatigue-related hazard in those circumstances;
 - (d) the effectiveness of existing safety procedures and controls.

FRMS risk mitigation procedures

- (7) FRMS risk mitigation procedures for each fatigue-related hazard must be capable of:
 - (a) selecting appropriate mitigation strategies for the hazard; and
 - (b) implementing the selected mitigation strategies; and
 - (c) monitoring the implementation and effectiveness of the strategies.

4.10 FRMS safety assurance procedures

- (1) FRMS safety assurance procedures must provide for:
 - (a) continuous monitoring of the performance of the FRMS; and
 - (b) the analysis of fatigue-related trends; and
 - (c) measurements to validate the effectiveness of mitigation strategies.
- (2) FRMS safety assurance procedures must include a formal process for managing changes to the FRMS arising from:
 - (a) the identification of changes in the operational environment that may affect FRMS; and
 - (b) the identification of changes within the ATS provider's organisation that may affect FRMS.

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- (3) The FRMS safety assurance procedures must include a formal process to assess:
 - (a) what impact a change mentioned in paragraph (2)(a) or (b) may have on the effective performance of the FRMS; and
 - (b) for such a change—what amendment, change or modification may be needed to the FRMS to ensure its continued effective performance.
- (4) FRMS safety assurance procedures must provide for the continuous improvement of the FRMS, by including the following:
 - (a) the elimination or modification of fatigue-related risk controls that:
 - (i) have had unintended negative consequences; or
 - (ii) are no longer required because of changes in the ATS provider's operational or organisational environment;
 - (b) routine evaluations of facilities, equipment, documentation and procedures to determine their implications for fatigue-related risk management and control;
 - (c) identification of emerging fatigue-related risks to allow the introduction of new procedures and procedures to mitigate such risks.

4.11 FRMS safety promotion procedures

- (1) FRMS safety promotion procedures for fatigue-related hazards must include training and communication programs capable of supporting and continuously improving all elements of the FRMS in the delivery of optimum safety levels.
- (2) For the purposes of subsection (1), FRMS safety promotion procedures must include the following:
 - (a) training programs for management, operational persons, and all other relevant personnel to ensure competency levels commensurate with the role and responsibility of the person under the FRMS;
 - (b) an effective FRMS communication plan that:
 - (i) explains all elements of the FRMS to management, operational persons, and all other relevant personnel; and
 - (ii) describes the communication channels which they must use to gather, disseminate and apply FRMS-related information.

4.12 FRMS change management procedures

- (1) For this section, *significant change* means:
 - (a) any increase to the values required under paragraph 4.08(1)(a); and
 - (b) any decrease to the values required under paragraph 4.08(1)(b); and
 - (c) any other change to any element of the FRMS that does not maintain or improve, or is not likely to maintain or improve, aviation safety.
- (2) The FRMS change management procedures must:
 - (a) meet the requirements of this section; and
 - (b) clearly indicate how the ATS provider will amend, change or modify any element of the FRMS consistently with the requirements of this section.
- (3) The change management procedures apply to an ATS provider whether it has a trial implementation approval or a full implementation approval.

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- (4) The ATS provider must not make a significant change to any element of the FRMS unless an application to make the change is approved in writing by CASA.
- (5) An application for approval of a significant change must:
 - (a) be in writing; and
 - (b) set out the change; and
 - (c) be accompanied by a copy of the part of the ATS provider's FRMS documentation affected by the change, clearly identifying the change.
- (6) An ATS provider must not make a change to the FRMS that is not a significant change unless:
 - (a) the ATS provider's FRMS change management procedures provide for non-significant changes; and
 - (b) the ATS provider makes the change in accordance with its procedures; and
 - (c) the ATS provider has given CASA written notice of the change and a copy of the amended part of the ATS provider's operational manual clearly identifying the change.

Note Under regulation 172.300 of CASR, CASA may direct an ATS provider to amend its operations manual (which must include the details of the provider's FRMS: see paragraph 2.1.2.1 (oa) of this Manual of Standards).

CASA may issue a direction to an ATS provider under regulation 11.245 of CASR if the matter affects the safe navigation and operation of aircraft. Under paragraph 11.245(2)(a), CASA must be satisfied that it would be necessary to do so in the interests of the safety of air navigation. This could include a direction to the ATS provider to amend, change or modify the FRMS.

4.13 Trial FRMS implementation approval

- (1) CASA may, on a written application made by an ATS provider, issue the ATS provider with an FRMS implementation approval for up to 24 months, if CASA is satisfied that each element of the ATS provider's FRMS:
 - (a) complies with and meets the requirements, attributes and characteristics of an FRMS under this Chapter; and
 - (b) is capable of delivering:
 - (i) identified safety outcomes; and
 - (ii) fatigue-risk data and reports; and
 - (iii) continuous improvement in the delivery of safety outcomes.
- (2) CASA may extend the duration of an approval issued under subsection (1):
 - (a) on application by the ATS provider; or
 - (b) on CASA's own initiative, if CASA considers that aviation safety requires a longer trial FRMS implementation approval period before a full FRMS implementation approval.
- (3) For the purposes of subsection (2), CASA can extend the duration of a trial FRMS implementation approval by issuing a new trial FRMS implementation approval.

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4.14 Full FRMS implementation approval

- (1) CASA may, on a written application made by an ATS provider, issue the ATS provider with a full FRMS implementation approval, if the ATS provider:
 - (a) has held a trial FRMS implementation approval for a period of at least 12 months; and
 - (b) satisfies CASA, through relevant data and reports, that the FRMS:
 - (i) is demonstrably delivering the safety outcomes expected when the trial FRMS implementation approval was given; and
 - (ii) is capable of delivering continuous improvement in the delivery of safety outcomes.
 - (2) If CASA decides not to issue the ATS provider with a full FRMS implementation approval, the ATS provider may apply again to CASA for a trial FRMS implementation approval under section 4.13.
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