WELLINGTON NEW ZEALAND

PURSUANT to Section 28 of the Civil Aviation Act 1990

I, HARRY JAMES DUYNHOVEN, Associate Minister of Transport,

HEREBY MAKE the following ordinary rules.

SIGNED AT Wellington

This 24TH day of FEBRUARY 2004

by **HARRY JAMES DUYNHOVEN**

Associate Minister of Transport

Civil Aviation Rules

Part 125, Amendment 5

Air Operations - Medium Aeroplanes

ACAS

Docket 2/CAR/3

Contents

Rule objective

The objective of this rule is to require holders of air operator certificates conducting air operations under Part 125 with specified aeroplanes, to:

1. equip those aeroplanes with an airborne collision avoidance system (ACAS II); and

2. ensure that certain aeroplanes that are already fitted with ACAS or ACAS II equipment remain equipped under specified circumstances.

The rule also specifies which category of aeroplanes are exempt from the requirements to be equipped with ACAS II.

Extent of consultation

In August 2001 the Civil Aviation Industry Rules Advisory Group (CIRAG) Executive accepted the terms of reference for the establishment of a Technical Study Group (TSG) to participate in a rule-making project to introduce New Zealand requirements for airborne collision avoidance systems in accordance with the ICAO standards. The details of this proposal have been developed in consultation with the TSG under the CIRAG consultative process.

Participants on the TSG were drawn from the following sectors of the aviation industry:

(a) Air traffic services (ATS);

(b) New Zealand Air Line Pilots Association (NZALPA);

(c) Part 121 operators;

(d) Part 125 operators;

(e) Operators of freighter aeroplanes;

(f) Aircraft Owners and Pilots Association (AOPA);

(g) Gliding New Zealand (GNZ).

In addition operators of sightseeing aircraft in the Queenstown area were briefed on the rule proposals and given the opportunity to provide feedback.

Four TSG meetings were held from August 2001 to November 2001 at which general ACAS issues and Part 121 ACAS rule development were discussed. Two further TSG meetings were held early in 2002 to specifically discuss Part 125 ACAS rule development. In addition, several informal meetings were held in February 2002 with TSG participants at which Part 125 ACAS issues were discussed.

A Notice of Proposed Rulemaking, NPRM 03-02, containing the proposed rule to require some Part 125 aeroplanes to be equipped with ACAS II and to require some Part 125 aeroplanes that are already equipped with ACAS to remain equipped, was issued for public consultation under Docket 2/CAR/3 on 12 September 2002.

The publication of this NPRM was notified in the Gazette on 12 September 2002 and advertised in the daily newspapers in the five main provincial centres on 14 September 2002. The NPRM and its associated cost benefit analysis (CBA) were published on the CAA web site and mailed to identified stakeholders including representative organisations who were considered likely to have an interest in the proposal.

A period of 32 days was provided for comment on the proposed rule.

Summary of comments

Three written submissions were received on the NPRM.

The Aviation Industry Association (AIA) considered the NPRM to be acceptable and had no further comment.

Gliding New Zealand expressed concern over the possible consequential impact on general aviation.

NZALPA commented on various matters relating to the size of Part 125 aeroplanes to which the rule would apply, the effective date of the rule and the assumptions made in the CBA.

The CAA considered the proposals and submissions and a detailed summary of comments received and responses by CAA are contained in the consultation details attached to these rules.

In reviewing the draft final rule, the CAA realised that the NPRM inadvertently went further than was intended by the TSG in regard to

retention of existing ACAS equipment. The NPRM included ***all*** Part 125 aeroplanes, whereas the intention was to require only those turbine powered aeroplanes over 5700 kg MCTOW or with a passenger seating configuration of 20 to 30 seats to retain any ACAS equipment already fitted.

The final rule has been changed to reflect this intent and all commenters and TSG members were advised of the change on 10 December 2002. No responses were received on this.

The rule as amended was then referred to Parliament's Regulations Review Committee before being signed by the Associate Minister of Transport.

Examination of comments

Comments may be examined by application to the Docket Clerk at Aviation House between 8:30 am and 4:30 pm on weekdays, except statutory holidays.

Insertion of amendments

The amendments to the rules in this Part are reflected by the insertion of new rules.

Effective date of rule

Amendment 5 to Part 125 comes into force on 25 March 2004.

Availability of rules

Civil Aviation Rules are available from–

CAA web site: http://www.caa.govt.nz/
Freephone: 0800 GET RULES (0800 438 785)

Subpart F—Instruments and Equipment

The following new rule is inserted:

125.381 Airborne collision avoidance system (ACAS II)

(a) Notwithstanding paragraph (b), a holder of an air operator certificate must ensure that each turbine powered aeroplane being operated under that certificate is equipped with ACAS II by 1 January 2005 if—

(1) the aeroplane has a MCTOW greater than 5700 kg or a passenger seating configuration of 20 to 30 seats; and

(2) the details specified under 47.55(b) in respect of that aeroplane first appear in the New Zealand Register of Aircraft after 25 March 2004.

(b) A holder of an air operator certificate must ensure that each turbine powered aeroplane with a MCTOW greater than 5700 kg or a passenger seating configuration of 20 to 30 seats being operated under that certificate remains equipped with ACAS or ACAS II if that aeroplane is already equipped with ACAS or ACAS II—

(1) on 25 March 2004; or

(2) when that aeroplane commences operations under an air operator certificate after 25 March 2004.

Appendix B – Instruments and Equipment Airworthiness Design Standards

The following new rule is inserted into Appendix B:

B10 Airborne collision avoidance system (ACAS II)

ACAS II must meet the requirements of TSO C119b.

ACAS is equipment that meets the requirements of TSO C118 or TSO C119a.

Consultation Details

(This statement does not form part of the rules contained in Part 125. It provides details of the consultation undertaken in making the rules.)

An NPRM was published under Notice of Proposed Rule Making 03-02 (Docket Number 2/CAR/3) on 12 September 2002. This notice proposed amendments to Part 125 *Air Operations – Medium Aeroplanes.* Three written submissions were received on the NPRM.

Summary of Comments on NPRM Docket Number 2/CAR/3

General comments on the NPRM

A submission from the Aviation Industry Association (AIA) simply stated that the AIA had no further comment to make on the NPRM. Subsequent discussion with the AIA confirmed that they considered the NPRM to be acceptable.

A submission from GNZ expressed concern over the possible consequential impact on general aviation. They reiterated concerns expressed by them in the Part 121 ACAS rule development process i.e. GNZ's belief that the consequential impacts on general aviation, in particular recreational aviation including gliders have been omitted. GNZ also considered that the cost-benefit analysis that accompanied the NPRM is deficient in that consequential costs to other airspace users are not taken into account.

GNZ requested that their submission on the Part 121 ACAS NPRM (Docket 2/CAR/2) be included as their submission on Part 125 ACAS.

A submission from NZALPA commented on various matters relating to the size of Part 125 aeroplanes to which the rule would apply, the effective date of the rule and the assumptions made in the CBA.

NZALPA considered that: (1) the requirement for ACAS II should extend down to aeroplanes with 10 or more seats; (2) aeroplanes already on the register should also be equipped with ACAS II; (3) the rule should become effective from 12 Sep 2002 (the date the NPRM was issued); (4) the CBA is deficient in that outdated values for the statistical value of a human life and the assumed fatality rate have been used; and

(5) that all Part 125 aeroplanes should be equipped with ACAS II by 2005.

Specific comment on the NPRM

GNZ made the following comments in its submission on the Part 121 ACAS NPRM. These comments, which were addressed in the Part 121 final rule consultation details, are repeated here.

GNZ considered that introducing ACAS rules on their own was a "piecemeal approach" and that the ACAS NPRM should be deferred until a complete package of changes relating to ACAS requirements, controlled airspace designation and transponder mandatory (TM) airspace was prepared.

GNZ also submitted that there had been inadequate consultation, commenting that the rights and operational requirements of all airspace users had not been appropriately or adequately considered or consulted on.

CAA comment: CAA notes that, in relation to TM airspace changes, consultation with all airspace users has been conducted during 2001 together with the extensive consultation during 2001/2002 in association with the airspace review conducted by the CAA Aeronautical Services Unit. Details of this review have been made available on the CAA web site.

GNZ submitted that the cost of owning, installing, maintaining and carrying transponder equipment on small aircraft must be included in the CBA.

CAA Comment: Changes to TM airspace, which may affect the number of aircraft requiring transponders, are made in accordance with Part 71 which prescribes: (1) the Director's powers to designate airspace; (2) airspace designations that can be made; and (3) the airspace review consultation process. A future NPRM, currently in draft form, will propose changes to Part 71 to extend the Director's power to enable TM airspace to be designated outside radar cover and outside controlled airspace. However any actual changes to the TM designation of airspace will still be subject to the airspace review consultation process on a case by case basis.

The CAA does not consider it appropriate to include the cost of any new transponder installations that may be required due to any potential increase in TM airspace as a cost of the ACAS rule because: (1) the ACAS rule does not alter existing transponder requirements; (2) the extent of changes to TM airspace and the consequent number of additional transponders required will only be known after the airspace review process is completed; and (3) approximately 88% of the flight time of Part 125 aeroplanes affected by the proposed rule is in airspace that is already transponder mandatory.

GNZ submitted that ADS-B technology would be a more cost-effective collision avoidance technology for gliders and would be adopted in New Zealand in a few years. GNZ commented that the cost of equipping a glider with ADS-B was likely to be considerably less than equipping with an acceptable Mode C transponder.

CAA Comment: There are many issues to resolve before alternative technologies are internationally accepted for airborne collision avoidance, especially interoperability with existing ACAS equipped aircraft.

ADS-B requires a significant investment in ground infrastructure and also requires aircraft to carry a means of transmitting ADS-B data to the ground. Airways Corporation of New Zealand advises that it has no plans at this time to introduce ADS-B technology to New Zealand.

Existing Mode A and C transponders cannot transmit ADS-B aircraft position data to the ground. It is possible that in the future Mode A and C transponders with the additional datalink capability required may be developed but there is no certainty of this. In addition no standard for downlink transmission of ADS-B messages has been decided yet. Various alternatives are under consideration including dedicated transceivers and Mode S transponders.

The limiting factors for gliders are generally space for transponder equipment and provision of an adequate electrical power supply to power the transponder and particularly its altitude encoder. ADS-B equipment will not necessarily be smaller or have lower power

consumption as an ADS-B installation still requires an altitude encoder and radio data transmission[1].

ADS-B is primarily a surveillance tool and has not been developed to interact with ACAS II. While such development may occur in the future, there are significant issues of compatibility to address before this can occur. ICAO is currently considering the use of ADS-B and has identified the issues to be addressed. Any implementation of ADS-B that may avoid the need for gliders to carry transponders would require modification of the existing ACAS II units on transport aircraft to enable ADS-B equipped aircraft to be detected and avoided. In CAA's view such modifications will be far more costly than glider transponders and altitude encoders.

ACAS II has been the ICAO standard for airborne collision avoidance since 1996 and as a result there is now a very large number of transport aircraft worldwide equipped with ACAS II.

The FAA in October 2001 released an NPRM on collision avoidance. This NPRM discussed possible application of ADS-B for collision avoidance and firmly placed responsibility for addressing collision avoidance co-ordination with ACAS equipped aircraft on the developers of ADS-B technology.

The CAA is of the view that new technology airborne collision avoidance equipment that is capable of co-ordinating responses with ACAS II is many years away and is unlikely to be cheaper for gliders to install for collision avoidance purposes than existing Mode A and C transponders.

The New Zealand ACAS rules could be reviewed if and when the issues relating to ADS-B as collision avoidance technology have been resolved and ICAO have adopted the system in whole or part.

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[1] The power consumption of ADS-B equipment may be higher than Mode A and C transponders as ADS-B transmits data at regular intervals where Mode A and C transponders only do so when interrogated.

For these reasons the final rule does not provide for ADS-B as future airborne collision avoidance technology.

GNZ submitted that SSR radar cover should be extended as an alternative to ACAS commenting that to rely on ACAS to provide the last line of defence is denying the fact that a layered defence, utilising SSR, would provide a greatly enhanced degree of safety for the turbojet operations. GNZ noted that the benefit to the nation identified in the Part 121 ACAS NPRM from avoiding a mid-air involving a 40 seat aircraft is $40m and commented that the cost of an SSR installation would be considerably less than $40m.

CAA comment: Previous mid-air collisions in NZ have involved small aircraft, however there have been a number of near mid-air collisions involving medium and large air transport aeroplanes.

The need for collision avoidance rules is based on an assessment of the risk and consequences of a collision. While past history may suggest the risk of mid-air collision is higher between light aircraft than large aircraft, the consequences of a collision between light aircraft are substantially less.

The purpose of the proposed Part 125 ACAS rules is to reduce the risk of mid-air collisions for a group of aeroplanes where, due to the size of the aircraft, the consequences of a collision would be severe.

An analysis of airspace occurrence reports in the CAA database indicates that approximately 50% of near mid-air collisions occurred in areas of SSR radar cover.

The extension of SSR cover would not provide the level of protection that is available with ACAS. ACAS operates totally independently of ground-based systems and provides advisory information directly to the pilot. SSR short-term conflict alert, which is a supplementary collision avoidance system to ACAS and not an alternative system, only functions in radar controlled airspace and relies on rapid and precise voice communication by a radar controller with the pilots concerned.

Outside radar controlled airspace there is no monitoring of SSR short-term conflict alerts and no sure means of alerting pilots to possible conflict. The provision of a SSR short-term conflict based alerting

service to within 2000 ft AGL of existing non-radar airports that are used by IFR air transport aeroplanes would require an investment of over $10m in radar equipment and major extensions to radar controlled airspace. This would have very high ongoing costs to be spread over all airspace users.

CAA believes recreational airspace users would certainly oppose a large extension to radar controlled airspace on the grounds of ease of access as well as cost. An extension to SSR airspace would not eliminate the need for gliders or other aircraft to carry transponders – the proper functioning of SSR requires aeroplanes to be equipped with transponders.

ACAS also has the benefit of providing protection against mid-air collisions in oceanic areas where SSR coverage is not possible.

For these reasons CAA does not believe that the extension of SSR cover is an alternative to ACAS.

GNZ submitted that the operation of transponders in "Mode A only" should be permitted in TM airspace and requested that Part 91.247 be rewritten to provide for "Mode A only". GNZ also commented that, considering the technical issues and the "right of way rule" it is appropriate to allow airships, gliders and balloons to operate Mode A only in TM airspace.

CAA Comment: The CAA understands that, at the time of introduction of SSR, it was agreed between Airways Corporation and the New Zealand Gliding Association (now known as GNZ) that mode C pressure-altitude reporting was not required by gliders operating in TM airspace. When Part 91 was first issued in 1997 this provision was included, but with a phase-out date of April 1998. Since then operation without automatic pressure-altitude reporting has been permitted at air traffic control's discretion. Airways Corporation advises that this practise has become increasingly difficult to manage due to large increases in IFR movements over the last ten years and the reduced capability of the new primary radars compared to the previous system.

Glider operators have had over five years notice of the withdrawal of the relief provided to them from the pressure-altitude reporting requirement in which to research and acquire suitable encoders and power supplies to

ensure maximum access to TM airspace. CAA research indicates that at least one low-cost encoder with a very rapid warm up time (zero to 20 seconds) is available. Airways Corporation advises that a procedure could be developed for non-powered aircraft equipped with such encoders to transmit altitude data on request from air traffic control (ATC) rather than continuously, thereby preserving battery life.

Rule Part 91 A.22 requires each transponder (other than a Mode S transponder) to meet TSO C74c. TSO C74c requires the transponder to have Mode A and C capability with automatic pressure altitude reporting. This is also an ICAO standard.

Notwithstanding this rule requirement the CAA understands that there may be a very small number of transponders fitted to recreational aircraft that have no Mode C capability at all. ACAS II requires Mode C replies (with or without encoded altitude data) to its interrogations to detect proximate transponders. A transponder that has no Mode C capability cannot reply in Mode C and will therefore be invisible to the ACAS II equipped aircraft.

The more prevalent situation is that recreational aircraft, particularly gliders, have Mode A and Mode C capable transponders that lack automatic pressure altitude reporting capability because altitude encoders have not been fitted.

These transponders will operate in Mode A and Mode C when switched to the "ON" position, and will be detectable by an ACAS II equipped aircraft. However because no altitude data is transmitted resolution advisory data (RA) will not be available from ACAS. Traffic advisory data (TA) only will be available.

As very few transponders are truly "Mode A only", the issue is not "Mode A only" but whether or not automatic pressure altitude reporting is included in the transponder system fitted to the aircraft.

Transponder installations without an altitude encoder are much less effective for both ATC surveillance and ACAS collision avoidance. The ICAO Air Navigation Council has also emphasised the particular

importance of pressure-altitude reporting transponders for ACAS and ATC[2].

For these reasons CAA does not agree with GNZ that access to TM airspace with "Mode A only" (i.e. no automatic pressure altitude reporting capability) should be available "as of right" to non-powered aircraft. The CAA does agree that such aircraft should be able to request access to TM airspace that is within controlled airspace and the air traffic control authority should give reasonable consideration to these requests. The Airways Corporation has agreed to do this.

GNZ submitted that Table 1 of the Part 125 ACAS NPRM, which stated that a Mode A transponder provides nil information to TCAS II, was at variance to the equivalent table in the Part 121 ACAS NPRM and presumably is incorrect.

CAA Comment: In fact the table in the Part 121 ACAS NPRM is incorrect, a fact CAA discovered as a result of further research. As explained above, a transponder that lacks any Mode C capability will be totally invisible to an ACAS equipped aircraft.

GNZ submitted that the CBA is deficient in that consequential costs to other airspace users are not taken into account. GNZ acknowledged that the proposed rule would not itself have any immediate impact on designated transponder mandatory (TM) airspace or require other aeroplanes to carry transponders, but commented that the proposal is clearly part of a package that includes a review of TM airspace.

GNZ also submitted that the NPRM, in discussing the carriage and operation of transponders by other aircraft, contained some acknowledgement of increased potential transponder requirement but the CBA addendum does not include any assessment of the current transponder status of gliders.

CAA Comment: The issue of transponder requirements for other aircraft was discussed at length in the TSG and this is documented in the NPRM. The NPRM at page 28 specifically notes that the safety

[2] ICAO State Letter AN 11/1.3.12-98/22

case for ACAS does not rely on extensions to TM airspace and for this reason the cost of any such extension is not included in the CBA.

The costs and benefits of any changes to TM airspace are, in CAA's view, more appropriately dealt with via the airspace review process as it is only in this process that the extent of changes and the implication for other airspace users can be accurately assessed.

The CAA has not conducted an assessment of the current transponder status of gliders as there is nothing in the proposed rule that will change transponder requirements for gliders. The requirement for gliders, like any aircraft, to be equipped with a transponder that has mode C automatic pressure altitude reporting capability for operation in TM airspace has been in place since 1998 and will not be changed by the proposed rule.

NZALPA submitted that proposed rule 125.381(a) should be changed to include aeroplanes from 10 to 30 passenger seats, rather than 20 to 30 passenger seats.

CAA Comment: As written the proposed rule 125.381(a) aligns with the ICAO Annex 6 Standard. ICAO Annex 6 further **recommends** that **all** aeroplanes be equipped with ACAS II. NZALPA's proposal would adopt this recommendation for all Part 125 turbine powered aeroplanes but would exclude piston powered aeroplanes.

The CAA is not aware of any country that has adopted this particular ICAO recommendation. Most countries have no requirement for aeroplanes below 20 seats and less than 5700 kg MCTOW to be equipped with any form of ACAS. Two exceptions are the United States and India.

The United States requires turbine powered aeroplanes with 10 to 29 passenger seats to be equipped with TCAS I, which is a much less sophisticated and significantly cheaper system than ACAS II. India requires turbine powered aeroplanes with 10 to 19 passenger seats to be equipped with TCAS I.

Adopting NZALPA's proposal would result in approximately 16 Part 125 turbine powered aeroplanes under 5700 kg MCTOW and with up to

19 passenger seats currently on the NZ Register of Aircraft being equipped with ACAS II by 1 January 2005, at a cost of approximately $400,000 per aeroplane. Most of these aeroplanes are worth considerably less than $400,000 and the result of NZALPA's proposal would, in the CAA's opinion, be to make continued use of these aeroplanes uneconomic.

The NZALPA proposal would also require Part 125 turbine powered aeroplanes under 5700 kg MCTOW and with up to 19 passenger seats added to the register after the effective date of the rule to be equipped with ACAS II. The aeroplane type most likely to be imported in the future of this size is the Cessna 208, which seats up to 13 passengers. The cost of a typical used example of this aeroplane is $2m. The CAA understands that very few, if any, of these aeroplanes available overseas are equipped with ACAS II so to require any imported to New Zealand to be equipped would add approximately 25% to the cost of acquisition of the aeroplane.

The CAA considers that this is likely to make operation of this type of turbine powered aeroplane uneconomic in New Zealand and would result in smaller and arguably less well equipped and less safe piston powered aeroplanes being used instead. The CAA does not consider this to be a desirable outcome and for that reason does not support NZALPA's submission.

NZALPA submitted that the proposed rule 125.381(b) should be deleted entirely. NZALPA comment that Section 33(1) of the Civil Aviation Act requires that ordinary rules made by the Minister shall not be inconsistent with ICAO standards. In NZALPA's view, as the NPRM does not require retrofit of existing aeroplanes, it is contrary to the intent of the Act.

CAA Comment: The CAA considers NZALPA has been somewhat selective in quoting Section 33(1) of the Civil Aviation Act. Section 33(1) requires that ordinary rules made by the Minister…shall not be inconsistent with…the standards of ICAO in relation to aviation safety, **to the extent adopted by New Zealand** (emphasis added).

In making a rule, the Minister must under section 33(2)(f) of the Act have regard to the costs of implementing aviation safety measures. Section 14(1) of the Act also states that one of the two principal

functions of the Minister under the Act is to promote safety in civil aviation **at reasonable cost** (emphasis added).

The starting point for the CAA in developing Part 125 ACAS rule requirements was to determine the costs and benefits of adopting ICAO Standards in total. It was found that, on balance, there was insufficient benefit in relation to the cost to require aeroplanes already on the register to be equipped with ACAS II, but there was sufficient benefit to require aeroplanes added to the register in the future to be equipped.

CAA considers that the CBA provides a rational basis for achieving safety at reasonable cost and for these reasons does not agree that the proposed rule 125.381(b) should be deleted.

NZALPA also submit that the validity of the CBA becomes questionable as up-to-date figures have not been used, particularly the statistical value of a life (SVOL) and the expected fatality rate in mid air collisions. NZALPA submitted that using up-to-date figures for these two variables would produce a medium scenario benefit to cost ratio above 1.0 for the medium scenario.

CAA Comment: As stated in the CBA, the CAA is required by Government directive[3] to use a SVOL of $2.56m. Notwithstanding this requirement, the CAA has recalculated the benefit cost ratio of retrofitting ACAS II to existing Part 125 aeroplanes over 5700 kg MCTOW or with 20 to 30 passenger seats assuming a SVOL of life of $4.0m and 100% fatality to occupants as proposed by NZALPA. The resulting benefit to cost ratio on the medium scenario is 0.83.

The CAA remains of the view that retrofitting existing Part 125 aeroplanes cannot be justified.

NZALPA submit that the proposed rule requiring an imported aeroplane to retain any ACAS or ACAS II equipment fitted to it at the time the details of the aeroplane is added to the NZ Register of Aircraft is flawed as there is nothing in the rule to prevent the removal of equipment prior to the aeroplane's details being added to the Register.

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[3] NZ Gazette, 16 May 1991, No 72, p 1602

CAA Comment: The CAA agrees that there is nothing in the proposed rule to prevent removal of equipment prior to an aeroplane being imported. Such a requirement would not be enforceable as, until its details are added to the register, the aeroplane would not be under the jurisdiction of the CAA. However the CAA is of the view that most operators will elect to retain any safety equipment that may be fitted to an imported aeroplane as the capital cost of the equipment is already sunk.

The proposed rule would require the aeroplane operator, and any subsequent operators while the aeroplane remains on the NZ register, to maintain the equipment in an operative condition and train crew in its use. The CAA considers that this is far less onerous than requiring an operator to fund the purchase of the equipment and for that reason operators are unlikely to take the backward step of removing it.

In reviewing this aspect of the proposed rule CAA now realises the NPRM, by including all Part 125 aeroplanes that may be fitted with an ACAS, went further than was intended by the TSG. The intention was that the ICAO standard requiring turbine powered aeroplanes over 5700 kg MCTOW or seating more than 19 passengers to be equipped with ACAS be progressively adopted by requiring aeroplanes added to the NZ Register of Aircraft from the date of the rule to be equipped by 1 January 2005. It was also recognised that a number of aeroplanes (approximately 8) currently on the Register in this size range already have a form of ACAS fitted and it was considered highly desirable that this equipment be retained.

As there is no proposed rule requirement for aeroplanes under 5700 kg MCTOW and with 19 or fewer passenger seats added to the Register in the future to be equipped with ACAS, it is in CAA's view inappropriate to require any aeroplanes of this size currently on the Register that may have the equipment fitted to retain it.

All commenters and TSG members were advised of this change on 10 December 2002 and no further responses were received.

For these reasons CAA has changed the final rule to require only those turbine powered aeroplanes over 5700 kg MCTOW or with a passenger seating configuration of 20 to 30 seats to retain any ACAS equipment already fitted.