# **Explanatory Statement**

#### **Civil Aviation Act 1988**

# Civil Aviation Order 48.1 Amendment Instrument 2014 (No. 1)

### Purpose

The purpose of the *Civil Aviation Order 48.1 Amendment Instrument 2014 (No. 1)* (the *CAO amendment*) is to ensure that the regulatory framework for fatigue risk management in Civil Aviation Order 48.1 Instrument 2013 (the *CAO*) applies to new flight training entities created by amendments to the *Civil Aviation Safety Regulations 1998 (CASR 1998)*, namely, Part 141 certificate holders, and Part 142 authorisation holders.

# Legislation

The legislative basis for the CAO is set out in full in Appendix 1 of the Explanatory Statement for that instrument (*Civil Aviation Order 48.1 Instrument 2013*, ComLaw F2013L00628). As an amending CAO, the CAO amendment draws on the same legislative basis.

## Background

The CAO commenced on 30 April 2013 to provide Air Operator Certificate holders (*AOC holders*) and flight crew members (*FCMs*) with a comprehensive regulatory framework for effective management of fatigue risk in aviation operations.

Subject to transitional arrangements, the new framework replaced the previous rules for flight and duty time limitations contained in CAO Part 48.

The Civil Aviation Legislation Amendment Regulation 2013 (No. 1), the Civil Aviation Legislation Amendment (Flight Crew Licensing Suite) Regulation 2013, the Civil Aviation Legislation Amendment (Flight Crew Licensing and Other Matters) Regulation 2013, and the Civil Aviation Legislation Amendment (Flight Crew Licensing) Regulation 2014 (the amendment regulations) operate to insert in CASR 1998, with effect from 1 September 2014, new Parts 141 and 142, to change the regulatory requirements for flight training.

# New regulatory requirements for flight training

Previously, subparagraph 206 (1) (a) (vi) of the *Civil Aviation Regulations 1988*, as in force immediately before 1 September 2014, included commercial "flying training" (other than certain conversion training) within the prescription of aerial work, meaning that an air operator's certificate (*AOC*) must be held for the purpose.

On and after 1 September 2014, flying training (other than balloon flying training) is no longer within the prescription of aerial work.

Instead, regulation 142.065 of CASR 1998 prescribes the conduct of a Part 142 activity (for example, multi-crew pilot flight training) that involves the operation of an actual aircraft, as a prescribed purpose for which an AOC must be held for subsection 27 (9) of the Civil Aviation Act 1988 (the Act). Thus, Part 141 flight training, and Part 142 activity in a flight simulation training device, no longer require an AOC.

#### **Part 141**

Under regulation 141.005 of CASR 1998, Part 141 deals with the conduct of recreational, private and commercial pilot flight training, other than certain integrated training courses.

It makes provision in relation to Part 141 operators who, as holders of Part 141 certificates, provide authorised Part 141 flight training, that is flight training mentioned in the operator's Part 141 certificate.

Under regulation 141.010, Part 141 applies only to: an aeroplane, rotorcraft or airship that is permitted by its flight manual to be flown by 1 pilot; some aeroplanes, rotorcraft or airships covered by a type rating; and flight simulation training devices for such aircraft.

Under subregulation 141.015 (2), authorised Part 141 flight training could include training for: certain recreational, private or commercial pilot licences; flight crew ratings, including some type ratings; some flight crew endorsements; some flight reviews; and some variants (differences training).

#### **Part 142**

Under regulation 142.005 of CASR 1998, Part 142 deals with the conduct of integrated and multi-crew pilot flight training, contracted recurrent training and contracted checking (*Part 142 activity*).

It makes provision for Part 142 authorisations, that is, AOCs authorising Part 142 activity in an aircraft, or *certificates* authorising Part 142 activity in a flight simulation training device.

The Part 142 authorisation holder may provide authorised Part 142 activity, that is, training or checking mentioned in the holder's AOC or *certificate*.

Under regulation 142.010, Part 142 applies to an aeroplane, rotorcraft or airship; or a flight simulation training device for such an aircraft.

Under subregulation 142.015 (1), Part 142 training could include: an integrated training course for the grant of a private pilot or commercial pilot licence; training for the grant of a multi-crew pilot licence, air transport pilot licence or flight engineer licence; multi-crew cooperation training; training for the grant of certain flight crew ratings for multi-crew operations; training for the grant of a flight crew endorsement that is conducted as a multi-crew operation; training given as part of a flight review that is conducted as a multi-crew operation; and training for certain variants (differences training).

### Fatigue risk management under the CAO

The appendices to the CAO set out the fatigue risk management requirements for different operations as follows:

1. Appendix 1 sets out *Basic Limits* for FCMs' sleep opportunity, flight duty periods (*FDPs*), flight time limits, permissible extensions to FDP, off-duty period limits and limits on cumulative flight time.

- 2. Appendix 2 sets out limits and restrictions for *public transport services involving multi-pilot operations*, and deals with sleep opportunity, states of acclimatisation and non-acclimatisation, split duty, augmented crew operations, delayed reporting time, reassignment and extension of FDPs, standby limits, positioning, off-duty period limits, limits on cumulative flight time and duty time, late night operations and maximum durations of FDPs.
- 3. Appendix 3 sets out limits and restrictions for *public transport services involving multi-pilot operations other than in complex operations* (as defined), and deals with sleep opportunity, FDPs and flight time limits, split duty, delayed reporting times, reassignment and extension of FDPs, standby limits, positioning, off-duty period limits, limits on cumulative flight time and duty time, late night operations and maximum durations of FDPs.
- 4. Appendix 4 sets out limits and restrictions for *public transport services involving single-pilot operations*, and deals with sleep opportunity, FDPs and flight time limits, split duty, delayed reporting times, reassignment and extension of FDPs, standby limits, positioning, off-duty period limits, limits on cumulative flight time and duty time, late night operations and maximum durations of FDPs.
- 5. Appendix 5 sets out limits and restrictions for *aerial work operations other* than flying training (as defined in the CAO), and deals with FDP limits, split duty, extension of FDPs, standby limits, off-duty period limits, limits on cumulative flight time and maximum durations of FDPs. (The CAO amendment now modifies the name of Appendix 5 to focus only on aerial work operations which excludes flight training and checking other than for balloons.)
- 6. Appendix 6 sets out limits and restrictions for *aerial work operations involving flying training* (as defined in the CAO), and deals with sleep opportunity, FDPs and flight time limits, split duty, reassignment and extension of FDPs, standby limits, positioning, off-duty period limits, limits on cumulative flight time and duty time, late night operations and maximum durations of FDPs. (The CAO amendment now modifies the name of Appendix 6 to focus on flight training and checking which is no longer aerial work.)
- 7. Appendix 7 of the CAO is for *fatigue risk management systems*, and sets out the requirements for an AOC holder to have and use their own, scientifically devised, data-driven and CASA approved FRMS.

The CAO also sets out certain obligations to be observed by an AOC holder in the application of an Appendix or Appendices to their operations. The obligations are as follows.

- 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 (every 5 hours).
- 6. Records and reports an AOC holder must maintain (and retain for at least 10 years) records of FCM rosters and actual duty periods and flight times, including extensions, if any. Details of extensions must be provided to CASA, and also studied and used by the AOC holder to assist with continuous improvement of fatigue risk management.
- 7. *Home base* an AOC holder engaged in public transport services must determine the home base for each FCM.
- 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.

## The CAO amendment

It is essential for aviation safety that flight training and checking, no less than flight operations, must be subject to a regulatory framework for the effective management of fatigue risk.

This is achieved by amending the CAO to appropriately apply its relevant limitations and requirements to authorised Part 141 flight training and authorised Part 142 activity except where the relevant operator is, under their authorisation, engaged in the flight training or activity exclusively in a flight simulation training device and does not use aircraft for any training or checking purposes.

Thus, where the operator is engaged in the flight training or activity exclusively in an aircraft, or in a mixture of an aircraft and a flight simulation training device, the limitations and requirements apply.

#### **Key feature**

The key feature of the amendments for relevant Part 141 operators and Part 142 operators is that they must comply with the limits and requirements for their FCMs that are mentioned in 1 or more of the CAO's Appendix 1, Appendix 6 or Appendix 7 (the latter only for operators with an approved fatigue risk management system). In addition, a reciprocal obligation is placed on each FCM of the operator to comply with the limits and requirements of the Appendix or Appendices which the operator has chosen to comply with.

# Delayed and transitional taking-of-effect

Another important feature of the CAO amendment is its delayed and transitional effect as follows.

The CAO amendment takes effect for a Part 142 operator, who is an AOC holder (and their FCMs), in accordance with the arrangements set out in the CAO for AOC holders. For reference, these arrangements are set out in Appendix 2 as they were explained in the Explanatory Statement for the CAO. (The CAO amendment has no application to a Part 142 operator who is not an AOC holder.)

For Part 141 operators (and FCMs) the CAO amendment takes effect on and from 1 September 2014 to the exclusion of any other flight and duty time limitations that might otherwise have applied.

However, for a *grandfathered Part 141 operator*, the CAO amendment applies in a particular way.

A *grandfathered Part 141 operator* is a Part 141 operator who, between the beginning of 30 April 2013 and the end of 31 August 2014, continuously held an AOC for flying training; or who, before 30 April 2013, applied for an AOC for flying training which was issued after 30 April 2013, and continuously held between the date of issue and the end of 31 August 2014.

The CAO amendment applies to such a grandfathered Part 141 operator on and from 30 April 2016.

However, at any time on or after 1 September 2014 but before 30 April 2016, a grandfathered Part 141 operator may tell CASA in writing that the operator intends to comply with the requirements of the CAO (as amended by the CAO amendment) from a specified date, that is before 30 April 2016, for all of the operator's operations or for specified operations only.

If this happens, the requirements of the CAO (as amended) take effect for the operator and their FCMs to the exclusion of any other flight and duty time limitations that might otherwise have applied.

# Legislative Instruments Act 2003

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

#### Consultation

The Notice of Final Rule Making published for CAO 48.1 foreshadowed that machinery amendments to CAO 48.1 would be required to take account of the making and commencement of Parts 141 and 142 of CASR 1998.

A copy of the proposed CAO amendment was distributed to members of the joint CASA/industry Standards Consultative Committee, the Operational Standards Subcommittee, the Flight Crew Licensing Standards Subcommittee and the FRMS Working Group for information and comment. No comments were received.

# **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*. To the extent that the legislative instrument may directly engage any of the applicable rights or freedoms, for example, the right to

work, the limitation to human rights is reasonable, necessary and proportionate to protect aviation safety.

# Office of Best Practice Regulation (OBPR)

The CAO amendment is consequential on the amendment regulations which made Part 141 and 142. CASA prepared a Regulation Impact Statement for those amendment regulations which was assessed as adequate by OBPR and thereby covers the consequential CAO amendment (OBPR id: 2777).

# Making and commencement

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

The CAO amendment commences on 1 September 2014 after registration on the Federal Register of Legislative Instruments, but with certain delayed and transitional taking-of-effect as noted above.

[Civil Aviation Order 48.1 Amendment Instrument 2014 (No. 1)]

# Legislation — legislative basis for CAO 48.1

Under section 27 of the *Civil Aviation Act 1988* (the *Act*), CASA may issue Air Operator 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 on 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 subregulation 5 (1) of the *Civil Aviation Regulations 1988* (*CAR 1988*), 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 notified in the *Gazette*.

Under subregulation 5.55 (1) of CAR 1988, CASA may 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 is a strict liability offence (with a defence of reasonable excuse to be established under an evidential burden).

Regulation 5.55 of CAR 1988, and its substitute in regulation 210A (see below), is used as a head of power solely to facilitate the eventual repeal of Civil Aviation Order (*CAO*) Part 48 and the individual CAOs within it, all of which were made under regulation 5.55 and, from 1 September 2014, are 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 CAO which relies on the other heads of power mentioned for the instrument.

However, the *Civil Aviation Legislation Amendment Regulation 2013* (and subsequent related amendments) (the *amendment regulation*) has certain possible affects which the CAO has addressed. Thus, item 5 in Schedule 2 of the amendment regulation, which commences on 1 September 2014, has 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 1988, in effect remaking regulation 5.55 but in a modified form (item 18 in Schedule 2).

The amendment regulation also makes regulation 335 of CAR 1988 which provides that a CAO made under regulation 5.55 and in force immediately before 1 September 2014 continues in force according to its terms "as if" it had been made on 1 September 2014 under regulation 210A (item 41 in Schedule 2).

Although not needed as a head of power for the making of the CAO, regulation 210A of CAR 1988 is included with the heads of power to support the eventual repeal of CAO Part 48 on 30 April 2016. Regulation 210A does not take effect until 1 September 2014, but its inclusion in the Order is in accordance with section 4 of the *Acts Interpretation Act 1901* (the *AIA*) as follows.

Under section 13 of the *Legislative Instruments Act 2003* (the *LIA*), the AIA applies to a legislative instrument (like regulations) as if it were an Act. As such, section 4 of the AIA applies if regulations are made but not yet commenced, and they confer a power to make another legislative instrument (like a CAO). That power to make (or repeal) a CAO may be exercised in anticipation, before the regulations have commenced, as if the regulations had in fact commenced, though the taking of effect of any such anticipatory instrument is deferred until after commencement of the regulations

The combined effect of the paragraphs in subsection 3 of the Order is designed to avoid any doubt about the operation of the provisions in CAO 48.1 which repeal the Part 48 CAOs on 30 April 2016. Paragraphs 3.1 and 3.2 of the Order repeal Part 48 on 30 April 2016. Paragraph 3.3 of the Order provides that, on 30 April 2016, the Part 48 CAOs, as continued in force on 1 September 2014 by regulation 335, are repealed.

Similarly, it is considered that there is no doubt that for new AOC holders and early-opt-in AOC holders, subsection 4 will, according to its terms, cause early ceasing to have effect of *any Order* "mentioned in a paragraph of subsection 3".

As noted above (**Background**), previously exemptions from requirements of CAO Part 48 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 an AOC holder elects for an early-opt-in, any relevant exemption

issued to the holder would be taken (by virtue of paragraph 4.6 and subsection 5 of the Order) to no longer apply to the holder.

Such exemptions would not, thereby, be legally revoked, any more than the Part 48 CAOs which would no longer apply would, thereby, be legally repealed, before 30 April 2016. But, as conditions on the relevant AOCs, the old CAOs and exemptions would be taken to longer apply to the AOC holder.

Under subregulation 215 (3) of CAR 1988, 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 a Gazette notice for the CAO containing the direction).

Under subregulation 11.068 (1) of the Civil Aviation Safety Regulations 1998 (CASR 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 regulation 11.015, flight crew licences). 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 AIA, 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 AIA is used, in association with regulation 210A of CAR 1988, solely for the purpose of repealing CAO Part 48.

# Take effect arrangements for authorised Part 142 operators who hold a relevant AOC

The CAO *amendment* takes effect for AOC holders in the same terms as the CAO takes effect of AOC holders as follows.

Subsection 4 of the CAO sets out how and when the CAO will take effect for different classes of AOC holders and FCMs (existing AOC holders; new AOC holders; early-opting-in AOC holders etc.).

Thus, individuals or corporations who become relevant AOC holders for the first time after the commencement of CAO 48.1 (and FCMs), are immediately subject to the requirements of CAO 48.1, and CAO Part 48 (although not expressly repealed until 30 April 2016) is taken not to apply to them.

Otherwise, CAO 48.1 applies to **existing** AOC holders and FCMs only on and from 30 April 2016. From 30 April 2016, it becomes a condition on a flight crew licence that the holder must, in effect, take account of his or her own possible and potential fatigue status before operating an aircraft (paragraph 16.1 of the CAO).

However, up until immediately before 30 April 2016, existing AOC holders can voluntarily choose an early-opt-in to the new CAO 48.1 regime by informing CASA in writing of the date from which they intend to comply with CAO 48.1. Some AOC holders may choose to do this because they have the organisational capacity and resources to take advantage of the new regime, whereas other AOC holders may require the full transitional period until 30 April 2016 to prepare for the change-over. For those who chose an early-opt-in, they are immediately subject to the requirements of CAO 48.1, and CAO Part 48 (although not expressly repealed until 30 April 2016) is taken not to apply to them.

Individuals or corporations who before the commencement of CAO 48.1 had applied for an AOC but were not issued with it until after the commencement of CAO 48.1, will be treated similarly to existing AOC holders as described above.

# Why the CAO is a legislative instrument

First, under subregulation 5 (1) of CAR 1988, wherever CASA may issue a direction under the regulations, CASA may issue the direction in a CAO. Under subsections 98 (5) and 98 (5AAA) of the Act, where the regulations provide for certain instruments to be issued in the form of CAOs, such CAOs are legislative instruments. The CAO contains directions made under regulation 215 of CAR 1988. The CAO is, therefore, a legislative instrument and it is subject to registration, and tabling and disallowance in the Parliament, under sections 24, and 38 and 42, of the LIA.

Secondly, subregulation 11.068 (1) of CASR 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 CAO imposes conditions on flight crew licences under subregulation 11.068 (1). The CAO is, therefore, a legislative instrument and it is subject to registration, and tabling and disallowance in the Parliament, under sections 24, and 38 and 42, of the LIA.

Thirdly, 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". 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 CAO imposes conditions on AOCs to which it applies. For section 5 of the LIA, and the definition of a *legislative instrument*, such an CAO is of a legislative character and is, therefore, a legislative instrument subject to registration, and tabling and disallowance in the Parliament, under sections 24, and 38 and 42, of the LIA.

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 24, and 38 and 42, of the LIA.

The CAO is made under these various heads of power and is a legislative instrument. Therefore, the CAO amendment is also made under the same heads of power, also invoking section 4 and subsection 33 (3) of the AIA, and is a legislative instrument.

# Appendix 4

# **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 Amendment Instrument 2014 (No. 1)

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

Flight crew fatigue is a serious threat to the safety of aviation operations. The purpose of *Civil Aviation Order 48.1 Amendment Instrument 2014* (the *CAO amendment*) is to provide authorised Part 141 operators (in effect, what were previously known as "flying schools"), authorised Part 142 operators (in effect, what were previously known as "flying schools" but at a more sophisticated level, for example, for multi-crew pilot training) and their flight crew members (*FCMs*) with a comprehensive regulatory framework for the more effective management of fatigue and fatigue risk in aviation training operations.

The CAO amendment prescribes both specified flight time limitations and fatigue self-management obligations for such operators, while also permitting customised, data-driven fatigue risk management systems (FRMS) tailored to their own operational experiences. As such, the CAO amendment sets standards for the management of fatigue and fatigue risk. To combat and eliminate FCM fatigue in the interests of the aviation safety of public transport services, these standards must be complied with by the relevant operators and their FCM.

## **Human rights implications**

The legislative instrument may indirectly engage the right to work under the *International Covenant on Economic, Social and Cultural Rights* by placing restrictions on when and how long pilots may work in flight operations. However, the right to work is engaged in a way that is balanced by the objectives of achieving and improving aviation safety.

The instrument is otherwise 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*. The instrument does not otherwise engage any of the applicable rights or freedoms.

#### Conclusion

The legislative instrument is compatible with human rights and to the extent that it may also limit human rights, those limitations are reasonable, necessary and proportionate to protect aviation safety.

# **Civil Aviation Safety Authority**