CIVIL AVIATION AUTHORITY
OF NEW ZEALAND

PURSUANT to Sections 28, 29, and 30 of the Civil Aviation Act 1990

I, HARRY JAMES DUYNHOVEN, Minister for Transport Safety,

HEREBY MAKE the following ordinary rules.

SIGNED AT Wellington

This 16th day of September 2008

by **HARRY JAMES DUYNHOVEN**

Minister for Transport Safety

Civil Aviation Rules

Part 173 Initial Issue

Instrument Flight Procedure Service Organisation— Certification and Operation

Docket 99/CAR/1334 & 99/CAR/1333

Contents

Rule objective

The objective of Civil Aviation Rule Part 173 is to ensure that the design, maintenance, and promulgation of instrument flight procedures intended for use by aircraft operating under instrument flight rules (IFR) in the New Zealand Flight Information Region (NZFIR) meet or exceed the International Civil Aviation Organisation (ICAO) standards and recommended practices for instrument flight procedures.

Part 173 achieves this objective by providing for the regulatory control and monitoring (entry certification and auditing) of organisations that provide services for the design, certification, and maintenance of instrument flight procedures, and who make aeronautical data available for aircraft using the instrument flight procedures.

Part 173 is associated with Part 95 which prescribes requirements for instrument flight procedures to be given legal effect for use in New Zealand.

The following amendments to other Parts are consequential to the implementation of Part 173:

- Amendment 40 to Part 1
- Amendment 4 to Part 12

Background

The original development of Part 173 and its associated Part 95 was commenced in 1998 as part of the original suite of Civil Aviation Rules that were developed under the Civil Aviation Act 1990 to replace the old 1953 Civil Aviation Regulations.

Two notices of proposed rulemaking were published in October 1998 to provide for public consultation on the proposals to certificate air navigation service organisations for the purpose of devolving the design and certification of instrument flight procedures to appropriate industry organisations.

A number of submissions on the NPRMs were received from industry and other interested persons. However after consideration of the submissions and development of proposed final rules taking into account

the submissions, the project was put aside because of a higher priority for other rule development work.

The Part 173/95 rule development project was restarted in 2003 with the proposed final rules being updated to take into account the latest rule drafting styles and standards from the Parliamentary Counsel Office, the changed international standards for instrument flight procedures, and the submissions received during the updating.

Extent of consultation

Two NPRM, 98-7 for Part 95 Visual and Instrument Procedures for Flight Under IFR, and 98-8 for Part 173 Air Navigation Service Organisations – Certification, containing the proposed rules prescribing the criteria and the processes for the establishment of visual and instrument procedures for flight under IFR and prescribing requirements for the certification of organisations providing IFR procedure design services were issued for public consultation under dockets 95/CAR/1107 and 95/CAR/1035 respectively on 23 October 1998.

The publication of these NPRM was notified in the Gazette on 22 October 1998 and advertised in the daily newspapers in the five main provincial centres on 31 October 1998. The NPRM 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 further letter dated 15 November 1998 was sent to the civil aviation Swedavia Joint Consultative Group seeking their views on the provision of meteorological minima for IFR approaches to alternate aerodromes at the time of flight planning. (The Swedavia Joint Consultative Group was a joint industry/CAA group established to consult initially on the development of the Civil Aviation Act 1990, then on the programme and priorities for the rules re-write project that commenced in 1990, and then on the development of the various rules under the new Civil Aviation Act 1990.)

A period of 56 days was allowed for comment on the proposed rules.

Five submissions on NPRM 98-8 for Part 173, 9 submissions on NPRM 98-7 for Part 95, and 6 responses to the Swedavia Joint Consultative Group letter were received. The submissions and comments were

considered and taken into account in the original draft final rule proposals. The docket numbers were updated in 1998 to 99/CAR/1333 for Part 95 and 99/CAR/1334 for Part 173.

The draft final rule proposals from this process were, between 2003 and 2007, updated to take into account current legislative drafting practices and were significantly reformatted and redrafted into the style of other rules regulating organisations providing services to aviation in New Zealand. The proposed rules were also updated to meet current IFR procedure design standards, safety and quality requirements.

During this updating process, drafts of the updated rules were sent for consultation to 40 international and New Zealand organisations and individuals who were known to have, or indicated they had an interest in IFR procedure design. Twenty two of those 40 organisations and individuals responded and this consultation continued during the development of the attached final rules. The respondees who are individuals or representatives of organisations (both from within and outside New Zealand) with an interest in or experience in IFR flight procedure design, support these proposed final rules. These proposed final rules were also forwarded to those persons who responded to the original NPRM. No comment, except those responding to the redrafting process, was received from this latter group.

Summary of submissions

A total of 20 submissions were received on the original NPRM (5 on NPRM 98-8 Part 173, 9 on NPRM 98-7 Part 95, and 6 on the Swedavia Joint Consultative Group letter). These submissions and other comments received by the CAA were considered and draft final rule proposals were developed from the original NPRM. These proposals were further developed into the final rules. During this final development process the rules and the changes to the rules were distributed to 40 stakeholders, interested parties and the submitters responding to the original NPRM for their review and comment. Comments were received from 22 of the 40 persons and organisations contacted The feedback and discussion was considered and taken into account in the final rules submitted for the Minister's signature.

Editorial changes and technical corrections were also made to the final rules as part of the CAA internal review.

The rules as amended, were then referred to Parliament's Regulations Review Committee before being signed by the Minister for Transport Safety.

Examination of submissions

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

Effective date of rule

New Civil Aviation Rule Part 173 comes into force on 23 October 2008.

Availability of rules

Civil Aviation Rules are available from–

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

Availability of documents incorporated by reference

Documents incorporated by reference in Part 173 are available as follows:-

All documents may be examined by application to the Librarian at the Civil Aviation Authority between 8:30 am and 4:30 pm on weekdays, except statutory holidays.

Individual copies may be purchased as follows:-

International Civil Aviation Organisation Annexes and Documents

From the International Civil Aviation Organisation—

electronic shop on the World Wide Web at
http://www.icao.int/eshop/index.html, or

by Email from
sales@icao.int, or

by post from
International Civil Aviation Organization,
Attention: Document Sales Unit

999 University Street, Montréal,
Quebec, Canada H3C 5H7

Telephone: +1 514-954-8022, Facsimile: +1 514-954-6769,
Sitatex: YULCAYA.

Radio Technical Commission for Aeronautics Documents (RTCA)

From the Radio Technical Commission for Aeronautics Inc.—

electronic shop on the World Wide Web at
http://www.rtca.org/onlinecart/, or

by Email from
info@rtca.org, or

by post from
RTCA, Inc.
1828 L Street, NW
Suite 805
Washington, DC 20036
USA

Telephone: +1 202-833-9339 Facsimile: +1 202-833-9434

Aeronautical Information Transfer Documents (AIXM)

From the European Organisation for the Safety of Air Navigation (EUROCONTROL)—

electronically on the World Wide Web at

http://www.aixm.aero/, or

by Email from
publications@eurocontrol.int, or

by post from
EUROCONTROL
Publications Centre

Rue de la Fusee, 96
B-1130 Brussels
Belgium

From the Federal Aviation Administration—

electronically on the World Wide Web at

http://www.faa.gov/aixm/index.html

http://www.aixm.aero/, or

by Email from
Brett.Brunk@faa.gov., or

by post from
Brett Bunk
FAA 10 A Room 422
AIXM
800 Independence Avenue SW
Washington, DC 20591
USA

Part 173 Instrument Flight Procedure Service Organisation—Certification and Operation

Subpart A — General

173.1 Purpose

(a) This Part prescribes—

(1) the rules governing the certification and operation of an organisation that provides services for the design and maintenance of instrument flight procedures; and

(2) the technical standards for the design of instrument flight procedures.

(b) This Part does not apply to the design of aircraft performance operating limitations or flight paths, for critical engine inoperative emergency procedures.

173.3 (Reserved)

173.5 Requirement for certificate

(a) Except as provided for in paragraph (b) a person must not provide an instrument flight procedure service for—

(1) the New Zealand FIR; or

(2) the Auckland Oceanic FIR;

except under the authority of an instrument flight procedure service certificate issued in accordance with this Part.

(b) In this Part reference to the Auckland Oceanic FIR excludes those portions of airspace within the Auckland Oceanic FIR where an individual State has an agreement with New Zealand to regulate the State's IFR flight procedures.

173.7 Application for certificate

An applicant for the grant of an instrument flight procedure service certificate must complete form CAA 24173/01, and submit it to the Director with—

(1) the applicant's exposition required by rule 173.71; and

(2) if applicable, a payment of the appropriate fee prescribed by regulations made under the Act.

173.9 Issue of certificate

Subject to Section 9 of the Act, an applicant is granted an instrument flight procedure service certificate if the Director is satisfied that—

(1) the applicant meets the requirements of Subpart B; and

(2) the applicant and the senior persons required by rule 173.51(a) are fit and proper persons; and

(3) the granting of the certificate is not contrary to the interests of aviation safety.

173.11 Privileges of certificate

An instrument flight procedure service certificate—

(1) authorises the holder of the certificate to—

(i) design, flight validate, certify, and maintain an instrument flight procedure; and

(ii) subject to the requirements of Part 95, make aeronautical information including aeronautical data relating to an instrument flight procedure that has been certified by the certificate holder and notified in the Gazette, available for publication and operational use by an aircraft; and

(2) specifies the types of instrument flight procedure that the certificate holder is authorised to design, flight validate, certify and maintain.

173.13 Duration of certificate

(a) An instrument flight procedure service certificate is granted or renewed for a maximum period of 5 years.

(b) An instrument flight procedure service certificate remains in force until it expires, or is suspended or revoked.

173.15 Renewal of certificate

An application for the renewal of an instrument flight procedure service certificate must be made using form CAA24173/01 and be submitted to the Director not less than 90 days before the certificate expires.

Subpart B — Certification Requirements

173.51 Personnel requirements

(a) An applicant for the grant of an instrument flight procedure service certificate must employ, contract, or otherwise engage—

(1) a senior person identified as the Chief Executive who must—

(i) have the authority within the applicant's organisation to ensure that the organisation's instrument flight procedure services can be financed and provided in accordance with the requirements and standards prescribed by this Part; and

(ii) be responsible for ensuring that the organisation complies with the requirements of this Part; and

(2) a senior person or persons, responsible to the Chief Executive for—

(i) ensuring that the applicant's organisation complies with the organisation's exposition; and

(ii) the certification of every instrument flight procedure provided by the applicant's organisation for entry into the NZANR under Part 95 and made available for publication and operational use; and

(3) sufficient personnel to plan, design, verify, and maintain the instrument flight procedures provided by the applicant's organisation.

(b) An applicant for the grant of an instrument flight procedure service certificate must establish a procedure for initially assessing, training, and maintaining, the competence of—

(1) those personnel involved in the planning, design, verification, and maintenance of instrument flight procedures; and

(2) those senior personnel who are authorised to certify instrument flight procedures.

(c) The senior person or persons responsible for the certification of instrument flight procedures must be authorised in accordance with rule 173.57 to certify the procedures.

(d) The qualifications and experience for a senior person required by paragraph (a)(2) are specified in Appendix A.

173.53 Resource requirements

(a) An applicant for the grant of an instrument flight procedure service certificate must—

(1) have available equipment appropriate for the design, design verification, certification, flight validation, and maintenance of the types of instrument flight procedure that are specified in the applicant's exposition; and

(2) have access to relevant and current data including, but not limited to, aeronautical data, land contour data, and obstacle data for the design, design verification, flight validation, and maintenance of the instrument flight procedures certified by, and maintained by, the applicant's organisation; and

(3) hold or have ready access to copies of relevant documentation comprising technical standards, practices, and instructions, and any other documentation that may be necessary for the design, design verification, certification,

flight validation, and maintenance of the types of instrument flight procedure that are specified in the applicant's exposition.

(b) An applicant for the grant of an instrument flight procedure service certificate must establish a procedure for ensuring that—

(1) personnel have access to the data referred to in paragraph (a)(2) for the types of instrument flight procedure specified in the applicant's exposition; and

(2) the data referred to in paragraph (a)(2) is current, traceable, and meets the required level of verifiable accuracy for the design, design verification, flight validation, and maintenance of instrument flight procedures specified in applicant's exposition.

(c) An applicant for the grant of an instrument flight procedure service certificate must establish a procedure for controlling all documentation required by paragraph (a)(3) to ensure that—

(1) the documentation is reviewed and authorised by an appropriate person before issue and use; and

(2) current issues of relevant documentation are available to personnel at every location if they need access to the documentation; and

(3) every obsolete document is promptly removed from every point of issue and use; and

(4) a change to documentation is reviewed and authorised by an appropriate person before issue and use; and

(5) the current version of every item of documentation can be identified to prevent the use of superseded material.

173.55 Design of instrument flight procedures

(a) An applicant for the grant of an instrument flight procedure service certificate must establish procedures for ensuring that every

instrument flight procedure certified under the authority of the applicant's certificate in accordance with rule 173.59, is—

(1) designed or amended using methods ensuring that the procedure meets the applicable requirements and standards prescribed in Subpart D; and

(2) independently verified, before certification, by a qualified person who is independent of the person directly responsible for the design; and

(3) except as provided in paragraph (b), flight validated in accordance with the procedures required under paragraph (c), to ensure that—

(i) the instrument flight procedure allows aircraft using the procedure to manoeuvre consistently within safe operating practices and pilot workloads for the categories of aircraft that the procedure is intended for; and

(ii) the instrument flight procedure provides azimuth and distance information, and vertical guidance information for a precision approach, in accordance with ICAO or other standards for the operation of aircraft to ensure that an aircraft using the procedure remains clear of obstacles; and

(iii) the instrument flight procedure is not affected by any radio frequency interference; and

(iv) visual guidance systems and cues for the runway are appropriate for the instrument flight procedure and are not confused by lighting, laser sky displays, or any other visual distraction.

(b) The following instrument flight procedures do not require flight validation if it can be shown that current obstacle data meets the design requirements of the instrument flight procedure:

(1) an en-route or an instrument arrival procedure unless—

(i) there is doubt about the coverage of the navigation system supporting the requirements of the procedure; or

(ii) the procedure limits the flyability and performance characteristics of the class of aircraft the procedure is designed for:

(2) an instrument departure procedure unless the procedure limits the flyability and performance characteristics of the class of aircraft the procedure is designed for:

(3) an amendment of a previously flight validated instrument approach procedure if —

(i) the design change can be verified during the design process; and

(ii) a safety assessment of the proposed amendment has been completed and confirms that no additional risks to the safety of the procedure are introduced by the amendment.

(c) An applicant for the grant of an instrument flight procedure service certificate must establish procedures for conducting the flight validation of an instrument flight procedure as required by paragraph (a)(3).

(d) The flight validation procedures required under paragraph (c) must include the use of equipment that—

(1) has the precision, and accuracy traceable to appropriate standards, that are necessary for the validation being performed; and

(2) has known measurement uncertainties including, but not limited to, the software, firmware and crosswind uncertainties; and

(3) records the actual flight path of the validation aircraft, and

(4) is checked before being released for use, and at intervals not exceeding the calibration intervals recommended by the manufacturer, to establish that the system is capable of verifying the integrity of the instrument flight procedure, and

(5) is operated in accordance with flight validation system procedures and criteria by persons who are competent and current on the system used.

(e) An applicant for the grant of an instrument flight procedure service certificate must establish procedures for justifying the application of paragraph (b) to an instrument flight procedure.

(f) An applicant for the grant of an instrument flight procedure service certificate must establish procedures for ensuring that during the processes of design, maintenance, or transfer of data of an instrument flight procedure—

(1) the applicable aeronautical data and aeronautical information complies with the standards specified in RTCA Inc. document number RTCA/DO-201A Standards for Aeronautical Information; and

(2) manipulation or processing of aeronautical data complies with the standards specified in RTCA Inc. document number RTCA/DO-200A Standards for Processing Aeronautical Data; and

(3) any transfer of aeronautical information within the certificate holder's organisation, or to or from external entities, complies with the standards specified in the Aeronautical Information Transfer Model (AIXM-5).

(g) An applicant for the grant of an instrument flight procedure service certificate may use alternative standards equivalent to the standards specified in paragraph (f).

173.57 Authorisation of persons to certify instrument flight procedures

(a) Subject to paragraphs (b), (c), and (d), an applicant for the grant of an instrument flight procedure service certificate must establish a

procedure for authorising a senior person or persons to certify that an instrument flight procedure has been designed in accordance with and meets, every applicable standard and requirement prescribed by Subpart D.

(b) An authorisation must not be issued to a person unless the person meets the applicable training and experience requirements specified in Appendix A.1.

(c) Every authorisation that is issued to a person must be in writing and must specify the types of instrument flight procedure that the person is authorised to certify.

(d) An instrument flight procedure type that is specified on an authorisation must not be inconsistent with the types of instrument flight procedures specified on the instrument flight procedure service certificate.

173.59 Certification of instrument flight procedures

(a) Subject to paragraphs (b) and (c) an applicant for the grant of an instrument flight procedure service certificate must establish a procedure for the certification of every instrument flight procedure that the applicant's organisation proposes to design, make available for operational use, and publish in the Aeronautical Information Publication New Zealand.

(b) The procedure required by paragraph (a) must include—

(1) details of the checks to be carried out by a senior person, who is authorised to certify the particular type of instrument flight procedure, to ensure that the instrument flight procedure meets the applicable requirements and standards prescribed by this Part; and

(2) the means for providing the Director with the information specified in rule 173.61(c) for the entry of the instrument flight procedure into the NZANR.

(c) A person who is authorised in accordance with rule 173.57 to certify an instrument flight procedure must not certify an instrument flight procedure that the person has designed.

173.61 Promulgation of instrument flight procedures

(a) In accordance with rule 95.51, an applicant for the grant of an instrument flight procedure service certificate must establish a procedure ensuring that—

(1) the information required in paragraph (c) is provided to the Director; and

(2) an instrument flight procedure is not published or made available for operational use unless the Director has notified the holder of the instrument flight procedure service certificate that the instrument flight procedure has been entered into the NZANR, and the date for operational use of the instrument flight procedure has been notified in the *Gazette* in accordance with rule 95.55.

(b) The procedure required by paragraph (a) must include—

(1) details of the means for coordinating with the aeronautical information service provider the publishing of the instrument flight procedure in the AIPNZ; and

(2) details of the means to check that the initial publication of, or any change to, an instrument flight procedure published under paragraph (a) has been accurately published in the AIPNZ.

(c) The following information is required by the Director for every entry of an instrument flight procedure into the NZANR:

(1) the name or other appropriate identifier that is acceptable to the Director to uniquely identify the instrument flight procedure:

(2) aeronautical data that is acceptable to the Director to define and describe the instrument flight procedure:

(3) the date that the instrument flight procedure is intended to come into effect:

(4) a statement signed by the senior person referred to in rule 173.59(b)(1), certifying that the instrument flight procedure meets the applicable standards and requirements prescribed by this Part:

(5) a statement signed by a senior person, of an appropriate instrument flight procedure service organisation certifying that the instrument flight procedure is to be maintained in accordance with the organisation's procedures required by rule 173.63.

(d) For the purpose of paragraph (c)(5), an appropriate instrument flight procedure organisation is an organisation that is certificated in accordance with Part 173 and whose certificate authorises the design, flight validation, certification, and maintenance of the particular type of instrument flight procedure.

173.63 Maintenance of instrument flight procedures

(a) An applicant for the grant of an instrument flight procedure service certificate must establish a procedure for maintaining, in accordance with the requirements of this Part, every instrument flight procedure that, in accordance with the statement required under rule 173.61(c)(5), is maintained under the authority of the certificate.

(b) The procedure required by paragraph (a) must include details for every instrument flight procedure to be reviewed, and flight validated if necessary,—

(1) on a periodic basis ensuring that the instrument flight procedure continues to meet the applicable standards and requirements of this Part; and

(2) if there is a change in any of the data referred to in rule 173.53(a)(2) that may affect the integrity of the instrument flight procedure.

(c) The procedure required under paragraph (a) must include and document the grounds and criteria for establishing or changing the interval between the periodic maintenance reviews for each instrument flight procedure.

173.65 Errors in published instrument flight procedures

(a) An applicant for the grant of an instrument flight procedure service certificate must establish a procedure for recording, investigating, correcting, and reporting in accordance with Part 12, any identified error, and any identified non-conformance or suspected non-conformance with the standards and requirements of this Part, in an instrument flight procedure that is certified or maintained under the authority of the certificate.

(b) The procedure required by paragraph (a) must require that—

(1) an instrument flight procedure is immediately withdrawn from operational use if the error or non-conformance referred to in paragraph (a) affects, or may affect, the safety of an aircraft operation; and

(2) the error or non-conformance is corrected, and certified by a senior person who is appropriately authorised in accordance with rule 173.57; and

(3) the correction required by paragraph (2) is clearly identified and promulgated by the most appropriate means relative to the operational significance of the error or non-conformance; and

(4) the source of the error or non-conformance is identified, and—

(i) if possible, eliminated to prevent a recurrence; and

(ii) preventive action is taken to ensure that the source of the error or non-conformance has not affected the integrity of any other instrument flight procedure; and

(5) the Authority is notified, in accordance with Part 12, of a promulgated information incident relating to an error or non-conformance referred to in paragraph (a).

173.67 Management of records

(a) An applicant for the grant of an instrument flight procedure service certificate must establish a procedure for the management of

records that are required for the applicant organisation's functions relating to the design, certification and maintenance of instrument flight procedures.

(b) The management of records under paragraph (a) includes the identification, collection, indexing, storage, safekeeping, accessibility, maintenance and disposal of records.

(c) The procedure required by paragraph (a) must provide for the following to be recorded for every instrument flight procedure that is certified in accordance with rule 173.59 and every instrument flight procedure that is maintained in accordance with rule 173.63—

(1) the details required by rule 173.61(c) for the instrument flight procedure; and

(2) details of the instrument procedure design carried out in accordance with rule 173.55, including but not limited to design verification, amendment, validation, justification for not validating, and certification activities; and

(3) details of the promulgation and checking activities; and

(4) details of any actions taken under rule 173.65 regarding errors and non-conformances in an instrument flight procedure; and

(5) details of every maintenance review and flight validation carried out, in accordance with the procedures required by rule 173.63.

(d) The procedure required by paragraph (a) must also provide for the following—

(1) a record, that includes details of the qualifications, experience, training, assessments, and authorisations if applicable, for—

(i) every senior person required by rule 173.51(a)(2); and

(ii) personnel required by rule 173.51(a)(3); and

(2) a record of every internal safety management review carried out under rule 173.69; and

(3) the records required by paragraphs (c) and (d) to be legible, accurate, permanent, and retrievable in a legible format; and

(4) the records required by paragraph (c) to be retained for at least 5 years after the associated instrument flight procedure is withdrawn from use.

173.69 Safety management system requirements

(a) An applicant for the grant of an instrument flight procedure service certificate must establish a safety management system for ensuring compliance with, and the adequacy of, the procedures required by this Part.

(b) The safety management system must include—

(1) a safety policy incorporating the development of a safety culture and safety procedures, including a procedure for reporting and investigating an occurrence conducted in accordance with Part 12; and

(2) a procedure for establishing and monitoring safety indicators; and

(3) a procedure for identifying an existing or potential problem within the organisation's systems and processes; and

(4) a procedure for controlling and mitigating risks within the organisation that may affect the integrity of instrument flight procedures; and

(5) a procedure for corrective action to ensure that an identified problem is investigated and analysed, and the cause of the problem is remedied; and

(6) a procedure for preventive action to ensure that a cause of an identified potential problem is remedied; and

(7) an internal audit programme to audit the applicant's organisation for conformity with its exposition, safety policy, and procedures; and

(8) a management review procedure that may, if appropriate, include the use of statistical analysis ensuring the continuing suitability and effectiveness of the safety management system in satisfying the requirements of this Part; and

(9) a safety management manual documenting the operation of the safety management system and providing relevant information on the risks and how they are managed (including the procedures required in paragraphs (b)(1) to (b)(8)), and a register of significant hazards for the organisation and how those hazards are controlled.

(c) The safety management procedures must include a means for ensuring that the safety policy is understood, implemented and maintained at every level within the applicant's organisation.

(d) The procedure required by paragraph (b)(5) for corrective action must provide for the following—

(1) how to correct an existing problem; and

(2) how to ascertain whether or not the problem has affected or potentially affected the integrity of any instrument flight procedure; and

(3) how to follow up a corrective action to ensure that the action is effective; and

(4) how to amend any procedure that is required by this Part as a result of a corrective action; and

(5) how management is to measure the effectiveness of any corrective action taken.

(e) The procedure required by paragraph (b)(6) for preventive action must provide for the following—

(1) how to correct a potential problem; and

(2) how to ascertain what other effects the cause of an identified potential problem may have; and

(3) how to follow up a preventive action to ensure the action is effective; and

(4) how to amend any procedure, required by this Part, as a result of a preventive action; and

(5) how management measures the effectiveness of any preventive action taken.

(f) The internal audit programme required by paragraph (b)(7) must—

(1) specify the frequency and location of the audits, taking into account the nature of the activity to be audited; and

(2) require audits to be performed by trained personnel who are independent of those with direct responsibility for the activity being audited; and

(3) require the results of audits to be reported to the personnel responsible for the activity being audited and to the manager responsible for internal audits; and

(4) measure the effectiveness of any preventive or corrective action taken by the personnel responsible for the activity being audited since the last audit; and

(5) require preventive or corrective action to be taken by the personnel responsible for the activity being audited if problems are found by the audit; and

(6) provide for follow-up audits to be undertaken to review the effectiveness of any preventive or corrective action taken.

(g) The procedure for management review required by paragraph (b)(8) must—

(1) specify the frequency of management reviews of the safety management system, taking into account the need for the continuing effectiveness of the system; and

(2) identify the senior person responsible for the management review; and

(3) require the results of the review to be evaluated and recorded.

(h) The senior person who is responsible for the safety management system must have direct access to the Chief Executive on matters affecting the integrity of any instrument flight procedure for which the organisation is responsible.

173.71 Exposition requirements

(a) An applicant for the grant of an instrument flight procedure service certificate must provide the Director with an exposition that must contain—

(1) a statement signed by the Chief Executive on behalf of the applicant's organisation confirming that the exposition and any included documentation—

(i) define the organisation and demonstrate its means and methods for ensuring ongoing compliance with this Part; and

(ii) are required to be complied with by the organisation's personnel at all times; and

(2) the titles and names of the senior person or persons required by rule 173.51(a)(2); and

(3) details of the duties and responsibilities of the senior person or persons referred to in paragraph (2) including matters for which they have responsibility to deal directly with the Director on behalf of the organisation; and

(4) if there is more than one senior person listed under paragraph (2), an organisation chart showing the lines of responsibility of those persons; and

(5) the name of every senior person who is authorised in accordance with rule 173.57 to certify instrument flight procedures; and

(6) details of the scope of the authorisation issued to every person listed under paragraph (5); and

(7) a list of the types of instrument flight procedure to be designed, certified, or maintained by the applicant's organisation; and

(8) details of the applicant's means of meeting the requirements of rule 173.53(a) regarding—

(i) equipment; and

(ii) access to relevant and current data; and

(iii) access to copies of relevant documentation; and

(9) details of the applicant's means of meeting the requirements of rule 173.53(b) regarding instrument flight procedures not requiring flight validation; and

(10) details of the applicant's procedures as required by—

(i) rule 173.51(b) regarding assessment and competence of personnel; and

(ii) rule 173.53(b)(1) regarding access to data; and

(iii) rule 173.53(b)(2) regarding currency and accuracy of data; and

(iv) rule 173.53(c) regarding control of documentation; and

(v) rule 173.55(a) regarding design, verification and flight validation of instrument flight procedures; and

(vi) rule 173.55(c) regarding flight validation of instrument flight procedures; and

(vii) rule 173.55(e) regarding the justification for instrument flight procedures not requiring flight validation; and

(viii) rule 173.55(f) or (g) regarding the compliance with standards; and

(ix) rule 173.57 regarding authorisation of senior persons; and

(x) rule 173.59 regarding certification of instrument flight procedures; and

(xi) rule 173.61 regarding promulgation of instrument flight procedures and the means to provide details of each procedure to the Director; and

(xii) rule 173.63 regarding maintenance of instrument flight procedures; and

(xiii) rule 173.65 regarding errors in published instrument flight procedures; and

(xiv) rule 173.67 regarding management of records; and

(xv) rule 173.69 regarding safety management system; and

(11) procedures for controlling, amending, and distributing the exposition.

(b) The exposition required by paragraph (a) must remain acceptable to the Director.

Subpart C — Operating Requirements

173.101 Continued compliance

The holder of an instrument flight procedure service certificate must—

(1) hold at least one complete and current copy of the certificate holder's exposition required by rule 173.71 at the certificate holder's principal location; and

(2) comply with every procedure and standard detailed in the exposition; and

(3) make each applicable part of the exposition available to personnel who require the applicable part to carry out their duties; and

(4) continue to meet the standards and comply with the requirements of Subpart B prescribed for certification under this Part; and

(5) notify the Director of any change of the certificate holder's postal address, address for service, telephone number, or facsimile number within 28 days of the change.

173.103 Changes to certificate holder's organisation

(a) The holder of an instrument flight procedure service certificate must–

(1) subject to paragraph (b), ensure that the organisation's exposition is amended so as to remain a current description of the certificate holder's organisation; and

(2) ensure that any amendment made to the exposition meets the applicable requirements of this Part; and

(3) comply with the exposition amendment procedures contained in the exposition; and

(4) provide the Director with a copy of each amendment that the certificate holder makes to the exposition as soon as

practicable after the amendment is incorporated into the exposition; and

(5) amend the exposition as the Director considers necessary in the interests of aviation safety.

(b) If the holder of an instrument flight procedure service certificate changes, or proposes to change, any of the following, the certificate holder must notify the Director prior to the change or as soon as practicable if prior notification is not possible, and the change must be accepted by the Director, including applicable fit and proper person criteria under section 10 of the Act, before being incorporated into the certificate holder's exposition:

(1) the person identified as the chief executive:

(2) the title or name of any senior person specified in the exposition required by rule 173.71(a)(2):

(3) the types of instrument flight procedure specified on the certificate holder's certificate.

(c) The Director may impose conditions under which the holder of the instrument flight procedure certificate may operate during or following any of the changes specified in paragraph (b).

(d) The holder of an instrument flight procedure certificate must comply with any condition imposed by the Director under paragraph (c).

(e) If any of the changes under paragraph (b) require an amendment to the instrument flight procedure certificate, the holder of the certificate must forward the certificate to the Director as soon as practicable for endorsement of the amendment.

173.105 Cessation of maintenance of an instrument flight procedure

If the holder of an instrument flight procedure service certificate proposes to discontinue the maintenance of an instrument flight procedure as required by rule 173.63, the certificate holder must notify the Director in writing of the proposal to discontinue the maintenance at least 90 days before the maintenance ceases.

Subpart D — Design criteria—instrument flight procedure

173.201 Design

(a) Every instrument flight procedure must be designed in accordance with the requirements of this Part and in accordance with the appropriate design processes, standards, guidelines, and aeronautical data quality requirements contained in the following:

(1) ICAO Documents—

(i) Doc 8168, Procedures for Air Navigation Services – Aircraft Operations — Volume I Flight Procedures, and Volume II, Construction of Visual and Instrument Flight Procedures:

(ii) Doc 8697, Aeronautical Chart Manual:

(iii) Doc 9365, Manual of All-Weather Operations:

(iv) Doc 9613 Performance Based Navigation Manual — Volume I Concept and Implementation Guidance, and Volume II Implementing RNAV and RNP:

(v) Doc 9881, Guidelines for Electronic Terrain, Obstacle and Aerodrome Mapping Information:

(2) ICAO Annexes—

(i) Annex 4, Aeronautical Charts:

(ii) Annex 6, Operation of Aircraft:

(iii) Annex 11, Air Traffic Services:

(iv) Annex 14, Volumes I & II Aerodromes:

(v) Annex 15, Aeronautical Information Services:

(3) Any other guideline or standard that is applicable to a particular type of instrument flight procedure and is acceptable to the Director.

(b) For the purposes of paragraph (a), if there is a conflicting difference between any of the applicable design processes, standards, guidelines, or aeronautical data quality requirements, the particular design process, standard or guideline to be used must be acceptable to, or specified by, the Director.

(c) The design of an instrument flight procedure must—

(1) be coordinated with all appropriate air traffic service providers; and

(2) be compatible with any air traffic service and associated procedure that is provided within the area or areas of airspace where the instrument flight procedure is intended to be established; and

(3) take into account—

(i) any noise abatement procedure prescribed by Part 93; and

(ii) any bylaws or other legislation restricting aircraft operations; and

(iii) the classification and any associated designation of the airspace in which the instrument flight procedure is to be established and any adjacent airspace that may be affected by the procedure; and

(iv) the effect that the proposed instrument flight procedure may have on any other instrument flight procedure established in the airspace.

(d) An instrument flight procedure must not be designed for an aerodrome or heliport unless the operator of the aerodrome or heliport agrees in writing that the aerodrome or heliport may be used for IFR operations using the intended instrument flight procedure.

(e) An instrument flight procedure must not be designed on or use a ground based aeronautical facility unless—

(1) the aeronautical facility is operated under the authority of an aeronautical telecommunication service certificate issued in accordance with Part 171; and

(2) the holder of the aeronautical telecommunication service certificate agrees in writing that the aeronautical facility can be used for the intended instrument flight procedure.

Subpart E — Transition

173.301 Transition

This Part does not apply to a person who holds a delegation made by the Director under section 23B of the Act for any of the Director's functions prescribed in rule 19.155 until 23 October 2009.

Appendix A — Qualifications and experience for senior person

This appendix specifies the qualifications and experience for a senior person required by rule 173.51(a)(2).

A.1 Senior person to certify instrument flight procedures

(a) **Training —** have successfully completed an ICAO PANS-OPS training course, or a training course accepted by the Director as an equivalent, for the design of instrument flight procedures.

(b) **Experience in application of instrument flight procedures —** have at least 10 years experience in the application of instrument flight procedures through experience gained in air traffic control, as a flight crew member on IFR operations, in operational control of IFR operations, or other experience accepted by the Director as equivalent.

(c) **Experience in design of instrument flight procedures —** at least 2 years experience designing instrument flight procedures which must include—

(1) under supervision by a procedure designer whose qualifications are accepted by the Director, the design of at

least 3 instrument flight procedures of the type that the person is to be authorised to certify; or

(2) for a new instrument flight procedure type, experience accepted by the Director in designing or certifying similar instrument flight procedure types.

Consultation Details

(This statement does not form part of the rules contained in Part 173. It provides details of the consultation undertaken in making the rules.)

The consultation for the development of the new rule parts 95 and 173 occurred in 2 stages under 2 NPRM between 1995 and 2007. During the consultation the CAA reorganised its docket files and the docket numbers and titles for each project were changed as follows:-

- Docket 95/CAR/1107 NPRM 98-7 Part 95 Visual and Instrument Procedures for Flight Under IFR became Docket 99/CAR/1333 Part 95 Instrument Flight Procedures—Registration.

- Docket 95/CAR/1035 NPRM 98-8 Part 173 Air Navigation Service Organisations – Certification became Docket 99/CAR/1334 Part 173 Instrument Flight Procedure Service Organisation—Certification and Operation.

Notices of proposed rulemaking NPRM 98-08 Docket 95/CAR/1035 and NPRM 98-7 Docket 95/CAR/1107 were notified in the Gazette on 22 October 1998 and advertised in the daily newspapers in the five main provincial centres on 31 October 1998. The NPRM 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 proposals. In addition a letter on aerodrome meteorological minima was distributed to the civil aviation Swedavia Joint Consultative Group.

The submissions and verbal comments from the NPRM, Swedavia Joint Consultative Group, and internally within the CAA were taken into account in the development of draft final rule proposals.

The draft final rule proposals from this process were, between 2003 and 2007, updated to current legislative drafting practices and reformatted in the style of other rules regulating organisations providing services to aviation in New Zealand. The rules were also updated to meet current IFR procedure design standards, safety and quality requirements.

During this updating process drafts of the rules were sent for consultation to 40 organisations and persons who were known to or indicated they had an interest in IFR procedure design. Of the 40 requests for feedback, 22 responded and this consultation continued during the development of the attached final rules. The respondees, both within NZ and overseas, were individuals or representatives of organisations who have experience, or an interest in IFR flight procedure design. The draft rules were also forwarded to those who responded to the original NPRM, but no submission, other than any included in the 22 above was received from this latter group.

Details of the consultation relating to the Part 95 and 173 rules, are contained in the consultation details and historical information below.

The submissions and all background material used in developing the rules are held on the docket files and are available for public inspection at Aviation House, 10 Hutt Road Petone. Persons wishing to view the dockets should contact the Docket Clerk on Phone +64 560 9603 and ask for dockets 95/CAR/1035, 99/CAR/1334, 95/CAR/1107, and 99/CAR/1333.

Consultation detail during the final rule development process 2003 to 2007

Final Rules for Parts 173 and 95 were consulted on together.

Docket 99/CAR/1334 & 99/CAR/1333

The feedback on the final rules developed from the external consultation and consultation within the CAA covered both general aspects of the rules and detail of the rules themselves.

Feedback covered:-

- The inclusion of meteorological operating minima as separate rules.
    - *The CAA agreed that meteorological operating minima are an integral part of an IFR flight procedure design and that separate rules are not required.*
- Cessation of service supply and the effect of this on NZ aviation.

- *Agreements for the continuity of supply were investigated and as none could be found the renewal notification times for certificate renewal or cessation of service were extended from 30 days to 90 days.*

- Database integrity.

  - *Data integrity was not covered in the original rule proposals. The CAA has included industry standard requirements for data integrity covering the following 3 areas - the generation of data, the manipulation of data, and the transfer of data.*

- The New Zealand Air Navigation Register.

  - *The NZANR is required by Part 71. The requirements for the entries in the register are dictated by current industry use of the information to provide the automated guidance of aircraft during flight under IFR. The current requirements for flight management systems have been taken into account in the development of the rules*

- Allowance and process for temporary procedures.

  - *Allowances for temporary procedures have been taken into account in the rules.*

- Ability for the Director to withdraw an instrument flight procedure from operational use.

  - *The ability for the Director to withdraw instrument flight procedures for safety reasons has been allowed for in the rules. Constraints have been placed in the rules.*

- Ability for the Director to impose conditions.

  - *This has been allowed for in the rules.*

- Definitions to be refined and included in rules (Part 1).

  - *Definitions of terms used and acronyms have been added to Part 1.*

- Review of Part 12 reporting requirements.

  - *The part 12 reporting requirements associated with incidents involving aeronautical data were reviewed and updated in line with other incident reporting.*

- Concepts and scope of validation, verification, and testing, as applied to procedure design and flight validation.

  - *The concepts of validation, verification, and testing as applied to procedure design and flight validation were clarified and the ICAO use was adhered to. The scope of flight validation was clarified.*

- Scope of the coverage of the rules to include Auckland Oceanic FIR. NZ FIR State responsibilities.

  - *There was clear feedback on this subject which indicated that the rules should clearly show the area of their application and coverage.*

  - *The civil aviation rules cover the New Zealand civil aviation system. New Zealand accepts responsibility for the management of the airspace in the Auckland Oceanic Flight Information Region under the ICAO Asia and Pacific Regions Air Navigation Plan. Under Section 14 of the Civil Aviation Act 1990, the objectives of the Minister are—*

    - *to undertake the Minister's functions in a way that contributes to the aim of achieving an integrated, safe, responsive, and sustainable transport system; and*

    - *to ensure that New Zealand's obligations under international civil aviation agreements are implemented.*

  - *Section 14A(b) of the Act provides that a function of the Minister under the Act is to administer New Zealand's participation in the Convention and any other international aviation convention, agreement, or understanding to which the Government of New Zealand is a party.*

- *Section 99(1) of the Act provides that subject to the Civil Defence Emergency Management Act 2002, Airways Corporation of New Zealand Ltd. is the only person entitled to provide the following aviation services in New Zealand –*
  - *area control services;*
  - *approach control services:*
  - *flight information services.*
- *As a result the CAA has a Memorandum of Understanding with the Airways Corporation covering the provision of international air traffic services in the Auckland Oceanic FIR. This Memorandum calls on the Airways Corporation to provide services in accordance with ICAO requirements and the appropriate Civil Aviation Rules.*
- *The new rule Part 173 will therefore be applicable within the Auckland Oceanic FIR through the memorandum of understanding.*

- Harmonisation with other regulatory authorities.
  - *During the development of these rules ongoing discussion with other regulatory authorities has continued. Due to the differing philosophies of the Australian rules (use of manuals of standards incorporated by reference) and a lack of equivalent rules in the FAA system discussion and feedback on the proposed rules was carried out.*

- Maintenance of IFR procedures.
  - *The CAA accepts that an instrument flight procedure may be designed by one certificate holder but maintained by a different certificate holder. The current rules were developed to accommodate this situation.*

Historical Information 1998 – 2003 - Detail

Docket 95/CAR/1035 NPRM 98-8 Proposed New Rules Part 173 Air Navigation Service Organisation–Certification

Summary of Submissions and CAA responses on original NPRM

Five submissions were received in response to the NPRM and the issues raised were discussed as follows.

Proposed Rule Part 173

173.1 Purpose

One submitter stated: "this rule part mentions IFR flight only. However many of the procedures applicable to IFR flight also apply to VFR flight, especially within class B and C airspace where, from an ATC point of view, the only difference is that the VFR flight must maintain VMC. Many separations within control zones apply equally to both IFR and VFR flights, and this rule should recognise that fact. ATC prefers to use the term *controlled flights"*.

CAA response: *The CAA does not agree. IFR procedures do not apply to VFR flights. As stated by the submitter aircraft operating under VFR must operate within VMC flight conditions and be responsible for compliance with the applicable Part 91 rules for the avoidance of collision with other aircraft. ATS may very well provide separation between VFR and IFR aircraft within controlled airspace but this does not mean that the aircraft operating under VFR is conducting IFR procedures.*

173.51 Personnel requirements

One submitter, referring to paragraph (a)(1)(i), questioned the need for the inclusion of *can be financed* in this section at all. They indicated that: "provided the applicant can demonstrate that any service provided meets operational requirements and is provided in accordance with Part 173 it should not be necessary for the applicant or the Authority to become involved in the financial aspects of the operation". Their primary concern was: "that by including this requirement in the rule an applicant is open to scrutiny of the financial aspects of the operation

when, provided the other requirements are met, finances have little or no direct relation to safety".

CAA response: *The CAA does not agree. This provision is prescribed in all the organisational certification rules to ensure that the applicant has sufficient resource available to conduct the function associated with the certificate. [Safety can be affected by an organisation that is financially restricted.]*

One submitter considered that it is important that the CEO is aware of the principles of aircraft operation on visual and instrument procedures and that the Senior Persons responsible for certification of the procedure design and associated minima has qualifications in the design aspects and aircraft operations. They suggested:

(a) "CEO has at least 2 years experience in an operational management of a Part 121 airline or equivalent operation.

(b) Senior Persons hold or have held an ATPL licence with 2000 hours as a pilot on Part 121 or equivalent operations. Have a minimum of 2 years experience in visual and instrument procedure design. If there is formal training available then that also should be a requirement".

NOTE: They would consider military pilot experience in the equivalent of a Part 121 aircraft as being equivalent operation.

"A Senior Person Quality Assurance should be required."

CAA response: *The CAA does not consider that experience and qualifications applicable to personnel can be prescribed as suggested. Organisations vary in size and structure and the CAA assessment for the issue of a Part 173 certificate will ensure that the organisation concerned has sufficient expertise to undertake the intended function.*

One submitter referring to paragraph (a)(3) stated: "if certification of procedure design is required then a Senior Person will be required while in Docket Nr 95/CAR/1107 Purpose it states that the organisation must have such a person. It appears to me that if an organisation is to produce procedures then a Senior Person for certification must be mandatory".

CAA response: *The CAA agrees with this submission and the rule is amended accordingly.*

173.53 Resource requirements

One submitter stated: "the requirement to *establish premises* could perhaps be refined or elaborated upon. Given the somewhat technical nature of the establishment of flight procedures and the abundance of computer capability these days it is not beyond the realms of possibility that a Part 173 certificated provider could in fact be an individual operating out of a vehicle with a laptop computer and a cell phone". They submitted that: "sufficient latitude should be written into this rule to permit such providers to gain and retain Part 173 certification, and that an analogy in this area could perhaps be the provision of Annual Review of Airworthiness services by a person holding an Inspection Authorisation". They also indicated that while the matter of *car boot* maintenance of aircraft is being attacked by many engineering firms throughout the country they believe that: "the availability of a service where an operator can select an appropriately qualified engineer who has appropriate maintenance documentation, and is able to perform maintenance in an appropriate location is a great leap forward for both cost effective maintenance and aviation safety". It is their belief that a similarly equipped and qualified individual should be able to provide Part 173 services to operators and airports throughout the country in a similar cost effective manner, with an improvement in aviation safety accruing.

CAA response: *The CAA does not agree that the term establish premises needs refinement or elaboration. The suitability of premises will be dependent on the size and structure of a particular organisation seeking Part 173 certification as is the case with other organisation certification requirements. The situation may very well be as described by the submitter and could be acceptable.*

173.55 Visual and instrument flight procedure requirements

One submitter asked: "should the reference to 95.11(b) and (c) in paragraphs (a)(1) and (2) also refer to 95.11 (a)"?

CAA response: *The CAA agrees and the rule is amended accordingly.*

173.57 Error correction in promulgated information

One submitter stated: "this should be written to require when an error is discovered after promulgation that the procedure be immediately withdrawn from use and that the certificate holder establishes procedures to promulgate corrected procedures with a minimum of delay. There must be a prohibition on hand amendments to aeronautical charting".

CAA response: *The CAA does not agree that the rule should state that after discovery of an error in the promulgated information the procedure must be immediately withdrawn for use. This may be the action required but in other cases may not be the appropriate means for all occasions. The rule requires the applicant for a certificate to establish procedures for error correction and these procedures will be assessed by the CAA for appropriateness with respect to the situations that may arise.*

One submitter stated: "there needs to be a requirement that the certificate holder makes available the procedural drawings for instrument procedures to aircraft operators so that obstacle clearance related to aircraft performance can be established".

CAA response: *The CAA does not agree with this suggestion. This is a certification rule addressing the requirements applicable to an organisation establishing visual and instrument procedures for IFR flight. The provision of procedural drawings to operators for obstacle clearance purposes is not related to procedure design and therefore outside the scope of this rule. This is a matter between the aircraft operator and a Part 173 certificate holder to reach agreement for the provision of the drawings referred to.*

173.59 Records

One submitter stated: "the requirement for records to be of a permanent nature requires some clarification. It is essential that records retained on computer are deemed to be acceptable under this rule as a unilateral requirement to keep paper records is costly, time consuming, and of little benefit to aviation safety".

CAA response: *Records may be kept electronically but such systems should ensure the security, integrity, and retrieval of the information. A system of backing up electronic data would be considered to be appropriate. Procedures for electronic record and data keeping should be documented in the exposition and subject to quality system control.*

173.63 Internal quality assurance

One submitter suggested: "the requirement of paragraph (f)(2) for internal audits to be performed by trained audit personnel is a little excessive. It should be left to the organisation to decide on what level of experience they deem appropriate to carry out an internal audit of the operation. In an operational situation (Part 135) it is in many cases more beneficial to have an internal auditor who is not formally trained in auditing but instead has a clear understanding of what is involved in the operation".

CAA response: *The CAA does not agree with this submission. The conduct of an audit is a specific function and a certain amount of training is required for a person to effectively conduct this function.*

173.65 Organisation exposition

One submitter stated: "the exposition must include the criteria to be applied by the certificate holder for establishing the visibility to be declared for the minimum decent altitude (MDA) and decision altitude (DA) for instrument approaches".

CAA response: *The CAA agrees that the visibility to be declared for the MDA and DA for instrument approaches must be stated. However it is more appropriate for the values to be provided in Part 95, either in the rule or the Advisory Circular.*

One submitter stated that the rule should require an applicant to fully detail the training requirements for a procedure designer with the full syllabus in the exposition. Overseas courses should be allowed.

CAA response: *The CAA does not agree as the training, experience and qualifications of the personnel used will vary depending on the size and structure of the organisation. Some personnel in a large organisation for example could be working under supervision with a*

planned progression of skill allied with experience and training. This will be addressed under 173.51 when The CAA assesses the organisation of each applicant for a Part 173 certificate. Overseas training could be acceptable and an assessment of such courses would be conducted by The CAA on a case by case basis.

173.105 Transition

One submitter stated: "given the shift from regulations based operation to the rules environment, it may be worth considering an extension to the transition period of this rule. No doubt this is going to be dependent upon how many entities are subject to transition provisions, and how long they feel is required to become Part 173 compliant".

CAA response: *The transition period in this rule is being reviewed and will be established on the assurance that at that time, all the present IFR procedures are entered into the New Zealand Air Navigation Register and the authority of 95.11 is no longer required.*

Submissions and CAA responses on Swedavia Joint Consultative Group Letter 15 November 1998 and Civil Aviation Rule Part 95 — IFR Aerodrome Alternate Minima

Six submissions were received on the Swedavia Joint Consultative Group Letter and 9 on Part 95. The submissions were discussed as follows.

One submitter stated: "we believe that the determination of alternate minima should be left to the pilot-in-command based on 91.405(b)".

One submitter stated: "in their opinion the current practice of prescribing aerodrome alternate minima be continued and that this information be contained within Part 95 and the IFG. This continues a procedure which has proved satisfactory to date and has the added advantage of requiring any ambiguity or potential for miscalculations in future" (*sic*).

One submitter stated: "it is probably appropriate that the determination of aerodrome alternate minima should be transferred to Part 91 as an operational consideration and left to the pilot-in-command to make the

decision. Such a move would be consistent with the concept of providing more flexibility to participants in the aviation system and requiring them to take more responsibility for their actions".

One submitter stated: "his preference would be to rely on the pilot-in-command to calculate alternate minima rather than prescribing such minima under Part 95".

One submitter stated: "they would prefer that the present system is continued, in that aerodrome alternate minima are prescribed under Part 95. This is far simpler than requiring these to be calculated each time".

One submitter stated: "with regard to your letter, it offers good potential for operations. My view of the best way to handle it would be for ease of planning of flights the State continues to publish alternate aerodrome minima which would be adequate for most planning, but in the operating rules permit an operator to determine alternate minima with regard to an approach to a runway that there is certainty to be used, and to promulgate those minima in manuals. An example of benefit would be a runway with a straight-in approach at 600 feet/2000m and the other end being a circling approach at 1000 feet/4000m. While the State alternate minima would be 1200 feet/6000m if the operator was certain that the straight-in approach would be used the alternate minima would be 800 feet/4000m if included in the operator's manual. For non-precision there is a further benefit in that the current alternate minima are based on the highest minima which inevitably is the non DME minima. The proposal would allow the determination to be based on the straight-in approach with DME. The main value can be when trying to locate a handy alternate when the destination weather is quite good. For example slightly below the criteria of the 1000 feet addition to the minima at destination and obviously no problem in a positive operation. The problem could be that the higher State alternate weather prevents the alternate fuel being based on a nearby alternate when the operator straight in assessment could allow the use".

CAA response: *The responses are evenly divided between those wishing to establish their own alternate minima to the criteria specified under 91.405 and those wishing to apply alternate minima as prescribed under Part 95. On this basis it is decided to amend 91.405 to allow a pilot-in-command to establish alternate minima in accordance with the*

criteria specified in the rule or comply with the alternate minima prescribed under Part 95.

Docket 95/CAR/1107 NPRM 98-7 Proposed new rules Part 95 Visual and Instrument Procedures for Flight Under IFR

Nine submissions were received in response to the NPRM and 6 on the letter to the Swedavia Joint Consultative Group. The issues raised were discussed as follows.

General submissions and CAA responses on original NPRM 98-7

1.2 One submitter stated: "I cannot figure out the charting responsibilities under these rules particularly for IFR en route charts. For example where two certificate holders produce a GPS route from an aerodrome to a destination in uncontrolled airspace and the termination of the routes is 2 nm apart, who makes the decision as to which route will be displayed on the chart if any? It appears that there could be considerable dispute between the charting organisation and the certificate holders. Will there be more than one charting agency as a pilot using an IFR route chart in uncontrolled airspace would be unable to determine the routing of another aircraft if that aircraft was using a different chart with different information. Will the Director have control of this type of information"?

CAA response: *Charting is a CAA responsibility that is being carried out by contract by another organisation. As such there will be only one organisation conducting this function and only one source for promulgating aeronautical information (AIS provision under Part 175 is limited to a single provider) which will ensure that pilots will not be using any other chart for the likes of IFR route information.*

One submitter stated: "there is some inconsistency in Part 91 regarding speed. Some references are in knots (or kts) whereas some are knots IAS. Consistent usage within the rule should be introduced".

CAA response: *The final rule will be edited for consistency as suggested by the submitter.*

One submitter noted that NPRM 98-7 uses appendices whereas the recent amendment to Part 172 has done away with the appendices in favours of subparts.

CAA response: *At the time of the NPRM there was no recorded response to this submission. Current policy is to use both subparts and appendices to Rules. Generally the appendices contain technical standards and the subparts the requirements.*

One submitter stated: "Part 95 introduces some significant changes to the meaning of terms that have been in use in New Zealand for some significant period of time, and are ingrained into the New Zealand aviation psyche. This is alluded to in the preamble page 4 and pages 7 and 8. We consider that CAA must ensure the industry is prepared for the changes when they become effective sometime this year or early new year".

CAA response: *The CAA agrees and is taking measures to educate pilots on the changes.*

Specific submissions and CAA responses on original NPRM 98-7

95.1 Applicability

One submitter stated: "the rule prescribes a whole lot of stuff that is very specific in detail on routes, altitudes, change over points and reporting points etc. However this rule does not include any of the details that it says it does". The submitter indicated they could only assume that there would be further proposed rules introduced under this Part.

CAA response: *This rule simply states the applicability and purpose of the rule part. The actual procedures are established when they are entered into the New Zealand Air Navigation Register by the Director, and for pilot use presented in a diagrammatic form in the AIP.*

One submitter stated: "it would seem appropriate that, with the introduction of Part 95, an opportunity is taken to establish procedures with respect to the identification of way-points, significant points, arrival procedures, instrument approach procedures, and ATS routes. At present guidance is available within the appendices of Annex 11, and within Document 8168. They believe that the CAA should develop

policy on the above, taking into account domestic and international requirements, and insert this policy into the rule. They do however suggest that this policy should be subject to further consultation with various users to ensure it encompasses all domestic and international options and should there be a reference to this detail being officially available from the New Zealand Air Navigation Register, similar to statements in Parts 71 and 73"?

CAA response: *The CAA agrees and is establishing policy and procedures in accordance with ICAO recommended practices to coincide with the establishing of procedures under Part 95.*

95.3 Definitions and abbreviations

One submitter stated: "minimum en route safety altitude is described in vertical dimension of m (metres). This is in contravention of ICAO Annex 5 which specifies inter-alia non-SI units for permanent use. Those units applicable to New Zealand include altitudes, elevations and heights in feet. They suggest the removal of references to metres".

CAA response: *These are not rules of the air and the use of metres is derived from ICAO Doc 8168, Volume II, construction of visual and instrument flight procedures which is incorporated by reference under Part 173.*

One submitter stated: "the definition of sole-means navigation system is rubbish. Sole-means is one type of navigation unit which references no other means such as VOR only, or NDB only, or GPS only".

CAA response: *The CAA does not agree. The definition of sole-means navigation is only used with regard to the use of GPS and is the definition used by ICAO.*

One submitter stated: "MSA has always meant minimum safe altitude. There is no need to change this definition as it is in common use. Also the abbreviation MESA becomes superfluous as this also has the same meaning as MSA, i.e. any lower altitude (at this point) is not safe".

CAA response: *The term MSA is changed to align it with ICAO definition and in particular as used in procedure design. The term*

MESA is used for the same reason and in addition will be the same as that used by most other countries.

One submitter stated: "the definition of racetrack procedure be deleted as it is included in the definition of reversal procedure".

CAA response: *The CAA does not agree as both terms are used and defined in ICAO Doc 8168, Volume II which is incorporated by reference under this rule.*

One submitter suggested: "with regard to compulsory reporting point, there should be a comma after the second word *point"*.

CAA response: *There was no response recorded at the time of the NPRM.*

One submitter suggested: "with regard to Fix, a fix may be established within a procedure that uses other than a navigation aid i.e. it may require use of GPS or RNAV. The word *radio* should be deleted".

CAA response: *The CAA does not agree as locations defined by other navigation aids are termed as waypoints.*

One submitter suggested: " for Minimum radar vector altitude it would be more correct for the word *vector* to be *vectoring"*.

CAA response: *The CAA does not agree. This definition is as adopted by other countries and using the word vectoring does not add any value or significance to the definition.*

One submitter suggested: "Minimum en-route altitude. Minimum sector altitude, minimum radar vectoring altitude and minimum VOR/DME altitude definitions do not take into account the 3000 feet vertical requirement over Volcanic Hazard Areas that are at level one activity as is presently done".

CAA response: *The submission is correct in that the minimum levels in Volcanic Hazard Areas are established by other procedures and criteria and have no relevance to the terms used for IFR flight.*

One submitter suggested: "radio navigation aid facility paragraph (2) should include reference to VORTAC and TACAN, and paragraph (3) should have a colon after (SSR)".

CAA response: *VORTAC and TACAN IFR procedures are not authorised for use by civil aircraft and as such are not included as radio navigation aid facilities in ICAO Doc 8168. Consequently VORTAC and TACAN are not included in the definition of radio navigation aid facility.*

95.11 Designing visual and instrument flight procedures

One submitter stated: "additional requirements are required in this rule requiring the permission of the appropriate Part 171 certificate holder to be obtained and in the case of an instrument approach procedures the agreement of the aerodrome operator".

CAA response: *The CAA agrees with this submission and the rule is amended accordingly. The provision for the Part 171 certificate holder is required, as they are responsible under Par 171 for the ongoing integrity of the facility for the purpose it is being used. Likewise the agreement of the aerodrome operator is required, as the operator is then responsible for obstacle control associated with an instrument approach procedure.*

One submitter stated: "paragraph (a)(2) requires the person designing the procedures to flight-test to ensure compliance with Annex 10".

The submitter asked, "who is responsible for ongoing flight checks to determine whether the navaids continue to provide the standards required and is this the responsibility of the certificate holder or the Part 171-certificate holder? If it is the latter surely there should be a requirement for the procedure designer to advise the Part 171-certificate holder of the navaid requirements for the procedure. An example of changed requirements could be where the procedure design is to ILS Cat 2 standards where the previous use has been to standard ILS minima and the change could affect the tolerances for maintenance of the ILS".

CAA response: *The applicable Part 171 certificate holder is responsible for the ongoing periodic inspection and testing of a radio navigation aid facility which includes flight test under rule 171.59.*

One submitter stated "with regard to paragraph (a)(5), IFR procedures inevitably conflict with each other. IFR routes that cross at right angles conflict as do departure procedures from a runway conflict with instrument approach procedures to the reciprocal of that runway. I am not sure what the intent of the rule is but perhaps it could read that the IFR departure, arrival and instrument procedures to an aerodrome in uncontrolled airspace must not conflict with the procedures at another aerodrome. However that situation could exist provided appropriate warnings were on the charts. A suggestion could be 'where the procedures conflict with the flight paths of any other procedures established within the airspace the certificate holder shall be required to demonstrate that the procedures can operate without creating a hazardous situation'".

CAA response: *The CAA agrees that as written this paragraph is restrictive and the rule is amended by replacing the word conflict with inhibit the use of. Any conflict that may arise with the establishment of a new procedure will need to be resolved by the CAA in consultation with the parties concerned prior to entering that procedure in the navigation register.*

One submitter stated: "paragraph (a)(6)(ii) is unreasonable as there are no standards for the certificate holder to apply. Provided the certificate holder takes account of (a)(6)(i) then that should be sufficient. If the procedures cause undue noise then the noise abatement procedures will inevitably change and the certificate holder will need to amend the procedures to comply. Subparagraph (a)(6)(ii) should be deleted".

CAA response: *The CAA does not agree with this submission. Aircraft noise is a sensitive issue to the public and if possible visual and instrument flight procedures should be designed to minimise aircraft noise over congested areas. If aircraft noise is ignored, the chances are that subsequently the public will demand the establishment of noise abatement procedures which may not be in the best interest of aircraft operators.*

95.13 Establishing visual and instrument flight procedures.

One submitter stated: "it appears that the Director establishes minimum flight altitudes and the procedures to achieve these altitudes by physically entering the procedures received from a certificate holder in

to the Air Navigation Register. Surely the Director must conduct a thorough audit of the procedures before entry as it could be considered negligent if errors in the procedures were entered by the Director without check".

CAA response: *The CAA does not agree with this submission. Part 173 is a standard certification rule and as with other certificated activities, once the certificated is granted, the holder is subject to ongoing audit by the Director. The audit of each procedure submitted by a Part 173 certificate to the Director would negate the purpose of certification and add considerable cost and time to the process.*