

Explanatory Statement

Civil Aviation Act 1988

Civil Aviation Order 20.18 Amendment Order (No. 1) 2007

Legislation

Section 98 of the *Civil Aviation Act 1988* (the **Act**) empowers the Governor-General to make regulations for the Act and the safety of air navigation.

Under subregulation 207 (2) of the *Civil Aviation Regulations 1988* (**CAR 1988**), a person must not use an Australian aircraft in a class of operation if the aircraft is not fitted with the instruments and equipment approved and directed by CASA. In approving or directing, CASA may have regard only to the safety of air navigation.

Under subregulation 5 (1) of CAR 1988, where CASA is empowered to issue certain instruments such as approvals or directions, it may do so in a Civil Aviation Order (**CAO**).

For subregulation 207 (2) of CAR 1988, CASA made CAO 20.18 setting out the approval and directions for aircraft instruments and equipment to meet basic operational requirements.

Background

Civil Aviation Order 20.18 Amendment Order (No. 1) 2007 (the **CAO amendment**) inserts a new subsection 9B into CAO 20.18 to provide approvals and directions for certain aircraft to carry automatic dependent surveillance – broadcast transmitting equipment (**ADS-B**). The equipment must comply with an equipment configuration approved by CASA or as set out in a new Appendix XI of CAO 20.18 and also inserted by the CAO amendment.

ADS-B avionics is a new aircraft surveillance system using ground stations to receive radio signals that are transmitted by ADS-B equipped aircraft. Using ADS-B avionics, an aircraft is able to broadcast its identity and position with a degree of accuracy, integrity and reliability that is at least as good as secondary surveillance radar (**SSR**). However, the installation of ADS-B ground stations is more economical than conventional radar stations. Hence, it provides the potential for a much greater geographical area to be covered by transmissions for surveillance by air traffic control, thereby enhancing safety and efficiency.

Airservices Australia trial

Airservices Australia (**AA**) undertook a long-standing operational trial of ADS-B in airspace in the vicinity of Bundaberg, Queensland. The main objective of the trial was to confirm ADS-B performance and assess whether it was at least as good as SSR in accuracy, integrity, availability and reliability.

Both AA and CASA are now satisfied that ADS-B avionics are at least as effective as SSR. As a result, AA has commenced the deployment of 28 ADS-B ground stations across Australia. Known as the ADS-B Upper Airspace Project (**UAP**), this deployment will provide for a continent-wide surveillance service above FL300, as well as significant coverage to lower levels particularly in the vicinity of those aerodromes where ground stations are installed.

In addition to substantial safety benefits stemming from radar-like surveillance of ADS-B equipped aircraft, UAP offers efficiency benefits in relation to airspace capacity and the ability to accommodate preferred routes and levels. These ADS-B surveillance services are available to any aircraft operator who chooses to equip their aircraft and train their crews for ADS-B. Many Australian and foreign registered airline aircraft have done so and are already receiving early ADS-B derived services utilising the first 5 ADS-B ground stations that are now operative.

Details of the CAO Amendment

Under new paragraph 9B.2 of Civil Aviation Order 20.18 (*CAO 20.18*), ADS-B transmitting equipment carried by an Australian aircraft for operational use in any class of operation in Australia must comply with an approved equipment configuration set out in new Appendix XI, or as approved in writing by CASA.

Under new paragraph 9B.3, ADS-B transmitting equipment that does not comply must be deactivated before flight in Australia. Under new paragraph 9B.4 of CAO 20.18, ADS-B transmitting equipment must transmit particular flight identification particulars.

Appendix XI sets out the standards that ADS-B transmitting equipment must meet if it is to comply with the requirements under the CAO amendment. Those standards are harmonised with the relevant ICAO standards and recommended practices. They include the phasing in, from 28 June 2012, of a requirement that the geographical position transmitted by the ADS-B transmitting equipment must be determined by a standard of GNSS receiver that is higher (viz. TSO-C145a or TSO-C146a) than that currently required (viz. TSO-C129 with upgraded features). Alternatively, CASA may determine that another system is acceptable for this purpose.

There is no requirement to carry ADS-B transmitting equipment that complies with the new standards — unless the equipment is to be put to operational use. Thus, if non-complying equipment is carried it must be deactivated.

Legislative Instruments Act

Under subregulation 5 (1) of CAR 1988, if CAR 1988 empowers CASA to issue instruments such as approvals or directions, CASA may do so in the form of Civil Aviation Orders (*CAOs*). Under subsection 98 (5) of the Act, where regulations provide for an instrument to be issued in the form of a CAO, the CAO so made is declared to be a disallowable instrument. Under subparagraph 6 (d) (i) of the *Legislative Instruments Act 2003* (the *LIA*), an instrument is a legislative instrument for section 5 of the LIA if it is declared to be a disallowable instrument under legislation in force before the commencement of the LIA. The CAO amendment is, therefore, a legislative instrument. It is subject to tabling and disallowance in the Parliament under sections 38 and 42 of the LIA.

Consultation

Consultation under section 17 of the LIA has been undertaken with interested parties. A Notice of Proposed Rule Making (*NPRM*) for the carriage and use of ADS-B avionics in Australia was published by CASA on 17 November 2006. Copies of the draft CAO amendment, and consequential amendments to CAOs 82.1, 82.3 and 82.5, were included and public comment invited. The NPRM proposed operational and

technical standards supporting the voluntary fitment of ADS-B equipment in Australian aircraft, and in foreign-registered aircraft operating into Australia.

Most of the respondents to the NPRM supported the CASA proposals. CASA took all comments into account and used a number of them to fine-tune its proposals for final rule-making. The Notice of Final Rule-Making, including the final version of the CAO amendment and consequential amendments, was published by CASA on the website on 19 April 2007.

Regulation Impact Statement

The Office of Best Practice Regulation does not require preparation of a Regulation Impact Statement in this case because a preliminary assessment of business compliance costs in the context of the nature of the instrument indicates that the amendment will have only a low impact on business.

Commencement and making

The CAO amendment takes effect on the day after it is registered. It has been made by the Director of Aviation Safety, on behalf of CASA, in accordance with subsection 84A (2) of the Act.

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