

Explanatory Statement

Civil Aviation Act 1988

Civil Aviation Order 48.1 Instrument 2019

Purpose

The purpose of *Civil Aviation Order 48.1 Instrument 2019* (the **new CAO**) is to provide Air Operator Certificate holders (**AOC holders**), flight crew members (**FCMs**), and Part 141 operators (flight training organisations under the *Civil Aviation Safety Regulations 1998 (CASR)*) with a comprehensive regulatory framework for the more effective management of fatigue risk in aviation operations. This framework replaces Part 48 of the Civil Aviation Orders (**Part 48 CAOs**) which is repealed, though with some transitional preservation of effect. (Hereafter, for ease of reference, mentions of “AOC holder” should be taken to include a Part 141 operator, as provided for under paragraph 6.5 of the new CAO.)

The new CAO makes use of international standards concerning fatigue, reflects advanced international scientific understanding of fatigue, fatigue risk and fatigue risk management, and is informed by an independent panel of experts appointed by CASA. The new CAO prescribes both specified flight and duty time limitations, minimum rest requirements and fatigue self-management obligations, while also permitting a customised, data-driven fatigue risk management system (**FRMS**) tailored to an AOC holder’s own operational characteristics and experiences.

As such, the new CAO sets standards for the management of fatigue and fatigue risk. These standards must be complied with to address the safety implications of FCM fatigue in the interests of aviation safety.

The new CAO is a remake, with revisions, of *Civil Aviation Order 48.1 Instrument 2013* (the **2013 CAO**), as that Order was amended by the *Civil Aviation Order 48.1 Amendment Instrument 2016 (No. 1)*. Although those amendments did not come into effect, the version of the 2013 CAO of which the new CAO is a revised remake, is the version as it would have been had the amendments come into effect (it is referred to as the **2013/2016 CAO**).

Subject to transitional arrangements, this new framework replaces the previous rules for flight and duty time limitations contained in Part 48 CAOs from 2 September 2019.

The transitional arrangements require a person who applies to become an AOC holder on or after 2 September 2019 to comply with the new CAO once the AOC is granted.

For other AOC holders, the new CAO takes effect on 1 July 2020. However, for certain AOC holders (those who are *not* engaged in high capacity regular public transport (**HC RPT**) operations and who apply to CASA for an FRMS on or before 30 June 2020), the new CAO takes effect on 1 October 2020.

The new CAO also provides a process to allow existing AOC holders to voluntarily “opt in early” to the new fatigue risk management arrangements before their applicable transition date if they so choose.

From 2 September 2019, it becomes a condition on any flight crew licence that the holder must not operate an aircraft if unfit due to fatigue (paragraph 16.1 of the new CAO). This is substantially similar to the equivalent condition contained in the 2013 CAO which applied on and from 30 April 2013.

Although the new CAO is a standalone new instrument, some unchanged, or not significantly changed, provisions retain the alpha-numeric designation they had under the repealed CAOs. The intention is to avoid the need for relevant operators to have to make unnecessary consequential citation amendments to manuals and other documentation that already use these alpha-numeric designations.

Legislation

Because of its detail, the legislative basis for the new CAO is set out in Appendix 1.

Background

Previously, Part 48 CAOs (comprising CAO 48.0, CAO 48.1, CAO 48.2, CAO 48.3 and CAO 48.4) contained flight and duty time limitations and related rules for various members of an aircraft's flight crew. Exemptions from the requirements of these CAOs were also issued to some operators under paragraph 4.1 of CAO 48.0, but subject to conditions amounting to revised, standardised flight and duty time limitations.

In July 2011, the International Civil Aviation Organization (*ICAO*) issued Standards and Recommended Practices (*SARPs*) for fatigue risk management for flight crew members, including standards for FRMS. The 2013 CAO was CASA's regulatory response to the ICAO SARPs and it was informed by advanced international scientific understanding of fatigue, fatigue risk and fatigue risk management. The objective was to improve aviation safety, address known risks, and maintain Australia's reputation for safety in aviation.

The 2013 CAO prescribed both specified flight and duty time limitations, minimum rest requirements and fatigue self-management obligations, while also offering relevant operators the opportunity to develop a customised, but data-driven and scientifically informed, FRMS, tailored to their own operational characteristics and experiences. As a result of continuing consultation with the aviation industry, an independent review of the fatigue rules and consequential commencement delays, the 2013 CAO did not come fully into operation for all AOC holders.

The processes of examining the recommendations of the independent review, formulating responses to them and consulting on them concluded in June 2019. The new CAO is effectively a remake of the 2013 CAO but with significant revisions and amendments arising from the independent review and industry consultation.

The new CAO *commences* on 2 September 2019 and uses a "takes effect" drafting mechanism to achieve full effect, in progressive stages, on and from 1 October 2020. The new CAO is addressed to AOC holders and their FCMs. (As inferred above, Part 141 certificate holders are included under the expression AOC holders.)

The new CAO repeals the old Part 48 CAOs. This also means that exemptions made under that Part no longer apply when the new CAO commences. To avoid any doubt about this, any exemptions made under the old Part 48 CAOs are expressly repealed.

However, transitional provisions allow grandfathered AOC holders to continue to comply with the old Part 48 CAOs (including any exemption currently applicable to them) until the new CAO takes effect for them.

The new CAO also repeals the 2013 CAO but with transitional provisions. These allow AOC holders to continue to comply with the 2013 CAO (if it currently applies to them) until the new CAO takes effect for them. They also preserve the continuation of certain FRMS approvals already granted under the 2013 CAO.

The new CAO replaces the repealed CAOs, and the exemptions, with a scheme of rules for fatigue risk management in different kinds of operations. This scheme constitutes the first part of a phased approach to the comprehensive regulation of aviation fatigue risk management.

The new CAO

The new CAO provides 9 prescriptive fatigue risk management regimes applicable to different kinds of operations, 1 or more of which an AOC holder or a Part 141 certificate holder must nominate in their operations manual and adhere to. A tenth regime is available (an FRMS) which is somewhat less prescriptive than any of the other 9 but which, to be approved and effective, requires strict, scientific and tailored use of individualised fatigue risk management data for relevant FCMs, within the framework of an international standard.

Further details of the new CAO are set out in Appendix 2.

Legislation Act 2003

The CAO is a legislative instrument under various different requirements, as set out in Appendix 3.

Incorporation of documents

Insofar as the transitional provisions in subsection 5 of the new CAO permit certain categories of grandfathered AOC holder to rely on the terms of the predecessor 2013 CAO and the 2013/2016 CAO, these documents may be regarded as having been incorporated by the new CAO. However, each of these CAOs is a registered legislative instrument, it is relevantly expressed to apply only as in force immediately before commencement of the new CAO, and it takes force, as such, only from the transitional effects provided for under subsection 5.

Consultation

In 2017, the CASA Board commissioned an independent review of Australia's fatigue rules for operators and pilots, to provide CASA with an informed basis to continue with a reform of the rules first initiated in 2013. In its final report delivered to the CASA Board in March 2018, the independent review team confirmed the need to modernise Australia's fatigue rules for air operators and pilots. The final report included 24 recommendations to improve and implement the fatigue rules.

CASA conducted public consultation on these recommendations between 21 March and 22 April 2018, receiving 26 responses from individuals and organisations. The responses indicated that some recommendations were broadly supported, some were supported but would require further industry input, while others had varying feedback from industry that would require resolution.

In July 2018, the Aviation Safety Advisory Panel (*ASAP*, the primary CASA/industry consultation body through which CASA directs its engagement with industry and seeks input on current and future regulatory and associated policy approaches) considered CASA's response to the independent review team's recommendations. ASAP appointed a Technical Working Group (*TWG*) to review the industry feedback and CASA's proposed responses.

The TWG comprised representatives of operators, pilot associations, industry associations and academia. It first met in November 2018.

On 4 December 2018, CASA conducted a public webinar to explain proposals to give effect to the recommendations that required legislative changes. Between 13 December 2018 and 10 February 2019, CASA again consulted with industry via an online survey that asked respondents to provide feedback on a mature draft of the new CAO. There were 331 respondents to this public consultation. The industry TWG met again in February and March 2019 to consider public feedback and CASA's proposed responses. Following some final refinements to the draft CAO, the TWG recommended to the ASAP that CASA should make the new CAO. In turn, the ASAP advised CASA that there was general consensus to support CASA's implementation of the new CAO.

Statement of Compatibility with Human Rights

The Statement in Appendix 4 is prepared in accordance with Part 3 of the *Human Rights (Parliamentary Scrutiny) Act 2011*. It indicates that, although the new CAO may engage, both directly and indirectly, some of the human rights and freedoms recognised or declared in the international instruments listed in section 3 of the *Human Rights (Parliamentary Scrutiny) Act 2011*, it does so in a reasonable, necessary and proportionate way so that the new CAO is compatible with those rights and freedoms.

Office of Best Practice Regulation (OBPR)

A Regulation Impact Statement (a *RIS*) for the 2013 CAO was prepared by CASA and assessed by OBPR as adequate (OBPR id: 14395). The new CAO modifies some aspects of the 2013 CAO, however, these do not affect the underlying basis of, and the essential outcomes from, that RIS. OBPR agreed with an assessment that the new CAO would represent a net reduction in costs to the aviation industry and it considered that a further RIS was not required (OBPR id: 25114).

Making and commencement

The CAO has been made by the Director of Aviation Safety, on behalf of CASA, in accordance with subsection 73 (2) of the *Civil Aviation Act 1988*.

The CAO commences on 2 September 2019 after registration on the Federal Register of Legislation, but with certain delayed and transitional taking of effect as noted above.

Legislation — legislative basis for CAO 48.1

Under section 27 of the *Civil Aviation Act 1988* (the *Act*), CASA may issue Air Operators' Certificates (*AOCs*) with respect to aircraft for the purpose of safety regulation. Under section 28 of the Act, CASA must issue the AOC if satisfied that the applicant can comply with the requirements of Australian civil aviation safety legislation.

Under paragraph 28BA (1) (b) of the Act, an AOC has effect subject to any conditions specified in the regulations or Civil Aviation Orders (the *CAOs*).

Additionally, under subsection 98 (4A) of the Act, CASA may issue CAOs, not inconsistent with the Act, in respect to any matter in relation to which regulations may be made for the purposes of, relevantly, section 28BA of the Act (conditions of AOCs).

Section 98 of the Act empowers the Governor-General to make regulations for the Act and the safety of air navigation. Under subsections 98 (5A) and (5AA) of the Act, the regulations may empower CASA to issue instruments in relation to matters affecting the safe navigation and operation of aircraft, which, if applicable to a class of persons, would be legislative instruments.

Under subregulations 5 (1) and (1A) of the *Civil Aviation Regulations 1988* (*CAR*), wherever CASA is empowered or required under the regulations to issue any direction, CASA may, unless the contrary intention appears, issue the direction in the CAOs. Under subregulation 5 (3), if a direction relating to a person is issued in the CAOs, the direction is taken to have been served on the person on the date on which the making of the Order is registered.

Under former subregulation 5.55 (1) of CAR, CASA could give directions to an aircraft operator or the holder of a flight crew licence about:

- (a) the number of hours that the holder may fly in any period as a member of the flight crew of an aircraft; and
- (b) the length of each tour of duty undertaken by the holder; and
- (c) the length of reserve time for the holder; and
- (d) the rest periods that must be taken by the holder; and
- (e) the circumstances in which the holder must not:
 - (i) fly as a member of the flight crew of an aircraft; or
 - (ii) perform any other duty associated with his or her employment; and
- (f) the circumstances in which an operator must not require the holder:
 - (i) to fly as a member of the flight crew of an aircraft; or
 - (ii) perform any other duty associated with the holder's employment.

Under subregulations 5.55 (2), (3) and (4), contravention of a direction was a strict liability offence (with a defence of reasonable excuse to be established under an evidential burden).

Regulation 5.55 of CAR, and its substitute in regulation 210A of CAR (see below), is cited solely to facilitate the eventual repeal of Part 48 CAOs and the individual CAOs within it, all of which were made under regulation 5.55 and, from 4 December 2013, have been continued in force under regulation 210A by virtue of regulation 335 (see below). Regulation 5.55 was not used or required as a head of power for the making of the new CAO which relies on the other heads of power mentioned for the instrument.

However, the *Civil Aviation Legislation Amendment Regulation 2013* (the **amendment regulation**) has certain possible affects which the CAO has addressed. Thus, item 5 in Schedule 2 of the amendment regulation, which commenced on 4 December 2013, had the effect (from that date) of repealing regulation 5.55 (as part of a larger repeal of Part 5) and inserting a new regulation 210A into CAR, in effect remaking regulation 5.55 but in a modified form (item 18 in Schedule 2).

The amendment regulation also made regulation 335 of CAR which provides that a CAO made under regulation 5.55 and in force immediately before 4 December 2013 continues in force according to its terms “as if” it had been made on 4 December 2013 under regulation 210A (item 41 in Schedule 2).

Although not needed as a head of power for the making of the new CAO, regulation 210A of CAR is cited to support the eventual repeal of Part 48 CAOs on 2 September 2019. Regulation 210A took effect on 4 December 2013.

The combined effect of the paragraphs in subsection 3 of the new CAO is designed to avoid any doubt about the operation of the provisions in the new CAO which repeal the Part 48 CAOs on 2 September 2019.

As noted above (under **Background**), previously exemptions from requirements of Part 48 CAOs were also issued to some operators under paragraph 4.1 of CAO 48.0, but subject to conditions amounting to revised, standardised flight and duty time limitations. Where a pre-2013 AOC holder elects for an early opt in, any relevant exemption issued to the holder would be taken (by virtue of paragraph 5.7 of the new CAO) to no longer apply to the holder.

Such exemptions would not, thereby, be legally repealed, any more than the Part 48 CAOs which would no longer apply would, thereby, be legally repealed, before 2 September 2019. But, as conditions on the relevant AOCs, the old CAOs and exemptions would be taken to no longer apply to that AOC holder. However, transitional provisions in the new CAO preserve the continued application of CAOs 48.0 and 48.1, and relevant exemptions, for grandfathered AOC holders who have never opted in to the *2013 CAO*.

Under subregulation 215 (3) of CAR, CASA may give a direction:

- (a) requiring an operator to include particular information, procedures and instructions in the operations manual; or
- (b) requiring the operator to revise or vary the information, procedures and instructions contained in the operations manual.

Under subregulation 215 (3), an operator must not contravene a direction. Under subregulation 215 (4), a direction does not have effect in relation to a person until it has been served on the person (which, as noted above, may be effected through registration: subregulation 5 (3) of CAR). Also, under various provisions in the

CASR, applicants for aviation privileges, must submit an exposition setting out for CASA's examination and, if appropriate, approval, the way in which, from an aviation safety perspective, the applicant will exercise the privilege if granted. The new CAO prescribes a range of matters that AOC holders and Part 141 certificate holders must have in their operations manual or expositions (as the case requires) for the purposes of fatigue risk management.

Under subregulation 11.068 (1) of the *Civil Aviation Safety Regulations 1998*, for subsection 98 (5A) of the Act, CASA may issue a legislative instrument that imposes a condition on a specified class of authorisations (including, by virtue of the scope of regulation 11.015 which defines an authorisation, flight crew licences and Part 141 certificates). Under subregulation 11.068 (2), the class of authorisations may include authorisations granted *before* the imposition of the condition. Under subregulation 11.068 (3), a condition imposed by a legislative instrument issued under subregulation (1) is taken to be a condition of *every* authorisation of the class mentioned in the instrument.

Under subsection 33 (3) of the *Acts Interpretation Act 1901*, where an Act confers a power to make, grant or issue any instrument of a legislative or administrative character, the power shall be construed as including a power exercisable in the like manner and subject to the like conditions (if any) to repeal any such instrument. Subsection 33 (3) of the *Acts Interpretation Act 1901* is used, in association with regulation 210A of CAR, solely for the purpose of repealing Part 48 CAOs.

Details of Civil Aviation Order 48.1 Instrument 2019

1 Name of instrument

Subsection 1 of the *Civil Aviation Order 48.1 Instrument 2019* (the **new CAO**) names the instrument.

2 Commencement

Subsection 2 of the new CAO provides for its commencement on 2 September 2019.

3 Repeals

Subsection 3 of the new CAO provides for the repeal of the previous Part 48 of the Civil Aviation Orders (**Part 48 CAOs**) from 2 September 2019. To avoid doubt, certain Civil Aviation Amendment Orders (the **CAAOs**) are also repealed on 2 September 2019. These CAAOs were the legislative vehicles used in 2004 to replace the then Civil Aviation Orders (the **CAOs**) in Part 48 CAOs with the substituted CAOs which now constitute Part 48 CAOs. It is a moot point whether these CAAOs are spent legislative “shells” or are actually constituent elements of Part 48 CAOs. Therefore, to avoid doubt, they are also expressly repealed on 2 September 2019.

Subsection 3 also repeals *Civil Aviation Order 48.1 Instrument 2013* (the **2013 CAO**) because the new CAO remakes it in a revised form. Subsection 3 also repeals a 2016 amendment to the 2013 CAO that would have taken full effect for Air Operators’ Certificates (**AOCs**) and Part 141 certificates on 26 March 2020 but for the new CAO. Exemptions previously given under any of the repealed CAOs are also expressly repealed.

Despite these various repeals, CASA approvals under the 2013 CAO already given for an operator’s FRMS are saved to continue in force.

4 Application and effect

Subsection 4 of the new CAO describes, in effect, the AOCs, the certificates and the licences to which the CAO applies. Subsection 5 contains saving and transitional provisions which elaborate on when that application takes effect.

Under subsection 4, the new CAO applies as a set of conditions imposed on each of the following:

- (a) an AOC, other than a foreign air transport AOC;
- (b) an AOC which covers application operations under Part 137 of *Civil Aviation Safety Regulations 1998* (**CASR**) if the Part 137 flight and duty time regime is not complied with;
- (c) a Part 141 certificate (for recreational, private and commercial pilot flight training);
- (d) a flight crew member employed by the holder of an AOC or a Part 141 certificate;
- (e) flight crew licences in private operations.

However, the new CAO does not apply to Part 141 operators or Part 142 operators where they are involved solely and exclusively in training or activity conducted in a flight simulation training device.

Under subsection 4, the new CAO takes effect on commencement (2 September 2019) for flight crew licence holders when flying in private operations and, when flying otherwise, from when the new CAO applies to their AOC holder or Part 141 certificate holder.

The new CAO also takes effect on commencement for AOC holders and Part 141 certificate holders, unless it takes later effect in accordance with subsection 5.

5 Saving and transitional provisions for this CAO to take effect

Under paragraph 5.1, a number of terms used in subsection 5 are defined. The term “*transition date*” is used to establish the date on which the new CAO takes effect for certain groups of AOC holders. The default transition date is 1 July 2020 for all operators except one group, namely, AOC holders *not* engaged in HC RPT operations, who apply to CASA for an FRMS on or before 30 June 2020 — for these operators, the transition date is 1 October 2020.

Under paragraph 5.2, a person who, on or after 2 September 2019, applies for an AOC (or a Part 141 certificate to which the CAO applies), must comply with the new CAO on and from the day the AOC (or certificate) is granted.

Under paragraph 5.3, the new CAO takes effect on the defined transition date for a person who applied for an AOC or a Part 141 certificate *before* the 2 September 2019 commencement and is granted the AOC or certificate *after* the commencement, provided the person complies with the requirements of the 2013/2016 CAO, as if that CAO had not been repealed (the *proviso*). The 2013/2016 CAO was a modified version of the original 2013 CAO which would have taken effect for these AOCs and Part 141 certificates on the date their AOC was granted but for the new CAO. Therefore, but for the new CAO, it would have been the relevant law and some applicants applied for AOCs and Part 141 certificates on that basis, hence the proviso.

Under paragraph 5.4, the new CAO takes effect on the transition date for a person who was granted an AOC or a certain Part 141 certificate on or after 30 April 2013 but before commencement of the new CAO, and who continues to comply with the requirements of the 2013 CAO, or of the 2013/2016 CAO if it would have applied to them.

Under paragraph 5.5, there are certain grandfathered classes of persons whose previous choices of fatigue risk management regime are protected until the transition date. Thus, subject to paragraph 5.9, the new CAO takes effect on the transition date for a person who was already an AOC holder or a certain Part 141 operator immediately before 30 April 2013, who chose to remain subject to their old Part 48 CAOs regime, including, in some cases, exemptions under it, and who continues to comply with its requirements (or the requirements of the exemptions). Paragraph 5.9 sets out a special requirement for HC RPT operators.

Under paragraph 5.6, the new CAO takes effect on and from the applicable transition date for a person who might otherwise have been a grandfathered AOC holder or Part 141 operator but who instead had opted in to the 2013 CAO or the 2013/2016 CAO, as the case may be, and who continues to comply with its requirements.

Under paragraph 5.7, any of the foregoing AOC holders or Part 141 certificate holders to whom the new CAO does not apply on commencement may, by telling CASA, voluntarily elect to comply with it from a specified date before their applicable transition date.

To ensure that they are ready for the transition on 1 July 2020 if they intend to use an FRMS, under paragraph 5.9 an AOC holder engaged in HC RPT operations must submit an FRMS approval application on or before 30 November 2019.

Alternatively, if an FRMS is not to be used, they must, on or before 30 November 2019, disclose to CASA their detailed transition plans that will ensure full compliance with the new CAO on and from 1 July 2020.

In either case, by 30 November 2019, they must satisfy CASA about the effective functioning, in the fatigue risk management context, of their safety management systems (SMS), and human factors and non-technical skills (HF&NTS) program.

The effect of the definition of *transition date* under paragraph 5.1 is that AOC holders engaged in operations *other than HC RPT*, and also Part 141 operators, must submit an FRMS approval application on or before 30 June 2020 if they intend to use an FRMS. If the 30 June 2020 application date is not complied with, a trial FRMS approval under Appendix 7 will not be issued by CASA for the 1 October 2020 transition date and operators must be operating under 1 or more of the other Appendices from 1 July 2020.

The mentions above to “a certain Part 141 certificate” and “a certain Part 141 operator” refer to the Part 141 certificates of Part 141 operators who between 30 April 2013 and 31 August 2014 conducted their flying training under an AOC rather than a Part 141 certificate and who, therefore, enjoy a form of grandfathered status.

6 Definitions

Under subsection 6, the new CAO sets out definitions for key words and phrases used in the CAO. These definitions apply to Parts 1, 2 and 3 of the new CAO, as well as to the Appendices.

Notably, paragraph 6.4 of the CAO provides that the expression “*the operations manual*”, when used throughout the new CAO, is taken to mean an exposition if the Regulations require the AOC holder to have an exposition.

Further, paragraph 6.5 of the CAO provides that, throughout the new CAO, the abbreviation “*AOC*” is taken to include a Part 141 certificate.

The definition of *fatigue risk management system (FRMS)* permits scalability (in terms of the size, nature and complexity of operations) to be a factor in an operator’s development of an FRMS.

7 Determination of acclimatisation

Under subsection 7, the new CAO defines a key concept of the CAO, namely *acclimatisation* as used predominantly in determining maximum flight duty periods for multi-pilot operations under Appendix 2 of the new CAO. The subsection also contains a Table showing the adaptation periods required to become acclimatised depending on the time zone change

8 General condition on Air Operators’ Certificates

Under subsection 8, the new CAO makes compliance with the CAO a condition of each AOC and of each Part 141 certificate. AOC as a shorthand is taken to include a Part 141 certificate.

9 General conditions on flight crew licences

Under subsection 9, the new CAO makes compliance with the CAO a condition of each flight crew member’s licence.

10 Limits and requirements for operations

Under subsection 10 and Table 10.1 of the new CAO, an AOC holder must choose, and record in the operations manual, at least 1 of the Appendices of the new CAO under which the holder chooses to operate. Each AOC holder (and their flight crew members (*FCMs*)) must comply with at least 1 Appendix that is appropriate for their operations (and may comply with 2 or more but only in accordance with subsection 13 mentioned below). In the tabulated form in which they appear in the new CAO, the Appendices are as follows:

Column 1 — Operation	Column 2 — Appendix
Any operation	Appendix 1
Any multi-pilot operation, except flight training	Appendix 2
Any multi-pilot operation, except: (a) a complex operation; and (b) flight training	Appendix 3
Any operation	Appendix 4
Any balloon operation	Appendix 4A
Any of the following: (a) a medical transport operation; (b) an emergency service operation; (c) flight training for an operation mentioned in paragraphs (a) and (b); (d) an operator proficiency check for an	Appendix 4B

Column 1 — Operation	Column 2 — Appendix
operation mentioned in paragraph (a) or (b); (e) a flight review for an operation mentioned in paragraph (a) or (b)	
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)	Appendix 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)	Appendix 5A
Any of the following: (a) flight training; (b) a proficiency check; (c) a flight review	Appendix 6
Any operation	Appendix 7 <i>Note</i> Use of Appendix 7 requires CASA approval

The Appendices referred to above contain the fatigue risk management requirements that must be complied, and each AOC holder must comply with the requirements of the particular Appendix that they have chosen.

Thus, APPENDIX 1 setting out the BASIC LIMITS, deals with matters such as:

- Sleep opportunity before a flight duty period (an **FDP**)
- FDP and flight time limits
- Extensions of FDPs
- Off-duty period limits
- Limits on cumulative flight time.

APPENDIX 2, setting out the requirements for MULTI-PILOT OPERATIONS EXCEPT FLIGHT TRAINING, deals with matters such as:

- Sleep opportunity before an FDP or standby
- Limits for an acclimatised FCM
- Limits for an FCM in an unknown state of acclimatisation
- Increases in FDP limits by split duty

- Increases in FDP and flight time limits in an augmented crew operation
- Delayed reporting times
- Reassignments and extensions
- Standby limits and standby-like arrangements
- Positioning
- Off-duty period limits
- Limits on cumulative flight time
- Limits on cumulative duty time
- Limits on infringing the window of circadian low and early starts
- Maximum durations that must not be exceeded.

APPENDIX 3, setting out the requirements for MULTI-PILOT OPERATIONS EXCEPT COMPLEX OPERATIONS AND FLIGHT TRAINING, deals with matters such as:

- Sleep opportunity before an FDP or standby
- FDP and flight time limits
- Increases in FDP limits by split duty
- Delayed reporting times
- Reassignments and extensions
- Standby limits and standby-like arrangements
- Positioning
- Off-duty period limits
- Limits on cumulative flight time
- Limits on cumulative duty time
- Limits on infringing the window of circadian low and early starts
- Maximum durations that must not be exceeded.

APPENDIX 4, setting out the requirements for ANY OPERATIONS, deals with matters such as:

- Sleep opportunity before an FDP or standby
- FDP and flight time limits
- Increases in FDP limits by split duty
- Delayed reporting times
- Reassignments and extensions
- Standby limits and standby-like arrangements
- Positioning
- Off-duty period limits
- Limits on cumulative flight time
- Limits on cumulative duty time
- Limits on infringing the window of circadian low and early starts
- Maximum durations that must not be exceeded.

APPENDIX 4A, setting out the requirements for BALLOON OPERATIONS, deals with matters such as:

- Sleep opportunity before an FDP
- FDP limits
- Increases in FDP limits by split duty
- Extensions
- Off-duty period limits

- Limits on cumulative flight time
- Limits on cumulative duty time.

APPENDIX 4B, setting out the requirements for MEDICAL TRANSPORT OPERATIONS AND EMERGENCY SERVICE OPERATIONS, deals with matters such as:

- FDP and flight time limits
- Increases in FDP limits by split duty
- Extensions
- Standbys
- Off-duty period limits
- Limits on cumulative flight time
- Limits on cumulative duty time
- Limits on late night operations
- Maximum durations that must not be exceeded.

APPENDIX 5, setting out the requirements for AERIAL WORK OPERATIONS AND FLIGHT TRAINING ASSOCIATED WITH AERIAL WORK, deals with matters such as:

- FDP limits
- Increases in FDP limits by split duty
- Extensions
- Standbys
- Off-duty period limits
- Limits on cumulative flight time
- Maximum durations that must not be exceeded.

APPENDIX 5A, setting out the requirements for DAYLIGHT AERIAL WORK OPERATIONS AND FLIGHT TRAINING ASSOCIATED WITH AERIAL WORK, deals with matters such as:

- Sleep opportunity before an FDP
- FDP and flight time limits
- Extensions
- Off-duty period limits
- Limits on cumulative flight time
- Maximum durations that must not be exceeded.

APPENDIX 6, setting out the requirements for FLIGHT TRAINING, deals with matters such as:

- Sleep opportunity before an FDP or standby
- FDP and flight time limits
- Increases in FDP limits by split duty
- Reassignments and extensions
- Standby limits and standby-like arrangements
- Positioning
- Off-duty period limits
- Limits on cumulative flight time
- Limits on cumulative duty time
- Limits on infringing the window of circadian low and early starts

- Maximum durations that must not be exceeded.

APPENDIX 7, setting out the requirements for a FATIGUE RISK MANAGEMENT SYSTEM (FRMS) if it is to obtain CASA approval. The Appendix deals with matters such as:

- FRMS policy and documentation of AOC holders
- FRMS practical operating procedures
- FRMS hazard identification, risk assessment and mitigation
- FRMS safety assurance procedures
- FRMS safety promotion procedures
- FRMS change management procedures
- Trial FRMS implementation approvals
- Full FRMS implementation approvals
- Expiry, suspension, revocation, and surrender of FRMS implementation approvals.

11 Part 137 operations

Despite the generally delayed taking effect of the new CAO for AOC holders, subsection 11 of the new CAO takes effect on commencement, that is 2 September 2019. This subsection contains AOC conditions designed to ensure that the flight and duty time regime that is already mandated for aerial application operations in an aeroplane under Part 137 of CASR remains in force. In addition, the subsection contains AOC conditions designed to impose a new safety requirement, namely, that relevant FCMs must be exposed to appropriate fatigue awareness material or training before conducting operations. (Because of particular grandfathering, pre-30 April 2013 AOC holders have until 1 July 2020 before the latter obligation is mandated for them.)

12 Private operations

Under subsection 12, the new CAO does not apply to an AOC holder or an FCM when conducting private operations, except for the “fitness to fly” condition applicable to an FCM set out in paragraph 16.1. However, the subsection also provides for the rules that do apply if an FCM performs duty by conducting a private operation *before, between or after an FDP that involves a commercial flight* and how that is to be taken into account in relation to the FDP and off duty periods.

13 Operations under multiple appendices

Subsection 13 of the new CAO sets out rules which apply if an AOC holder chooses to use 2 or more Appendices across the AOC holder’s operations. These rules are designed to resolve certain possible conflicts between the FDP requirements of the respective Appendices. Thus, for example, the maximum FDP and flight time that an AOC holder and an FCM must comply with is the FDP limit contained in the Appendix under which the operation is being conducted at that particular time. The FCM must remain within the cumulative duty and cumulative flight time limits for the Appendix under which the operation is being conducted at that particular time.

13A Transitioning from Appendix 4B, 5 or 5A, or Subpart 137.Q of CASR

Subsection 13A provides special rules to determine the numbers of days off duty that may apply before an FCM transitions to another Appendix from Appendix 4B (medical transport operations and emergency service operations), 5 (aerial work operations and flight training associated with aerial work) or 5A (daylight aerial work operations and flight training associated with aerial work, or Subpart 137.Q of CASR (aerial application operations in an aeroplane).

14 AOC holder obligations

Subsection 14 of the CAO sets out certain obligations to be observed by an AOC holder in the application of an Appendix or Appendices to their operations. The obligations relate to the following:

1. *Fitness for duty* — an AOC holder must not require an FCM to operate an aircraft if fatigue considerations would make this unsafe.
2. *Limits* — an AOC holder must determine each FCM's limits and requirements in accordance with the Appendix or Appendices that the AOC holder has chosen to apply to the FCM for operation.
3. *Operations manual* — an AOC holder must include appropriate details of maximum and minimum limits in the operations manual.
4. *Employee responsibilities* — an AOC holder must set out in the operations manual its employees' responsibilities for operational fatigue management and fatigue risk management.
5. *Meals* — the AOC holder must ensure that there are adequate meal breaks (not more than 5 hours apart). If an AOC holder complies with an FRMS, a different period between meals may apply.
6. *Records and reports* — an AOC holder must maintain (and retain for at least 5 years) records of FCM rosters and actual duty periods and flight times, including extensions, if any. Details of extensions must be provided to CASA, on request, and also studied and used by the AOC holder to assist with continuous improvement of fatigue risk management.
7. *Home base* — an AOC holder must determine the home base for each FCM (this excludes Appendices 5 and 5A concerning aerial work).
8. *Rosters* — an AOC holder must publish each roster so far in advance of the FDPs and standby periods listed in it as to provide FCMs with a reasonable opportunity to plan adequate rest before duty.

15 Enhanced fatigue management obligations

Subsection 15 of the new CAO sets out certain additional obligations to be observed by an AOC holder in the application of an Appendix or Appendices to their operations other than when the Basic Limits are used (under Appendix 1), or when an approved FRMS is used (under Appendix 7). The additional obligations are as follows.

1. *Operations manual procedures* — an AOC holder must set out in the operations manual procedures for: identifying relevant hazards; determining limits and requirements to take them into account; continuous monitoring of experience in light of hazards, with a view to continuous improvement of fatigue risk management; ensuring transitions between the different limits of the Appendices are safe and compliant; and for relevant training.
2. *Training* — an AOC holder must train and assess each FCM in initial and recurrent fatigue-related risk training relevant to their duties. Initial training must be in accordance with a syllabus and deliver a thorough knowledge and understanding of fatigue causes, impairment and risk management. Recurrent training must be in accordance with a syllabus and build on and increase previous knowledge.

15A Recognition of prior initial training

Subsection 15A sets out how, if certain conditions are met, some prior training with a different operator may be recognised so that an FCM who is a new employee of an AOC holder does not have to repeat it with the new AOC holder.

16 Flight crew member obligations

Subsection 16 of the new CAO makes it a condition on any FCM licence that the licence holder must not begin to carry out any task for a flight if, due to fatigue, the FCM is, or is likely to be, unfit to perform a task that must be performed during the flight. This condition applies to an FCM even when he or she is conducting a private operation.

Why the CAO is a legislative instrument

First, under subregulations 5 (1) and (1A) of the *Civil Aviation Regulations 1988 (CAR)*, wherever CASA may issue a direction under the regulations, CASA may issue the direction in a Civil Aviation Order (**CAO**). Under subsections 98 (5) and 98 (5AAA) of the *Civil Aviation Act 1988 (the Act)*, where the regulations provide for certain instruments to be issued in the form of CAOs, such CAOs are legislative instruments. *Civil Aviation Order 48.1 Instrument 2019 (the new CAO)* contains directions made under regulation 215 of CAR. The new CAO is, therefore, a legislative instrument and it is subject to registration, and tabling and disallowance in the Parliament, under sections 15G, and 38 and 42, of the *Legislation Act 2003 (the LA)*.

Secondly, subregulation 11.068 (1) of the *Civil Aviation Safety Regulations 1998* expressly provides that the imposition of conditions on a class of authorisations (like flight crew licences) may be by means of a legislative instrument. The new CAO imposes conditions on flight crew licences under subregulation 11.068 (1). The new CAO is, therefore, a legislative instrument and it is subject to registration, and tabling and disallowance in the Parliament, under sections 15G, and 38 and 42, of the LA.

Thirdly, paragraph 28BA (1) (b) of the Act provides that an Air Operator's Certificate (**AOC**) has effect subject to any conditions "specified in the [regulations or] Civil Aviation Orders". By so providing, paragraph 28BA (1) (b) of the Act is considered to be a separate head of power for the making of relevant CAOs. The new CAO imposes conditions on AOCs to which it applies. For subsection 8 (4) of the LA (the definition of a **legislative instrument**), such a CAO has a legislative character (it determines and alters the law and imposes obligations) and is, therefore, a legislative instrument subject to registration, and tabling and disallowance in the Parliament, under sections 15G, and 38 and 42, of the LA.

Fourthly, paragraph 28BA (1) (b) of the Act provides that an AOC has effect subject to any conditions "specified in the regulations [or Civil Aviation Orders]". Subsection 98 (4A) of the Act provides that CASA may issue CAOs with respect to any matter in relation to which regulations may be made for the purposes of section 28BA. The CAO imposes conditions on AOCs to which it applies. Under subsection 98 (4B) of the Act, a CAO issued under subsection 98 (4A) is stated to be a legislative instrument and is, therefore, subject to registration, and tabling and disallowance in the Parliament, under sections 15G, and 38 and 42, of the LA.

The new CAO is made under these various heads of power and is a legislative instrument.

Statement of Compatibility with Human Rights

*Prepared in accordance with Part 3 of the
Human Rights (Parliamentary Scrutiny) Act 2011*

Civil Aviation Order 48.1 Instrument 2019

This legislative instrument is compatible with the human rights and freedoms recognised or declared in the international instruments listed in section 3 of the *Human Rights (Parliamentary Scrutiny) Act 2011*.

Overview of the legislative instrument

The purpose of *Civil Aviation Order 48.1 Instrument 2019* (the **new CAO**) is to provide Air Operator Certificate holders (**AOC holders**) and flight crew members (**FCMs**), and Part 141 operators (flight training organisations under the *Civil Aviation Safety Regulations 1998*) with a comprehensive regulatory framework for the more effective management of fatigue risk in aviation operations.

The new CAO makes use of international standards concerning fatigue, reflects advanced international scientific understanding of fatigue, fatigue risk and fatigue risk management, and has been informed by an independent panel of experts appointed by CASA. The new CAO prescribes both specified flight and duty time limitations, minimum rest requirements and fatigue self-management obligations, while also permitting a customised, data-driven fatigue risk management system (**FRMS**) tailored to an AOC holder's own operational characteristics and experiences.

As such, the new CAO sets standards for the management of fatigue and fatigue risk. These standards must be complied with to address the safety implications of FCM fatigue in the interests of the aviation safety.

The new CAO is a remake, with revisions, of *Civil Aviation Order 48.1 Instrument 2013* (the **2013 CAO**), as that Order was amended by the *Civil Aviation Order 48.1 Amendment Instrument 2016 (No. 1)*. (Although those amendments did not come into effect, the version of the 2013 CAO of which the current instrument is a revised remake, is the version as it would have been had the amendments come into effect.)

Human rights implications

The instrument engages some human rights protections as follows.

Article 6 of the International Covenant on Civil and Political Rights (ICCPR)

Under Article 6 of the ICCPR, persons have a right to life, an important element of which is the right to be protected from accidental death by the presence and operation of a legal framework for effective deterrence against preventable accidents.

The safety standards and rules in the new CAO are expressly designed to protect life — the lives of pilots, passengers and people on the ground. To this extent, the new CAO promotes the right to life and the right to safe and healthy working conditions

for aviators. It does this by prescribing, in a series of Appendices, scientifically-based regimes for controlling the flight and duty times, and minimum rest requirements, of pilots in various kinds of aviation operations. These are all operations in which, if there were no such limitations and associated requirements, pilots, passengers and persons on the ground would be in grave danger from the deleterious effects of accumulated fatigue affecting the technical competence and judgment of pilots in complex aircraft environments and manoeuvres.

Article 12 of the ICCPR

Under Article 12 of the ICCPR, persons have a right to freedom of movement within Australia, and a right to depart from Australia, at any time (with appropriate documentation).

It might be posited that a fatigue risk management regime that has the practical effect of preventing pilots from piloting an aircraft in circumstances in which they had not complied with the fatigue risk management rules in the new CAO, denied them the right to move freely within Australia. The new CAO limits that right but in a way that is lawful, necessary, reasonable, and proportionate to the risks and dangers to life that a fatigue risk management regime must address.

Article 17 of the ICCPR

Under Article 17 of the ICCPR, a person has a right not to have his or her private life and affairs unlawfully or arbitrarily interfered with, not only by the State but also by others. This is often described as the right to privacy.

One of the fatigue risk management regimes under the new CAO is an option for an AOC holder to develop and use an FRMS which is tailored to the specific fatigue-relevant circumstances of an individual pilot. The AOC holder assumes an onerous burden that may involve the collection and use of physiological and other data about an individual pilot in order to create a database which, when properly managed, operates scientifically to determine individual fatigue risk.

This might appear to interfere with the right to privacy, however, it produces more flexibility for all concerned and creates a more accurate and reliable indicator of actual fatigue and fatigue risk. Also, under the new CAO, even under an FRMS regime, every pilot has an obligation to self-assess and refuse duty if that assessment indicates unfitness for duty.

Thus, while the new CAO may limit the right to privacy, the limitation can only arise in a voluntary employment contractual situation and, as such, the limitation is lawful and reasonable, and proportionate to the risks and dangers to life that a fatigue risk management regime must address.

Notwithstanding the above, the statutory protections afforded by the *Privacy Act 1988* continue to apply.

Articles 6, 7 and 8 of the ICCPR

Under Articles 6, 7 and 8 of the ICCPR, a person has a right to work. The provisions in the new CAO, which permit the use by an AOC holder of an individual data-driven FRMS, might be posited to limit that right for a person who did not wish to participate in that particular form of fatigue risk management. However, it is a voluntary decision

for a pilot to be employed by such an AOC holder, and a CASA-approved FRMS is considered to be a lawful, reasonable and proportionate option in addressing the risks and dangers to life that a fatigue risk management regime must address.

It might be posited that the provisions in the new CAO, which have the effect of grounding a pilot who has not complied with the fatigue risk management requirements of the non-FRMS options under the new CAO, interfere with the right to work. However, it still remains the case that each of these other fatigue risk management regimes are a lawful, reasonable and proportionate option in addressing the risks and dangers to life that a fatigue risk management regime must address for relevant aircraft operations.

Conclusion

Therefore, while the new CAO may both directly and indirectly engage some of the applicable rights or freedoms recognised or declared in the international instruments listed in section 3 of the *Human Rights (Parliamentary Scrutiny) Act 2011*, it does so in a lawful, reasonable and proportionate way with the intention of promoting the right to life. As such, the new CAO is compatible with those rights and freedoms.

Civil Aviation Safety Authority