Australian Government
Civil Aviation Safety Authority

TECHNICAL ASSESSOR HANDBOOK

CASR Subpart 175.C
Data Service Provider

August 2023



Acknowledgement of Country

The Civil Aviation Safety Authority (CASA) respectfully acknowledges the Traditional Custodians of the lands on which our offices are located and their continuing connection to land, water and community, and pays respect to Elders past, present and emerging.

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This document contains guidance material intended to assist CASA officers, delegates and the aviation industry in understanding the operation of the aviation legislation. However, you should not rely on this document as a legal reference. Refer to the civil aviation legislation including the Civil Aviation Act 1988 (Cth), its related regulations and any other legislative instruments—to ascertain the requirements of, and the obligations imposed by or under, the law.

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Acronyms

The acronyms and abbreviations used in this manual are listed in the table below.

Table 1. Acronyms

Acronym/ abbreviation	Description
AA	Airservices Australia
AIM	Aeronautical Information Management
AIP	Aeronautical Information Publication
AIRAC	Aeronautical Information Regulation And Control
AIS	Aeronautical Information Service
AOC	Aerodrome Obstacle Chart
ARN	Aviation Reference Number
ATM	Air Traffic Management
DSP	Data Service Provider
ERP	Emergency Response Plan
EUROCAE	European Organisation for Civil Aviation Equipment
HF	Human Factors
IAIP	Integrated Aeronautical Information Package
ICAO	International Civil Aviation Organization
ISO	International Organization for Standardization
QMS	Quality Management System
RNAV	Area Navigation
RNP	Required Navigation Performance
RTCA	Radio Technical Commission for Aeronautics
SAG	Safety Action Group
SLA	Service Level Agreements
SMART	Specific, Measurable, Achievable, Realistic and Timely
SMS	Safety Management System
SRB	Safety Review Board
TMI	Temporary Management Instruction
TNA	Training Needs Analysis
VNC	Visual Navigation Chart

VTC	Visual Terminal Chart

Definitions

Terms that have specific meaning within this manual are defined in the table below.

Table 2. Definitions

Term	Definition
Aeronautical information data chain	A series of interrelated links where each link provides a function that facilitates the origination, transmission and use of aeronautical data for a specific purpose. These functions are carried out specifically by aeronautical information service providers and data service providers, but also by data originators.
ARINC 424	an international standard file format for aircraft navigation data maintained by Airlines Electronic Engineering Committee and published by Aeronautical Radio, Inc.
Entry control	Regulatory consideration of an applicant's suitability to be granted a civil aviation authorisation by CASA.
Handbook	Means this CASR Part 175 Technical Assessor Handbook.
NOTAM	A notice distributed by means of telecommunication containing information concerning the establishment, condition or change in any aeronautical facility, service, procedure or hazard, the timely knowledge of which is essential to personnel concerned with flight operations.
Technical assessor	A CASA inspector or CASA authorised person who is suitably qualified, trained and experienced (competent) in undertaking a technical assessment of an application for the grant of a civil aviation authorisation by CASA.
Technical assessment	An assessment against regulatory requirements to determine compliance.
Temporality	Means that data exists within a database with a start time and an end time (which may be indefinite).
Worksheet	Means the CASR Part 175 Technical Assessor Worksheet referenced in Appendix 1 to this handbook.

Reference material

The reference material used in this manual are listed in the table below.

Table 3. Reference material

Document type	Title
Regulatory and Technical	Civil Aviation Act 1988 (the Act)
	Part 175 of the Civil Aviation Safety Regulations 1998 (CASR)
	Part 175 Manual of Standards (MOS) The power to create a MOS is included in Part 175. However, the requirement for a MOS has not been identified at this stage.
International Civil Aviation Organization (ICAO) documents	Annex 3 to the Chicago Convention: Meteorological Service for International Air Navigation

	Annex 4 to the Chicago Convention: Aeronautical Charts
	Annex 15 to the Chicago Convention: Aeronautical Information Services
	Annex 19 to the Chicago Convention: Safety Management
	Document 9859: Safety Management System Manual
ISO 9001	Quality Management
Data Processing Standards	Standards for processing aeronautical data: European Organisation for Civil Aviation Equipment (EUROCAE) ED-76A
	Standards for processing aeronautical data: Radio Technical Commission for Aeronautics (RTCA) / DO-200B.
Form	Form 175 - DSP – Data Service Provider Application Form

Revision history

Revisions to this manual are recorded below in order of most recent first.

Table 4. Revision history

Version number	Date	Parts / sections	Details
2.0	August 2024	All	Reviewed technical content and migrated content to new template.
1.1	October 2022	All	Administrative review only
1.0	September 2015	All	Initial issue

Introduction

Regulatory decision-making

Where the legislation provides for one, and only one decision—the 'correct' decision—is the only decision open to CASA. However, most of the decisions CASA makes involve the exercise of discretion. In such cases, there may well be more than one acceptable or correct decision. In these cases, the law requires that CASA makes the 'preferable' decision, that is, the most appropriate decision, having regard to the overriding interests of safety and the obligation to be fair.

In all such cases, CASA is bound to act in accordance with the applicable rules of administrative law. These rules govern how CASA arrives at the 'preferable' decision in any given case. Adherence to these rules is a requirement, not an option. Decisions and actions taken in contravention of these rules are unlawful, unenforceable, and in most cases invalid. CASA is legally accountable for the decisions it makes, and CASA decision-makers are obliged to avoid the appearance, as much as the reality, of unlawful decision-making.

Sound and lawful regulatory decision-making is generally governed by the 10 rules of administrative law summarised below. Adherence to these rules is essential to CASA's obligations of accountability and good governance.

- Natural Justice (Procedural Fairness)
  - **Hearing Rule**. Persons affected by CASA's decisions have a right to be heard. To be meaningful, the hearing rule normally requires that CASA provides persons with notice (usually in advance) that a particular decision is going to be taken, and the reasons for the decision CASA proposes to take. Without notice and a statement of reasons, there may be little point to providing a person with an opportunity to be heard.
  - **Rule Against Bias**. Decision-makers should not have a personal or pecuniary interest in the outcome of their decisions. Neither may decision-makers prejudge (or pre-determine) matters in respect of which they are called upon to make a decision.
- A decision-maker must not act for improper purposes. Even if the purposes for which a particular decision are lawful, the decision may only be taken for the purposes specifically authorised by the law under which the decision has been taken.
- A decision-maker must not take any irrelevant considerations into account in coming to a decision.
- A decision-maker must take all relevant considerations into account in coming to a decision.

> **Note:** Applicable policy is always a relevant consideration.

- A decision-maker must act based on evidence, not mere supposition or speculation.
- A decision-maker must not formulate requirements in vague or uncertain terms.
- A decision-maker must not inflexibly apply policy (although departures from policy will normally need to be justified).
- A decision-maker must not act under dictation (although this does not preclude adherence to formal directions, compliance with lawful conditions in relation to the process by which a decision is taken or the obligation to consult in the process of considering a decision).
- A decision-maker must decide the matter within a reasonable time.
- A decision maker must not act in a way that is manifestly unreasonable. A decision must not be so unreasonable that no reasonable person would make such a decision.

Note: The meaning and application of these principles, and related considerations of administrative law, are covered more fully in the induction and orientation training undertaken by all CASA employees. Any questions in relation to these matters should be referred to Legal International and Regulatory Affairs (LIRA).

Departure from authorised policy

Adherence to CASA's authorised policies will almost always produce an appropriate decision. As said, however, from time to time there will be circumstances in which the strict application of policy may not result in the "preferable" decision. In these cases it may be appropriate (and possibly necessary) to depart from otherwise applicable policy.

Any departure from policy must be justified to ensure that it:

- is genuinely necessary in the interests of fairness
- does not inappropriately compromise the need for consistent decision-making; and, of course
- is not in conflict with the interests of safety.

Without fettering a decision-maker's discretion, it is therefore expected that appropriate consultation will occur before a decision is made that is not the product of the policies and processes set out in this manual. The prescribed consultation process is described below.

Consultation process

Decision-maker's responsibilities

When a decision-maker believes there is a need to depart from policy he or she is expected to consult with his or her direct supervisor. This process should be initiated in writing:

- Setting out the pertinent facts and circumstances
- Identifying the provisions of the policy normally applicable
- Stating why the application of that policy would not result in the making of the 'preferable' decision in the circumstances to hand
- Specifying the approach the decision-maker believes is more likely to result in a 'preferable' decision.

Supervisor's responsibilities

In considering a consultative referral, the decision-maker's supervisor should:

- Advise the decision-maker as to whether his or her assessment of the relevant considerations appears to be complete and correct
- If, in the opinion of the supervisor, the circumstances do not warrant a departure from policy, provide the decision-maker with written advice and guidance as to how the decision might more properly be approached within the current policy framework.

Note: Reliance on relevant precedent is a sound basis on which to ground such an opinion. It may also be helpful to seek advice from peers, superiors and/or CASA's Legal International and Regulatory Affairs (LIRA).

- If, in the opinion of the supervisor, a departure from policy is warranted, the supervisor should ensure the policy sponsor (normally the relevant Executive Manager) is advised of the:
  - intention to depart from the otherwise applicable policy
  - alternative approach the decision-maker will be taking to the matter.

The supervisor should ensure that a full written record of these actions is made and maintained.

Note: In no case may the terms of decision be dictated to a delegate authorised to exercise discretionary decision-making powers

If a decision maker's supervisor or the policy sponsor is not satisfied that the decision the decision maker intends to make is the correct or preferable decision in all the circumstances, responsibility for that decision should be assumed by, or assigned to, another authorised delegate in accordance with appropriate processes and procedures.

Policy sponsor's responsibilities

If the policy sponsor concurs in the proposed departure from policy, he or she should ensure the decision-maker is advised accordingly as soon as possible.

If the policy sponsor does not believe the proposed departure from policy is warranted, the sponsor should:

- Advise the supervisor accordingly
- Assume responsibility for the decision
- Ensure that the decision-maker and any person affected by the decision (for which the policy sponsor has assumed responsibility) is advised accordingly
- Make the decision in a manner consistent with the applicable policy.

The policy sponsor should ensure that a full written record of these actions is made and maintained.

Nothing in these processes should be interpreted or applied, to dictate the terms of the decision to be made by a decision-maker authorised to make discretionary decisions under the civil aviation legislation, or to delay unreasonably the making of such decisions

Revisions to policies and manuals

As a result of experience in applying policies and procedures, users will form views as to accuracy, relevance and applicability of the content.

CASA personnel are required to provide recommendations for revisions to policies and processes in this or any other manual should they become aware of shortcomings. In this way the policies and manuals will be continually improved and remain relevant to the tasks being undertaken.

Each policy and manual has a Responsible Area Manager and recommendations for amendment are to be forwarded to the relevant individual for consideration. The revision process is documented in the Document Management and Control Standard Operating Procedures in HORACE.

Appendix A
Introduction to this Handbook

A.1 Purpose of this Handbook

CASA has developed this handbook, in conjunction with its associated technical assessor worksheet, to provide a consistent assessment method for CASA technical assessors to assess applications for compliance with the *Civil Aviation Safety Regulations 1998* (CASR).

CASA does not expect its technical assessors to interpret legislation; this handbook provides the necessary information relating to CASA standards, interpretations and explanations of the law. CASA does, however, expect that its technical assessors will apply reasonable and professional judgment in using this handbook during an assessment of legislative requirements.

Using this handbook ensures a standardised assessment outcome in a manner consistent with CASA legislation and policy.

A.1.1 Who is this handbook for?

The primary audience for this handbook is suitably qualified, trained and experienced CASA Aviation Safety Inspectors from the Air Navigation, Airspace and Aerodromes Branch who are required to determine if an applicant has met the legislative requirements specified in CASR Part 175.

For the purposes of this handbook, such inspectors are referred to as technical assessors.

This handbook may also be used or referenced by CASA delegates who exercise powers under Part 175 to issue a Data Service Provider (DSP) certificate.

A.1.2 How to use this handbook

This handbook is to be used in conjunction with the associated technical assessor worksheet (referenced in Appendix 1 to this handbook), which is the primary tool for undertaking a technical assessment to determine compliance with CASA's legislative requirements.

The worksheet is a Microsoft Excel document with various functionalities and sheet tabs, one of which is the User Instructions which should be read before commencing an assessment. The worksheet user instructions are also available at Appendix 1 to this handbook.

The regulatory questions in the worksheet form the assessment criteria that a technical assessor must consider in determining if an applicant complies with the legislative requirements. This handbook expands on those questions by providing an understanding of the question (through things for consideration).

Technical assessors should:

- Use the worksheet to undertake a standardised and unified entry control assessment of a DSP application, documenting an auditable record of the decisions and rationale against each of the assessment questions.
- Use the standardised legislation, policy and philosophy statements contained in this handbook to thoroughly understand the legislative requirements; thereby aiding a standardised decision-making process.

A.1.3 What this handbook covers

This handbook and its associated technical assessor worksheet only cover the technical aspects for conducting an assessment of a DPS entry control application.

The handbook includes the process and assessment considerations. The worksheet articulates the standardised assessment criteria, via a series of questions derived from Part 175, and is an auditable record of the complex decision making that occurs during the assessment.

This handbook has been developed in parts for ease of use. Part A includes introductory and policy information, Part B includes a high-level overview of the assessment process and Part C describes the things for consideration, which correspond to the assessment questions in the worksheet.

A.1.4 What this handbook does not cover

This handbook does not cover how a technical assessor will make a decision about whether CASA should issue a DPS certificate. It assumes that technical assessors are suitably qualified, trained and experienced in assessing the quality of an application for the purposes of ensuring satisfactory compliance.

Although this handbook provides guidance information, the ultimate decision must be made by the technical assessor as to whether the information presented is suitable, complies with relevant legislation and does not impose safety concerns.

The systems that surround the technical aspects of assessing the entry control application are not covered in this handbook; this includes the administrative tasks for receipt of an application and issue of a final permission, or ongoing surveillance activities.

A.1.5 Where to go for further assistance

To obtain further assistance with any of the information contained within this handbook and associated appendices, contact the Manager Personnel Licencing, Aerodromes and Air Navigation Standards (PLAANS), Flight Standards Branch.

A.2 Part 175 Overview

A.2.1 Background

Part 175 addresses the risks associated with the publication of erroneous or corrupt aeronautical information. The use of erroneous or corrupt aeronautical data can put the safety of flight at risk.

Part 175 regulates and creates an auditable relationship between those organisations and persons involved in the aeronautical information data chain to ensure that the integrity of aeronautical data is not compromised during receipt, processing, storage, transmission and publication.

Subpart 175.A sets out the general requirements for Part 175 and sets out what each Subpart is about. Subpart 175.A also explains that Part 175 is not applicable to the Defence Force in relation to their provision of an AIS. This Subpart also specifies that the Annexes 3, 4 and 15 are not applicable to Part 175 where Australia has published a difference to those Annexes in the AIP.

The regulations establish:

- requirements for AIS providers
- requirements for data service providers
- requirements for aeronautical data originators
- powers for collection of data about objects and structures that affect aviation safety.

A.2.2 AIS providers

Subpart 175.B sets out the standards and requirements for AIS providers. AIS providers are persons responsible for the publication of aeronautical data and aeronautical information in the Integrated Aeronautical Information Package (IAIP) and on aeronautical charts.

CASA is responsible for certifying AIS providers and auditing their compliance against Part 175 and their exposition. For further information regarding the assessment of an AIS provider, refer to the CASR Subpart 175.B Technical Assessor Handbook.

A.2.3 Data service providers

Subpart 175.C sets out the standards and requirements for data service providers. Data service providers are persons authorised to publish or supply data that pilots could use as an alternative to the IAIP and aeronautical charts, published by AIS providers.

DSPs are also authorised to supply data suitable for use in aeronautical navigation databases for Flight Management Computers, Flight Management Systems and Global Navigation Satellite Systems.

Regulation 175.190 requires an AIS provider to enter into a licence agreement with each data service provider.

Commercial organisations that conduct data service activities require an approval from CASA under Subpart 175.C.

A.2.4 Aeronautical data originators

Subpart 175.D sets out obligations for aeronautical data originators. Aeronautical data originators are persons responsible for providing aeronautical data and aeronautical information to AIS providers for publication in the IAIP and on aeronautical charts.

There is no requirement under Part 175 for CASA to assess aeronautical data originators.

A.2.5 Objects and structures that affect aviation safety

Subpart 175.E provides powers for Airservices Australia (AA) to collect data about objects and structures which may affect aviation safety. AA is permitted to request data about objects and structures from the owner, operator or controller of the object or structure (e.g. a telecommunications company or a wind farm operator) as well as from an aerodrome operator or a government authority.

There is no requirement under Part 175 for CASA to assess the data AA collects about objects and structures.

A.3 Safety Management Systems Overview

A.3.1 Background

The Safety Management System (SMS) information in this handbook addresses aviation safety related processes and activities of DSPs providing information used in air navigation, rather than the occupational health and safety, environmental protection, quality management systems or security systems.

Regulation 175.405 requires DSPs to have an SMS. The SMS should be commensurate with the size and complexity of the DSP to ensure hazards are identified and risks are assessed and mitigated.

The fundamental SMS components required by a DSP are:

- organisational structures, accountabilities, policies and procedures necessary to manage safety in a systemic way
- a statement of the provider’s safety policy, objectives and planning
- a safety risk management system which includes hazard identification and risk assessment and mitigation processes
- a safety assurance system including processes to monitor and measure safety performance, to investigate safety internally, to manage change and to continually improve the SMS
- a safety training and promotion system including details of SMS training, education and safety communication.

A.3.2 Integration considerations

SMS goes beyond a traditional quality management system by focussing on the safety, human and organisational aspects of an organisation. Within an SMS there is a distinct focus on operational safety and

the human element in the system. Therefore, the integration of Human Factors (HF) into the SMS is a key objective of a DSP's SMS program.

Although the coordination and integration process may be a challenging task for many DSP's, and could impact on the ability to successfully implement an SMS program in the short to medium term, an alternative would be to plan for integration once the SMS is initially established within the organisation. This can be accomplished by a phased approach through the organisation's SMS implementation plan.

A.4 Quality Management Systems Overview

A.4.1 Background

The Quality Management System (QMS) information in this handbook is based on the elements of the International Organization for Standardization (ISO) 9001 standard and also includes the quality management requirements mentioned in the aeronautical data processing standards.

Under Part 175, DSPs must have a QMS. The QMS should contain procedures, processes and resources necessary for quality assurance at each stage of the aeronautical data chain.

A.4.2 Aeronautical data processing standards

The QMS under Part 175 must address aeronautical data processing standards of:

- RTCA/DO-200B document - Standards for Processing Aeronautical Data
- EUROCAE ED-76A document - Standards for Processing Aeronautical Data.

Aeronautical data processing standards provide the minimum standards and guidance for the processing of aeronautical data that is used for navigation, flight planning, terrain awareness, flight simulators and for other applications. Such data would be passed on to the user as a database.

The standards provide requirements that should be used to develop, assess change to, and support the implementation of, data processing quality assurance and data quality management.

When applied, the standards provide the user with assurance of the level of quality that can be associated with the processed data (e.g. aeronautical database).

> **Note:** Technical assessors must obtain the latest version of the standards for processing aeronautical data, as in force from time to time.

A.5 Policy Statements

The following policy statements apply to the assessment of a DSP:

- The purpose and intent of this handbook and its associated technical assessor worksheet is to ensure a standardised approach to the assessment and to maintain a CASA record of the decision-making process. The worksheet has not been designed for the applicant to complete; it is not intended to be used as a method for communicating with the applicant or for providing formal notification of outcomes to the assessment.
- It is CASA policy that this handbook be the principal reference when assessing compliance with Part 175; as such this handbook must be used to assess a DSP.
- The questions in the Assessment Worksheet are the assessment criteria that must be considered during the assessment of an initial application, application for renewal or application for significant change. Whilst some questions may appear to require a simple 'yes' or 'no' response, CASA expects its technical assessors to undertake a qualitative assessment for each question; having regard to the suitability of the applicant to conduct their operations safely.

- The worksheet includes a Planning and Approvals sheet which must be completed to ensure a Part 175 delegate is presented with all of the information relevant to their decision to issue a certificate. CASA requires its technical assessors to document an accurate record of what they have assessed and why as well as their recommendations and reasons for their recommendations.

Appendix B
Assessment Process

B.1 Assessment Overview

This part of the handbook provides a high-level overview of the procedures undertaken by a technical assessor to assess a DSP.

B.1.1 Objective of the assessment

The objective is to undertake a qualitative assessment of an applicant's exposition to ensure the applicant can conduct their activities safely and in accordance with Part 175.

B.1.2 Preliminary and application requirements

Under regulation 175.280 a person may apply to CASA to conduct a data service activity. However, an application cannot be made by two or more persons jointly or on behalf of a partnership.

It is the applicant's responsibility to submit a complete application using the applicable forms approved by CASA and in accordance with the prescribed regulatory application requirements.

Any administrative tasks associated with receiving the application, generating fee estimates, allocating tasks and forming assessment teams must be completed before commencing the technical assessment.

B.1.3 Assessment plan

The CASR Subpart 175.C Technical Assessor Worksheet contains various sheet tabs, one of which is the Planning & Approvals sheet. Once an application has been received and an assessment team has been formed, the lead technical assessor completes.

- Section 1 (Assessment Plan) of the Planning and Approvals sheet.

For a new entrant, this is a fairly simple process of entering information about the applicant, the application and those involved in the assessment into the relevant areas.

For an application to change the certificate or for a renewal, the technical assessors will need to carefully consider the application, having regard to what the applicant is applying for, recent surveillance activities and the applicant's history with CASA. The technical assessors will need to determine the sections of the worksheet that are required to be completed and why, and will need to describe this information in Section 1 of the Planning and Approvals sheet.

The assessment plan must be completed with sufficient detail to describe what the applicant has applied for, what is being assessed and who is conducting the assessment. For further guidance on completing Section 1 of the Planning and Approvals sheet, refer to the worksheet user instructions contained in Appendix 1 to this handbook.

B.1.4 Assessment elements

The assessment process involves verification of the applicant's claims through a range of activities. These generally include, but are not limited to:

- desktop assessment of the exposition and supporting documentation provided
- onsite inspection of facilities, systems and processes.

After completing the assessment plan, the technical assessors commence the assessment by conducting a desktop assessment of the application and exposition and completing the necessary questions in the Assessment Worksheet - which is the main sheet tab in the CASR Subpart 175.C Technical Assessor Worksheet.

In many instances, the worksheet questions may appear to merely require a simple ‘yes’ or ‘no’ response. However, the technical assessors are obliged to go further and make a qualitative assessment of the suitability of policy, processes, systems and practices proposed by the applicant.

In assessing an application for a DSP certificate, CASA must have regard to, and be satisfied of, the following matters:

- . the exposition complies with the requirements of regulation 175.380
- the ‘accountable manager’ has been given appropriate authority to carry out their responsibilities and understands the regulations and the applicant’s exposition
- the applicant is able and willing to conduct the data service activities safely and in accordance with its exposition and the regulations
- the applicant has established an SMS
- the applicant is capable of ensuring aeronautical data and aeronautical information is the same as the IAIP and aeronautical charts published by the AIS provider (the format is not prescribed)
- the applicant has demonstrated compliance with the data processing standards
- the applicant is capable of maintaining integrity of aeronautical data and aeronautical information
- the applicant has an automated data processing system
- a licence agreement is in place with an AIS provider
- the nature of the proposed activities and the applicant’s ability to conduct the services safely.

To determine satisfactory compliance, the technical assessors may need to seek further information from the applicant or conduct on-site inspections. The technical assessors must use the worksheet to document their decisions and actions - preserving an auditable record of the assessment. If there is more than one technical assessor, all assessors must consolidate their findings into one final worksheet.

Further information relating to the use of the Assessment Worksheet is available in the worksheet user instructions contained in Appendix 1 to this handbook.

B.1.5 Assessment remarks and recommendations

Regulation 175.295 requires CASA to determine the data service activities that the applicant is authorised to conduct, as well as the area of coverage of the aeronautical data, aeronautical information or aeronautical charts covered by the activities.

Before finalising the assessment, the lead technical assessor must ensure that the assessment recommendations, together with any proposed limitations or conditions for the certificate, are recorded in Section 2 (Assessment Remarks and Recommendations) of the Planning and Approvals sheet.

For further guidance on completing Section 2 of the Planning and Approvals sheet, refer to the worksheet user instructions contained in Appendix 1 to this handbook.

B.1.6 Delegations and approvals

Part 175 delegates are persons holding or performing the duties of a position in CASA, as mentioned in a CASA Instrument of Delegation, whose delegations include, among other things, CASA’s powers under Part 175 for the issue of a DSP certificate.

The following positions within CASA have been granted the powers of delegation to issue certificates under Part 175:

- Branch Manager, Air Navigation, Airspace and Aerodromes
- Manager CNS/ATM, Air Navigation, Airspace and Aerodromes.

The following CASA positions, in addition to those positions mentioned above, have been granted powers of delegation to approve certain changes to services on a certificate:

- Team Leader Communications, Navigation & Surveillance Support
- Aviation Safety Inspector (AIM/IFP).

After documenting the recommended assessment outcomes in the worksheet, the lead technical assessor completes the relevant information in Section 3 (Approval) of the Planning and Approvals sheet. If a peer review of the assessment is conducted or if another assessor is involved in the assessment, they also complete the relevant information in Section 3 of the Planning and Approvals sheet.

The lead technical assessor will draft the certificate and forward the draft certificate and the completed worksheet to the Manager CNS/ATM. The Manager CNS/ATM reviews the documentation and endorses the recommendation to issue or not issue the certificate by completing Section 3 of the Planning and Approvals sheet.

The worksheet is then sent to the delegate (usually the Branch Manager, Air Navigation, Airspace and Aerodromes) to approve or not approve the recommendations.

Note: Where the Branch Manager is not available, the Manager CNS/ATM may endorse and approve the recommendations as the delegate.

Following delegate approval to issue the certificate, the lead technical assessor completes any administrative processes and reconciles the estimate. If CASA is not required to recover additional funds from the applicant, the lead technical assessor prints the certificate and arranges for the delegate to sign the certificate. Once the certificate is signed, the lead technical assessor forwards the certificate, with an appropriate covering letter, to the applicant.

If the applicant owes CASA money, the lead technical assessor sends a letter requesting payment to the applicant. Once all funds have been recovered, the lead technical assessor prints the certificate, arranges for it to be signed by the delegate and forwards the signed certificate with the appropriate covering letter to the applicant.

B.2 Review and Subsequent Assessments

B.2.1 Renewal

It is CASA policy that a DSP certificate is only valid for a maximum of 3 years. DSP's approved under Part 175 need to undergo a full entry control assessment every 3 years for renewal purposes.

Four months before the certificate expiry date, the Air Navigation, Airspace and Aerodromes Branch reminds the applicant that their certificate will expire.

Once an application to renew the certificate is received, the assessment proceeds in accordance with the assessment process described in Chapter B.1 of this handbook.

Note: Whilst reference to previous worksheets can be made during the renewal process, the technical assessor is expected to complete a new worksheet. Do not use previous worksheets for this assessment.

B.2.2 Changes to activities

Regulation 175.310 describes changes the provider must apply to CASA for approval of, before making the change. These changes refer to matters that are included on a DSP certificate. CASA is required to assess these changes and, if approved, issue a new certificate

It is important to note that an assessment of a change to the certificate is not the same as a renewal – a change to the certificate does not change the renewal date on the certificate.

Once an application for a change to the certificate is received, the assessment proceeds in accordance with the assessment process described in Chapter B.1 of this handbook.

Note: Whilst reference to previous worksheets can be made, the technical assessor is expected to complete the applicable sections in a new worksheet. Do not use previous worksheets for this assessment.

Appendix C
Assessment Considerations

C.1 Organisation

This part of the assessment evaluates the information a DSP must include in their exposition about their organisation.

C.1.1 Provider Details

References: CASR: 175.285; 175.380(1)(a)

Introduction

To enable CASA to maintain ongoing contact with the DSP in relation to the provision of their activities under Part 175, the exposition must include the DSP's name and contact details.

Things for Consideration

The following information may be of value in determining if the provider has adequately described their name and contact details within their exposition.

- The full legal entity name of the provider (e.g. the name of the company and ABN/ACN) must be included in the exposition. If the provider intends to operate or trade under a different name, the operating or trading name must also be included.
- If the provider already holds an ARN, an internal search of CASA systems may be conducted to confirm the applicant's identity.
- The exposition should contain the following contact details:
  - the primary address for correspondence and primary contact phone number for the provider
  - the physical work address, phone numbers and email addresses for the accountable manager and all responsible operational supervisory personnel
  - the physical work address, phone number and email address for the person responsible for communications with CASA in relation to the provision of the data service.

C.1.2 Locations

References: CASR: 175.285(1)(b); 175.380(1)(b)

Introduction

The exposition must include the location and physical address of the provider's operational headquarters and each operational facility. This enables CASA to communicate with the appropriate persons responsible for the provision of the data service.

Things for Consideration

The following information may be of value in determining if the provider has adequately described the location and address of their operational headquarters and each operational facility within their exposition.

- The location and address details of the operational headquarters must be included in the exposition to enable CASA to communicate with the appropriate persons within the organisation.
- The specific location, or locations in the case of distributed facilities, from which each service is to be provided must be included in the exposition.

C.1.3 Accountable Manager

References: CASR: 175.265; 175.380(1)(c); 175.395; 175.430

Introduction

The overall accountability and responsibility for the safety and provision of the data service rests with the provider's Chief Executive Officer (CEO) or equivalent person.

Under Part 175, the provider must appoint an individual as their accountable manager. The position may be filled by the CEO or the CEO may choose to appoint someone else to the position to carry out the responsibilities as defined in Part 175.265, which are:

- responsibility for ensuring that the provider's authorised data service activities are conducted in accordance with its exposition and this Subpart
- responsibility for ensuring that the provider is able to finance, and has adequate resources to conduct, its authorised data service activities in accordance with its exposition and this Subpart
- responsibility for the provider's safety management system required by regulation
- 175.405 and its implementation.

Under Part 175, an accountable manager is not required to hold any specific qualifications or experience requirements. However, they must accept accountability for ensuring that the provider's services are provided in accordance with the provider's exposition and Part 175.

The accountable manager is also responsible for ensuring that the provider is able to finance, and has adequate resources to provide, its services or activities in accordance with the provider's exposition and Part 175.

The provider's accountable manager (e.g. CEO) must also accept ultimate responsibility for the SMS and its implementation.

In accordance with Part 175, the accountable manager must conduct an annual review of the provider against its exposition and Part 175 requirements. It is the accountable manager's responsibility to address any deficiencies that are identified during the review and to provide CASA with a report of the review, including any significant deficiencies identified and how those deficiencies will be addressed.

Things for Consideration

The following information may be of value in determining if the provider has appointed a person with the appropriate responsibilities for the accountable manager position.

C.1.3.1 Position

- A provider must appoint an individual as their accountable manager.
- Though not required by the CASR, the accountable manager should have an ARN.
- The exposition must include the full name of the accountable manager and should also include contact details for the person.
- A duty statement or position description for the accountable manager may be included in the exposition to demonstrate:
  - the functions and responsibilities of the position
  - the hours of operation of the position

- how the responsibilities of the position align with Part 175 requirements. namely, how are they able to:
  - » ensure that the provider's authorised data service activities are conducted in accordance with its exposition and this Subpart
  - » ensure that the provider is able to finance, and has adequate resources to conduct, its authorised data service activities in accordance with its exposition and this Subpart
  - » have responsibility for the provider's safety management system required by regulation 175.405 and its implementation.

C.1.3.2 Compliance responsibilities

- The duties of the accountable manager should enable them to ensure that services are conducted in accordance with the provider's exposition and Part 175. Duties may include:
  - ensuring premises and equipment appropriate to the operations are provided
  - conducting at least an annual internal audit of the provider against their exposition and Part 175
  - maintaining and reviewing internal operating procedures and processes
  - ensuring personnel have suitable endorsements, qualifications or experience to fulfil their responsibilities.
- The accountable manager is required to conduct annual reviews of the provider against their exposition and Part 175. The exposition should include a documented process for the conduct of reviews and how the provider will ensure deficiencies are addressed and how an annual review report is provided to CASA. The annual review process should describe the accountable manager's responsibilities for:
  - documenting findings
  - assessing risks
  - developing a case for addressing the deficiencies
  - notifying CASA
  - implementing changes
  - ongoing monitoring and review.

C.1.3.3 Financing and resourcing responsibilities

- The accountable manager must have authority to approve or obtain funding. Where finances are controlled by a board of directors or other management positions, authority must be provided to the accountable manager to enable them to carry out their regulatory responsibilities.
- The accountable manager's financial delegations may extend to funding for:
  - IT system upgrades
  - recruitment activities
  - training to maintain or upgrade personnel endorsements, qualifications or experience requirements
  - maintaining and upgrading facilities.
- The accountable manager may be able to demonstrate how they fulfil their responsibilities for ensuring the provider has adequate resources through documented processes that require the accountable manager to:
  - ensure personnel have suitable endorsements, qualifications, or experience to fulfil their responsibilities.
  - conduct regular reviews of staffing levels and qualifications
  - undertake recruitment activities to ensure appropriate staffing levels are maintained
  - recruit personnel in a planned manner, including assessment of competence and retention of recruitment records and evidence of qualifications and experience

- modifying recruitment related processes and procedures where necessary
- ensure all personnel, whatever their roles, are suitably trained and authorised for the tasks they perform
- supporting the conduct of checks in accordance with the provider's training and checking system, with continuation training being made available when necessary to maintain competency levels.

C.1.3.4 Safety Management System responsibilities

- The accountable manager is accountable for the implementation, maintenance and resourcing of the SMS.
- The exposition may include a safety policy established by the accountable manager which describes the DSP's safety culture and demonstrates organisational commitment to safety.
- The accountable manager's SMS responsibilities may include:
  - communication of the DSP's safety policy to personnel and maintaining a program of ongoing safety promotion and communication
  - clearly defining, for all personnel, their responsibilities for the development and delivery of the applicant's safety strategy and performance
  - supporting safety investigations by making available the necessary funding and resources
  - ensuring findings and recommendations made by the SMS are actioned in accordance with the SMS processes and procedures, including making the necessary funding and resources for any such action available
  - supporting the continuous improvement of the SMS.

C.1.4 Organisational Structure

References: CASR: 175.380(1)(d),(g); 175.385; 175.390; 175.400

Introduction

CASA must be satisfied that the provider has an appropriate organisation with a sound and effective management structure that enables them to provide their services in accordance with their exposition and relevant legislation.

A provider must also be able to demonstrate that that they have sufficient suitably competent, qualified and trained personnel to provide and supervise the provider's services.

Things for Consideration

The following information may be of value in determining if the provider has a suitable organisational structure to support the provision of their services.

C.1.4.1 Description and diagram

- The detail required for the description and diagram will vary according to the size and complexity of the organisation. A diverse range of structures will be acceptable.
- More than one diagram may be included in the exposition to provide a comprehensive understanding of the entire organisation. This may be necessary for a large organisation with multiple departments and extended reporting lines.
- The diagram should correspond with the description of the organisation and provide an accurate visual representation of the structure.
- The description and diagram should be sufficient in detail to provide a clear understanding of how the organisation is structured, the chain of command and the organisation's reporting structure.

- The applicant's description and diagram should verify that:
  - the accountable manager and all necessary responsible operational positions, including operational supervisory positions, have been filled
  - the accountable manager is positioned in a hierarchy management position from other operational positions, demonstrating that they have overall accountability for the provision of the services
  - direct reporting lines are in place from operational personnel, to supervisory personnel through to the accountable manager.
- The description and diagram may also include communication lines between operational departments.
- A typical organisational structure may consist of the following departments:
  - production department
  - quality department
  - safety management department.
- To ensure that each operational supervisory position has a suitable span of control, the organisational structure should demonstrate that the number of supervisory positions is appropriate to the size and scope of the services and to the number of operational personnel.
- For the chain of command to be effective, the delegation of responsibility by the accountable manager should rest with persons holding suitable endorsements, qualifications or experience that are relevant to the position.

C.1.4.2 Corporate structure

- If the provider is a corporation, the exposition must include a description of the corporate structure, and should include the reporting structure, ownership interests and company office holders.
- It is not mandatory for the applicant to provide a diagram of the corporate structure (only a description). However, a diagram may be a useful means for providing an understanding of the corporate structure.
- The degree of detail provided need not be exhaustive, however should provide an understanding of the basic corporation layout. The description should include the relationship between the various departments, divisions and job descriptions that interact to conduct the business of the corporation.
- The description should give an outline of the corporation ownership. It should describe whether the corporation is privately owned, or whether it is a publicly listed company, charity, trust or government entity.
- A greater level of detail should be provided in cases where the applicant is owned (wholly or in part) by another aviation entity, particularly the holder of other aviation authorisations. This information is useful when CASA enforcement action is being considered against persons who are involved in multiple organisations.

C.1.4.3 Number of personnel

- The exposition must include a statement showing how the provider determines the number of operational staff required, including the number of operational supervisory staff.
- The number and nature of operational supervisory positions should be appropriate to the number of personnel and the types of services provided. Consideration should be given to:
  - the number of products, services or activities in relation to the number of operational personnel
  - projected numbers of services and activities compared with projected numbers of operational personnel
  - rostering arrangements or working hours of operational personnel
  - endorsements (if any), qualifications or experience required for each operational position.
- The provider should describe their process for regularly reviewing the numbers of qualified and competent personnel to identify the need for additional personnel.

- The method by which additional personnel are engaged, and the steps taken to ensure additional personnel are suitably qualified and competent, may be described in the exposition.
- The number of operational personnel, including operational supervisory personnel, should be sufficient for the provider to adequately cover absences and ensure the continued operation of their services.
- A provider may have appointed additional managers and supervisors to provide direct supervision or training of operational personnel.

C.1.4.4 Duties and responsibilities of personnel

- The exposition must include a statement of the duties and responsibilities of each operational position, including each operational supervisory position. This may be achieved by including a position description of each operational position in the exposition.
- The exposition must also include the recent experience (if any), endorsements and qualifications (if any) and currency requirements (if any) for each operational position, including each operational supervisory position.
- Operational personnel include personnel that:
  - process data using the aeronautical data management system or database
  - are involved in the production of the products that have been approved by CASA under Subpart 175.C.
- Appropriate operational supervisory positions may include:
  - a manager responsible for overseeing the provider's data processing systems or product development and ensuring personnel are qualified, competent and trained to perform their duties
  - a quality manager responsible for the QMS
  - a safety manager responsible for the day-to-day execution of the SMS.

C.1.4.5 Personnel endorsements, qualifications or experience

- Operational personnel, including operational supervisory personnel, should be appropriately qualified and meet any currency requirements for their position.
- The names and relevant qualifications, experience and positions for each operational position may be described in the exposition.
- The provider is responsible for determining the endorsements (if any), qualifications or experience required for each of their operational personnel and operational supervisory personnel.
- Examples of suitable endorsements, qualifications or experience may include:
  - a minimum number of years of operational experience in matters such as:
    - » complying with legislative requirements
    - » safety management
    - » quality management
    - » leadership and managerial experience.
  - qualifications, endorsements or training in the provision of aeronautical information
  - quality or safety management qualifications.

C.1.5 Data Service Activities

References: CASR: 175.380(1)(h)

Introduction

A provider must be able to describe the different activities they propose to conduct. 'Activities' refers to the aeronautical data and information products that the provider publishes or supplies to their customers.

Unlike AIS providers, DSPs are not required to publish all elements of the IAIP or aeronautical charts. The extent of a DSP's activities, and the content of their products, is determined by the needs of their customers.

Things for Consideration

The following information may be of value in determining if the provider has adequately described the activities it proposes to conduct.

- The exposition should include a statement setting out the products, and their related functions, that the applicant proposes to provide.
- The products should be listed in the exposition by the name in which they will be made available to their customers.
- The exposition should clearly identify (by name) which aeronautical information products are approved by CASA for pilots and aircraft operators to use in lieu of the AIP and aeronautical charts, and which aeronautical navigation databases are approved by CASA (e.g. DAH, VTC, VNC etc for products that are complete copies of the AIS provider's publications, or Airway Manual Service, JeppView Flitedeck etc if the products are proprietary).

C.1.6 Area of Coverage

References: CASR: 175.380(1)(i)

Introduction

The geographical scope of the aeronautical information that is to be provided must clearly be documented in the exposition.

Things for Consideration

The following information may be of value in determining if the provider has adequately described the location, area of coverage and availability of the services.

- The exposition should describe the geographical area that the products cover. This may be by reference to elements of the AIP or aeronautical charts (e.g. DAP, VTC, VNC) that the provider intends to make available if the provider is wholly reproducing those elements.
- DSPs who develop software applications for iPad or android tablets that make available elements of the AIP and aeronautical charts should list the elements of the AIP that are being approved.
- For providers that make their own proprietary products, sufficient detail should be included to allow determination of the extent of area of coverage.
- The exposition should include the aerodromes for which products are to be provided. This may be by reference to all certified and registered aerodromes, or all aerodromes published in the En Route Supplement Australia.

C.1.7 Facilities and Equipment

References: CASR: 175.380(1)(za); 175.415(1)

Introduction

To be able to properly provide the activities it is responsible for, the provider must ensure its personnel have access to appropriate facilities, equipment and premises.

Things for Consideration

The following information may be of value in determining if the provider has appropriate facilities, equipment and access to aeronautical data and information.

C.1.7.1 Facilities and equipment

- A provider must have suitable facilities and premises to allow its personnel to perform their duties in accordance with work, health and safety or occupational health and safety legislation applicable to the State where the facilities are located.
- The equipment provided to operational personnel must be adequate to allow the automated processing of aeronautical data and the production of the provider's products.

C.1.7.2 Commissioning new facilities, equipment and services

- The exposition must describe the processes for the commissioning of new facilities, equipment and products. The exposition should also describe the processes for installation and transition into service, and provide evidence, arguments and assumptions for acceptance of the operational performance and the safety of the facility, equipment, procedure or product.
- The provider's SMS should require a safety assessment to determine the scope of a change. The safety assessment would determine whether CASA can be notified of the change or in fact needs to approve the change due to its scope. The safety assessment should establish that the design objectives in respect to performance and safety can be met, or if not met, that appropriate corrective actions or risk mitigation will be implemented
- The DSP's SMS should include sign-off authorisation by the DSP's internal authorities responsible for the design, performance, operation and maintenance of the new system before it is commissioned.

C.1.8 Reference Material

References: CASR: 175.425

Introduction

A provider must maintain copies of all the reference material the provider needs to comply with the regulations. Reference material must be kept up-to-date and be readily accessible to all operational personnel.

Regulation 175.425 lists the reference material required to be maintained by the provider.

Things for Consideration

The following information may be of value in determining if the provider has an adequate means for maintaining its reference material and for providing operational personnel with sufficient access to the material.

- A provider could have an information management system for maintaining up-to- date reference materials. The provider may use a document management system or physical or hard-copy library system.
- The record keeping system should cover all record types required.
- The record keeping system should provide an accurate chronicle of services for the purpose of reconstruction of events and system safety analysis.
- The exposition should identify the person or position title responsible for maintaining the reference material.
- The list of reference materials may include documentation in addition to that required under regulation 175.425.
- The exposition should describe how staff can access the reference materials and where they are stored.
- If the provider maintains an electronic document management system, the provider should demonstrate how accessibility requirements will be managed if the document management system is unserviceable.
- If the provider's system downloads particular documentation onto a computer network or server, the provider should have documented procedures in place to verify that the downloaded information is controlled and regular checks and updates are undertaken to keep the information current.
- The provider should have a means for ensuring that outdated versions of reference materials are decommissioned.

C.1.9 Data Product Specifications, Licence Agreements and Other Agreements or Arrangements

References: CASR: 175.190; 175.375; 175.380(1)(o),(p)

Introduction

The exposition must contain a copy of any licence agreement or data product specification that the provider has in place with the AIS provider in relation to the supply, provision or exchange of aeronautical data and aeronautical information.

Things for Consideration

The following information may be of value in determining if the provider has made appropriate arrangements for ensuring the availability of aeronautical data and aeronautical information incoming from the AIS.

- The AIS provider must enter into a licence agreement with each DSP. The agreement covers data, information and charts supplied by the AIS provider to DSPs.
- The agreement must include a complete data product specification. The data product specification describes the data sets of the data and information that is to be supplied to the DPS, when the data sets are required to be supplied, and the electronic means by which the data and information is supplied. The data product specification also specifies the format required of the data and error correction and data alteration procedures.
- The agreement must allow the DSP to use, format and publish the data and information and charts they receive.
- The licence agreements with DSPs are subject to charges being applied by the provider.
- The DSP must comply with the licence agreement.

C.1.10 Exposition Availability

References:	CASR: 175.265; 175.285; 175.295; 175.300; 175.310; 175.315; 175.320; 175.340; 175.380; 175.385; 175.390; 175.400; 175.405; 175.410;175.430

Introduction

Part 175 includes several provisions relating to the exposition, including requirements to make the exposition readily accessible and available to operational personnel and CASA, and to keep the exposition up to date.

Things for Consideration

The following information may be of value in determining if the provider has a suitable system for ensuring the exposition is readily accessible and kept up to date.

- The exposition should include a description of how the provider ensures that personnel and CASA have ready access to the exposition.
- Access to the exposition may be provided through a document management system where the master copy is stored.
- Printed copies may be accessible at various operational facilities. However, if a master copy is maintained electronically, the provider should have means to ensure printed copies are flagged as uncontrolled copies.
- The provider should have procedures for distribution, version control, archiving previous versions and notifying personnel of updates to the exposition.
- The exposition should identify who is responsible for maintaining the content and ensuring personnel and CASA have access to it.
- The exposition should include procedures for the preparation, authorisation and issue of amendments to the exposition.
- The exposition must be a controlled document and therefore the amendment process must similarly be controlled.
- The provider should have a means for ensuring CASA is provided with a copy of any amendments to the exposition, regardless of whether CASA is required to approve those changes. Considerations relating to change management procedures are provided in Chapter C7 of this handbook.

C.2 Standards for date service providers

This part of the assessment evaluates the applicant's standards for providing a data service which involves making available aeronautical data and information products. The products made available would normally be those that appear on the DSP's certificate.

C.2.1 Provision of data service activities

References: CASR: 175.090; 175.100; 175.105; 175.110; 175.335; 175.380(1),(k),(m),(r),(t)

Introduction

The provider must establish a data service in accordance with the standards set out in Part 175.

Subpart 175.B sets out the standards for the AIS provider for publication of the complete IAIP and aeronautical charts. DSPs are only required to ensure the data and information they publish is the same as in the following products:

- the AIP
- AIP Amendments
- AIP Supplements
- permanent NOTAM
- aeronautical charts.

Part 175 also references the following aeronautical charts that are published by the aerodrome operator under CASR Part 139:

- Aerodrome Obstacle Chart (AOC) Type A
- AOC Type B
- Precision Approach Terrain Chart (PATC)
- Aerodrome Terrain and Obstacle Chart - ICAO (Electronic).

Note: ICAO Annex 4 requires the electronic Aerodrome Terrain and Obstacle Chart to be made available for aerodromes regularly used by international civil aviation. Australia has yet to determine if this will be a responsibility of the aerodrome operator or the AIS provider.

When providing aeronautical information products, DSPs must ensure that the data and information included in their products is the same as the data and information contained in the AIP, permanent NOTAM and on aeronautical charts published by the AIS provider.

If a DSP makes products available that are intended as an alternative for AOC Type A and B or the PATC, they must ensure that the data and information included in their products is the same as the data and information contained in the charts published by the aerodrome operator.

The exposition must describe how the provider delivers these standards to its operational staff. Normally, the accountable manager would make provision for or provide operational staff with the systems that produce outputs in the required format and meet the required standards; demonstrating that data integrity has been maintained during the processing of the aeronautical data. Additionally, the exposition must contain examples of the format used for the aeronautical data, aeronautical information and aeronautical charts published or supplied by the DSP.

Given the provider is required to have an automated data processing system, the provider must also comply with the aeronautical data processing standards in RTCA/DO-200B and EUROCAE ED-76A.

Things for Consideration

The following information may be of value in determining if the provider has satisfied the requirements for providing a data service.

- It must be demonstrated that the data and information contained in the proposed products is the same as that published in the AIP, permanent NOTAM and on aeronautical charts.
- The exposition must contain examples of the formats used for publication of each of the provider's aeronautical information products.

C.2.2 Continuity of Service

References: CASR: 175.345; 175.380(1)(m),(n)

Introduction

It is important in the provision of data services that the products continue to be made available to the DSP's customers. The DSP's capability to continue to provide those products is equally reliant on the provider having access to all the data and information required in those products.

The exposition must describe the arrangements which ensure the provider has access to data and information necessary to provide its products and that they can continue to provide those products.

Things for Consideration

The following information may be of value in determining if the provider has appropriate arrangements in place for receipt of data and for ensuring the continuing availability of services.

C.2.2.1 Receipt of data

The exposition must describe the arrangements the provider has in place to receive data and information necessary for providing its services.

Section C.1.9 of this handbook details many of the considerations for arrangements that need to be in place to ensure the receipt of data and information.

C.2.2.2 Continuity of service

The exposition should include a description of the arrangements that ensure the provider can continue to provide products to their customers.

The description should describe how each product will be provided continuously.

Under regulation 175.325, the provider must have procedures to notify CASA if anything significantly affects its ability to conduct its data service activities. The provider must notify CASA within 7 days of such a situation.

C.2.3 Operational instructions

References: CASR: 175.345; 175.380(1)(t),(u),(zc)

Introduction

To achieve and maintain data integrity there are likely to be a number of interconnected systems and equipment that are utilised by the provider's operational personnel in managing the data and information. Wherever a system or piece of equipment has the capacity to impact the integrity of data and information

there should be accompanying instructions for operational personnel to use the system or equipment appropriately.

The exposition should contain a description of the procedures that ensure all systems, equipment and software are operated in accordance with the manufacturer's operating instructions and manuals.

Things for Consideration

The following information may be of value in determining if the provider has appropriate operational instructions for operational personnel.

C.2.3.1 Systems and equipment

The provider should be able to provide a list of all systems, equipment and software that is used in the processing of data and information, which in turn is included in their aeronautical information products. The exposition should contain a copy of each document that contains operational instructions relating to each of these systems, equipment and software.

C.2.3.2 Data processing

- The provider should be able to provide a copy of all operational instructions for personnel who are involved with handling data in any of its automated data processing systems, whether for inclusion in products that are intended to be used in lieu of the AIP and aeronautical charts or in aeronautical navigation databases.
- The exposition must contain a copy of each document that contains operational instructions relating to processing data in any of its automated systems.

C.2.4 Data processing system and format

References: CASR: 175.345; 175.380(1)(l),(s),(t)

Introduction

Data integrity is most easily achieved when there is as little manual handling as possible of the data as it is processed. Automated data processing should be used wherever possible to help maintain the required integrity of the data.

An automated data processing system also allows data to be stored in the required resolution in accordance with its intended purpose or use. There are many times when data is used in different applications or publications, in which case it should be stored to the greatest resolution required of the most demanding application.

An automated data processing system should also be capable of exchanging data with external customers, reducing the need for handling of the data.

RTCA/DO-200B and EUROCAE ED-76A contain standards for processing aeronautical data. The provider's aeronautical data processing system should be assessed against the standards in RTCA/DO-200B and EUROCAE ED-76A.

Things for Consideration

The following information may be of value in determining if the provider has appropriate automated data processing systems.

C.2.4.1 Aeronautical data processing system

- The provider should be able to demonstrate how their data processing system maintains the integrity of the data as it is entered into the system, stored in the system and exchanged with other systems, or otherwise when the data is output from the system.

- The provider should be able to provide written documentation on how all the data processing systems operate and their interrelation with other systems and human interaction.

C.2.4.2 Data format

- The provider should be able to demonstrate the format of all data items stored within the data processing system and how the format meets the required resolution of its intended use. This can be achieved by comparing the data resolution against the contents of the AIP and aeronautical charts.
- The format required for aeronautical navigation databases will typically be in ARINC 424. ARINC 424 is an international standard file format for aircraft navigation data maintained by Airlines Electronic Engineering Committee and published by RTCA.

C.2.4.3 Digital data exchange

- The aeronautical data processing system must be automated and be able to exchange and supply data. The data and information should be able to be exchanged with the AIS provider electronically (i.e. the data and information should be received electronically as specified in the licence agreement).
- When aeronautical information products are made available electronically to customers, data integrity can be demonstrated by the products being made available as downloads from secure (username and password required) internet portals.
- The purpose of digital data exchange is to maintain data integrity. The Comma Separated Values (CSV) format is used to exchange and supply data and to meet the required data integrity.

C.2.4.4 Data processing standards

- The standards for processing aeronautical data are contained in RTCA/DO-200B and EUROCAE ED-76A. The provider's exposition must contain details of how these standards are met. The most practical way to achieve this is to address the standards through a compliance matrix included it the exposition.
- The matrix should address the data quality requirements in Chapter 2 of RTCA/DO-200B and EUROCAE ED-76A data processing standards.

C.2.5 Effective dates and validity

References: CASR: 175.370; 175.380(1)(s)

Introduction

The processing cycle for airborne navigation databases requires the database to be delivered in sufficient time to allow it to be updated and delivered to customers in time for becoming effective on the predetermined dates.

The Aeronautical Information Regulation and Control (AIRAC) system provides the predetermined dates for publication of the AIP Amendments, AIP Supplements and aeronautical charts. The DSP must ensure that their aeronautical information products become effective on the same dates as the corresponding data and information that is published by the AIS provider. Permanent NOTAMs contain aeronautical data or information that will be included in the AIP or on aeronautical charts in the next amendment cycle.

Aeronautical data and information also has temporal qualities. Put simply, data and information changes commence and end on particular dates. It is important to ensure that DSPs have processes in place to ensure the data and information that they make available to their customers is valid when the AIS provider publishes data and information via AIP Supplements and permanent NOTAM outside of the normal AIP and aeronautical chart publication cycle.

Certain data and information is required to reach customers with sufficient advance notification to allow the changes to be incorporated in navigation databases or other documents. However, circumstances may arise in the interests of aviation safety when the AIS provider is unable to provide the required advanced notification. In such circumstances, the DSP is able to publish or supply their aeronautical information products on the next available AIRAC date.

Things for Consideration

The following information may be of value in determining if the provider is capable of meeting the AIRAC publication and notification requirements.

C.2.5.1 Aeronautical information product effective dates

- The provider should be able to demonstrate, through their production schedule, that each aeronautical information product effective date is aligned with an AIP or aeronautical chart effective date.
- The provider's data processing system should verify that data and information only becomes valid on an AIP or aeronautical chart effective date

C.2.5.2 Validity of aeronautical data and information

- The provider should be able to demonstrate how they incorporate aeronautical data and information changes, introduced by an AIP Supplement or permanent NOTAM, into their data processing systems or aeronautical information products and how these changes are communicated to their customers.

C.2.6 Integrity of data and information

References: CASR: 175.355; 175.380(1)(j),(k)

Introduction

The importance of aeronautical data and information has changed significantly with the evolution of the Communications, Navigation and Surveillance/Air Traffic Management (CNS/ATM) systems. The implementation of area navigation (RNAV), Required Navigation Performance (RNP) and airborne computer-based navigation systems has brought about exacting requirements for the quality (accuracy, resolution and integrity) of data and information.

Corrupt, missing or erroneous data and information can potentially affect the safety of air navigation because of the direct dependence upon it by both airborne and ground-based systems and applications. It is imperative that end users (pilots and aircraft operators) receive timely and quality aeronautical data and information for the period of its intended use.

Things for Consideration

The following information may be of value in determining if the provider has procedures in place to ensure the integrity of aeronautical data and information during the processing of the data and information.

C.2.6.1 Receipt of data and information

- The data product specification provided to the AIS provider, as part of the licence agreement, must contain all the data and information that the DSP needs to include in their aeronautical information products.
- The exposition must contain a copy of the data product specification given to the AIS provider.
- The provider should be able to demonstrate that data and information is received electronically.
- The provider should be able to demonstrate that the data and information is received from the AIS provider.

- The provider should be able to demonstrate that data and information that is entered in the data processing system is of the required resolution and format and that it is complete. This may be demonstrated through the database file structure.

C.2.6.2 Publishing or supplying data and information

- The provider should be able to demonstrate that all the data and information needed for its intended use has been included in the aeronautical information products.

C.2.7 Error correction and notification

References: CASR: 175.360

Introduction

Errors and omissions can occur whenever systems are used for receiving data and information, processing data and information, publishing data and information, or making available data and information. Not all processes can be entirely automated and there will be some form of human intervention during the processing of data and information.

Error-producing faults in the entire process may be mitigated by additional data quality assurance techniques. These could include:

- application tests for critical data (e.g. by flight check)
- the use of security, logic, semantic, comparison, and redundancy checks
- digital error detection
- the qualification of human resources and process tools, such as hardware and software.

A QMS should include the necessary policies, processes and procedures, including those for the use of metadata, to ensure and verify that aeronautical data is traceable throughout the aeronautical information data chain, so as to allow any data anomalies or errors detected in use to be identified by root cause, corrected and communicated to affected users.

Regulation 175.360 sets out specific requirements for correction and notification of errors or omissions in data and information.

Things for Consideration

The following information may be of value in determining if the provider has appropriate error or omission correction procedures.

C.2.7.1 Error correction procedures

- Does the provider have documented procedures for identifying, recording, investigating errors or omissions and correcting them by the most appropriate means?
- Does the provider have documented procedures for identifying the root cause of an error or omission?
- Does the provider have documented procedures for implementing processes to ensure the root cause of an error or omission has been eliminated?
- Does the provider have documented procedures for notifying users who have received the erroneous data of the corrected data?

C.2.7.2 Error notification procedures

- Does the provider have documented procedures for notifying CASA of significant errors or omissions?
- Does the provider have documented procedures for notifying the AIS provider of errors or omissions?

C.2.8 Security program

References: CASR: 175.365; 175.380(1)(q)

Introduction

The provider will typically have many security facilities that accommodate operational personnel, as well as data processing systems that are used to ensure the integrity of data and information is maintained. The security program should cover aeronautical data and information, operational personnel and physical security.

The purpose of a security program is to minimise the risk of unauthorised access or malicious damage to data and information, services or facilities. The provider's exposition must contain a copy of the provider's security program.

Things for Consideration

The following information may be of value in determining if the provider has an adequate security program.

C.2.8.1 Physical security

- The provider's security program must be robust and minimise the risk of unauthorised access or malicious damage to facilities.
- The provider should be able to demonstrate the physical security program and how intrusions are detected and managed.

C.2.8.2 Operational personnel

- The provider should have documented procedures for safeguarding operational personnel used by the provider in providing the data services. This could be demonstrated by the restricted access to facilities by authorised personnel only.

C.2.8.3 Data and information

- The provider should be able to demonstrate how access to the data processing systems is restricted to operational personnel.
- The data processing system should have additional integrity assurance processes to fully mitigate the effects of faults identified by thorough analysis of the overall system architecture. These additional integrity processes would normally be used for critical data. An example may be where changes cannot be made directly to the data in the data processing system but must be authorised prior to being accepted by the system.
- The provider should be able to demonstrate that when data and information is published on the internet or output in the form of data sets, it is not capable of being maliciously damaged. One means of demonstrating internet security is by employing established and recognised internet security protocols.

C.3 Training and Checking

C.3.1 Training and Checking System

References: CASR: 175.380(1)(v); 175.400; 175.435(1)(c)

Introduction

It is important for any organisation, and particularly in an organisation that is responsible for delivering high quality data and information used in sophisticated airborne navigation databases and applications, that personnel who are an integral part of the system possess and utilise the skills and competencies necessary to safely deliver quality assured aeronautical data and information.

The objective of the training and checking system is to:

- identify the functions to be performed
- identify the knowledge and skills required for each step of each of the aeronautical data processes
- provide assurance that the personnel assigned to each function have the required knowledge, skills and competencies to perform those functions.

Appropriate records of skills need to be kept by the provider so that the qualifications of personnel assigned to perform specific functions can be confirmed. The provider should also undertake appropriate checks periodically to ensure that personnel continue to meet the required standards and, if shortfalls in knowledge, skills or competencies are detected, corrective measures are taken.

Things for Consideration

The following information may be of value in determining if the provider has an appropriate training and checking system.

C.3.1.1 Competency

- The exposition must describe the provider's training and checking system and provide assurance that any individual performing any functions in the provision of the services is competent to perform those functions.
- The training and checking system should identify the competencies, qualifications and experience required for each operational position.

C.3.1.2 Training and proficiency

- The training and checking system should ensure that personnel remain competent to perform their functions. Performance appraisal schemes can be used to demonstrate that personnel remain proficient at performing their duties, identify deficiencies and needs for further or remedial training.
- The training and checking system should describe the ongoing training and learning development programs for operational personnel to maintain their competencies and proficiency.

C.4 Safety Management System

C.4.1 Safety Policy, Objectives and Planning

References: 175.405(2)(b)

Introduction

In the SMS framework, management's commitment to and responsibility for safety is formally expressed as a series of statements in the provider's safety policy. The safety policy reflects the provider's philosophy of safety management and becomes the foundation on which the SMS is built. The safety policy outlines what the provider will do to achieve the desired safety outcomes.

Safety objectives often accompany the safety policy. They define what the provider wishes to achieve, and the safety policy declares the provider's commitment to achieving them. The safety objectives should state an intended safety outcome and may be expressed in terms of short-, medium- and long-term safety objectives. The safety objectives, like the safety policy, should be publicised and widely distributed across the provider's organisation.

Things for Consideration

The safety policy, objectives and planning must provide information and statements covering:

- management commitment and responsibility for safety
- safety accountabilities of managers
- appointment of safety management personnel
- human factors integration into the SMS
- SMS implementation plan
- relevant third-party relationships and interactions
- coordination of an emergency response plan
- safety management system documentation

The following information may be of value in determining if the provider has captured all of the appropriate elements required for the safety policy, objectives and planning.

Specific considerations for each of the elements above are described in the subsequent headings.

C.4.1.1 Safety policy

- The safety policy may be contained within an SMS manual and may also be promulgated around the organisation to highlight management's commitment to safety.
- The safety policy should set a clear, high-level direction for the provider to follow in order to manage safety effectively.
- The safety policy should:
  - reflect the organisation's commitment to safety
  - highlight the organisation structures in place to systematically manage safety
  - include a clear statement about the provision of the necessary resources for the implementation and maintenance of the SMS and the safety policy
  - include safety reporting procedures
  - clearly articulate which behaviours are unacceptable in relation to the organisation's aviation activities, and include the circumstances under which disciplinary action will not apply

  - be signed by the accountable manager of the organisation (e.g. CEO)
  - be communicated, with visible endorsement, throughout the organisation
  - be periodically reviewed to ensure it remains relevant and appropriate to the organisation and the conduct of the authorised Part 175 activities.

C.4.1.2 Safety objectives and planning

- Safety objectives should state intended safety outcomes. Some examples may be:
  - providing feedback to staff on safety reports within 2 weeks
  - to note an increase in safety reporting by 20% over the next 12 months.
- Safety objectives may be expressed as short, medium and/or long-term desired outcomes.
- Safety objectives should be SMART (Specific, Measurable, Achievable, Realistic and Timely) so that their effectiveness can be measured.
- The provider should have a documented plan of action (implementation plan/phased approach) to achieve each specified safety objective. For example:
  - Phase 1 may be objectives to be addressed within 6 months
  - Phase 2 may be objectives to be addressed within 12 months
  - Phase 3 may be objectives to be addressed within 24 months.
- The provider should carry out a periodic review of the stated safety objectives to ensure they are still relevant, and that they are providing desired outcomes in line with the organisation's strategic safety goals.

C.4.1.3 Safety accountabilities of managers

- Evidence should be provided that verifies the Accountable Manager, irrespective of other functions, as having ultimate accountability and responsibility for the implementation and maintenance of the SMS.
- Lines of safety accountability throughout the organisation should be clearly defined, including direct accountability for safety on the part of senior management.
- The accountabilities of all members of management, irrespective of other functions, as well as of employees with respect to the safety performance of the SMS, should be identified.
- Safety responsibilities, accountabilities and authorities should be documented, normally within the SMS manual, and communicated throughout the organisation so that everyone is aware of their respective roles and responsibilities.
- Management positions with authority to make decisions regarding safety risk tolerability should be defined.

C.4.1.4 Appointment of safety management personnel

- Depending on the size and complexity of the organisation, safety personnel should have operational aviation management experience, an adequate technical background to understand the systems supporting the activities and a sound understanding of safety management principles.
- The provider may have other responsible safety management personnel, in addition to the accountable manager, to provide guidance and direction on the SMS. This may be common in large or complex organisations where there may also be a need for safety committees to oversight various departments within the organisation. Examples of these safety committees may include:
  - a Safety Review Board (SRB) or Safety Committee
  - a Safety Action Group (SAG).

Safety Review Board/Safety Committee

- The size or complexity of the organisation will determine whether the provider has a SRB, as the highest-level internal safety-related meeting. For smaller providers, a safety committee may provide the guidance required for the provider's SMS. Normally an SRB would provide direction to the organisation's various SAGs, whereas a safety committee may address all of the provider's SMS issues.
- If the provider has an SRB, then it should be chaired by the accountable manager, or a non-executive director with the accountable manager in attendance and include any other responsible safety personnel. A safety committee would typically consist of the accountable manager, other members of the senior management team and safety personnel.
- In determining whether the organisation has provided sufficient evidence to show that the SRB/Safety Committee is appropriate for its size, complexity and scope of work, consideration should be given to the accountability, membership and terms of reference of the SRB/Safety Committee.
- The SRB/Safety Committee should be chaired by the accountable manager, demonstrating their accountability for the SMS.
- Typically the SRB/Safety Committee membership would comprise of the accountable manager, senior managers and any safety personnel.
- The terms of reference for the SRB/Safety Committee should be documented within an SMS manual. The SRB/Safety Committee may be responsible for:
  - monitoring the effectiveness of the organisation's safety management processes
  - monitoring the effectiveness of the corporate oversight processes which independently validate the organisation's safety performance
  - monitoring and reviewing the organisation's safety/hazard reports and reviewing controls/defences within the organisation's risk management plan
  - ensuring any corrective action is being taken in a timely manner
  - monitoring the organisation's safety performance, including review of safety objectives and performance indicators
  - ensuring appropriate resources are allocated to meet agreed actions which enhance safety performance beyond that required by regulatory compliance
  - monitoring the effectiveness of safety oversight of sub-contracted operations carried out on behalf of the organisation
  - giving strategic direction and guidance to the organisation's SAGs.

Safety Action Group

- SAGs should be responsible to, and take strategic direction and guidance from, the SRB. SAGs should usually comprise of a representative section of the responsible line management and supervisory staff of all departments in the organisation, but also other disciplines such as financial and commercial.
- In a large organisation there may be more than one SAG. These groups should meet periodically to support the identification of hazards and the assessment of risks faced by the organisation, and to suggest methods of mitigation. They should also support the systematic review of safety-related standards and procedures, as well as providing experienced advice on major aviation safety issues.
- In determining whether the organisation has provided sufficient evidence to show that the SAG is appropriate for its size, complexity and scope of work, consideration should be given to the accountability, membership and terms of reference of the SAG.
- SAGs should be responsible to the organisation's SRB. Each SAG should be chaired by the appropriate functional director and the SAG responsible for that function's contribution, development and improvement of the SMS.
- SAG membership should normally be drawn from managers, supervisors and safety personnel from within the appropriate functional area.

- The terms of reference for the SAG should be documented within an SMS manual. The SAG should be responsible for:
  - overseeing operational safety within the functional area of responsibility
  - ensuring any corrective action is taken in a timely manner
  - reporting to, and accepting strategic direction from, the corporate SRB.
- The SAG terms of reference may include:
  - ensuring that hazard identification and risk assessments are carried out, reviewed and monitored as appropriate (with involvement of staff as necessary to increase safety awareness)
  - ensuring that satisfactory arrangements (e.g. hazard reports) exist for safety data capture and actioning of personnel feedback
  - ensuring that suitable safety performance indicators are developed and are regularly reviewed for the functional area
  - convening of meetings to ensure that effective opportunities are available for all personnel to participate fully in the management of safety
  - ensuring that adequate investigation of safety events/issues takes place and that safety reviews are conducted and any actions arising tracked to completion
  - ensuring that appropriate safety, emergency and technical training of personnel is carried out to meet or exceed minimum regulatory requirements.

C.4.1.5 Human factors integration

- The provider's integration of HF into the SMS should provide a managerial and organisational framework to ensure the systematic identification and analysis of relevant HF issues, and the application of appropriate tools, methods and measures to address such issues. The practical and methodical application of HF within an SMS is essential to ensure compliance and to optimise human performance.
- The basic HF principles a provider should adopt to integrate HF into their SMS are:
  - adoption of a holistic and integrated approach for HF principles into the organisation's SMS
  - putting people at the centre of the system
  - accounting for human variability
  - ensuring transparency of organisational processes and actions
  - taking into account social and organisational influences
  - involving staff and respecting and valuing their input
  - encouraging timely, relevant and clear two-way communication
  - ensuring fairness of treatment.
- The following elements of the SMS require an integration of HF principles:
  - risk management
  - management of change
  - the design and procurement of systems, equipment and facilities, and their subsequent use
  - HF training
  - job and task design
  - safety reporting and data analysis
  - incident investigation.

Risk management

- Integration may be demonstrated by processes that:

- acknowledge HF issues within the organisation's hazard identification process
- ensure risk management strategies are applied during any proposed organisational changes
- recognise different human error types (slips, lapses, mistakes etc.)
- include human error management within the risk assessment process
- acknowledge fatigue related hazards.

Management of change

- Integration may be demonstrated by processes that:
  - ensure transparency of organisational processes and actions
  - involve staff by encouraging two-way communication
  - identify personnel who are likely to be affected by the proposed change
  - identify roles and tasks likely to be affected by the proposed change.

The design and procurement of systems, equipment and facilities, and their subsequent usability

- Integration may be demonstrated by processes that:
  - identify how personnel within the organisation may be affected by modifications to systems, facilities and/or equipment
  - identify how personnel may potentially interact with the new system, facility and/or equipment
  - assess the risks associated with new systems, facilities and equipment.

Human Factors training of personnel

- Integration may be demonstrated by:
  - internal/external HF training for personnel
  - a periodic review process of HF training to ensure effectiveness and relevance.

Job and task design

- Integration may be demonstrated by processes that:
  - identify human performance limitations, such as:
    - » tasks involving time pressures
    - » tasks involving complex sequencing of events
    - » tasks that involve memory reliance.
  - identify safety critical tasks, and the personnel that perform them
  - take into consideration the working environmental conditions.

Safety reporting and data analysis

- Integration may be demonstrated by:
  - a safety culture-based non-punitive hazard and incident reporting system
  - provision of confidential reporting
  - formal and informal meetings to openly discuss safety concerns
  - feedback from management regarding action taken as a result of safety meetings and hazard/incident reports.

Incident investigation

- Integration may be demonstrated by:

- the use of conceptual models (such as Reason's model of accident causation) to determine active, latent and organisational failures
- the adoption of a positive safety culture where the organisation seeks to learn lessons from mistakes
- the provision of HF training for investigators, to provide the necessary skills to examine possible human performance limitations that may have contributed to an event
- ensuring fairness of treatment during incident investigations.

C.4.1.6 SMS implementation plan

- The SMS implementation plan should be a detailed guide which defines the approach to the implementation of the SMS. It should be a realistic plan for implementing an SMS that meets the provider's safety strategy, safety objectives, safety management activities, resource implications, safety training, safety promotion and timelines.
- In determining whether a provider has provided sufficient evidence to show that their SMS implementation plan is appropriate for their organisation, consideration should be given to:
  - the gap analysis used to determine the components and elements of the SMS
  - the major elements of an SMS implementation plan
  - the provider's approach and methodology in implementing the plan.

Gap analysis

- In implementing an SMS the provider should undertake a gap analysis to determine which components and elements of an SMS are currently in place, and which components need to be added or modified to meet SMS regulatory requirements.
- Items identified in a gap analysis as missing or deficient should form the basis of the SMS implementation plan. The provider should adapt the SMS to:
  - the size, complexity and scope of the organisation and its proposed activities
  - the hazards and risks inherent with the proposed activities.

Implementation plan

- The provider's initial gap analysis should form part of the SMS implementation plan.
- Major elements that should be addressed within the implementation plan include:
  - Safety Policy, Objectives and Planning, including details of:
    - » management commitment to, and responsibility for, safety
    - » safety accountabilities of managers
    - » the appointment of safety management personnel
    - » HF integration into the SMS
    - » relevant third-party relationships and interactions
    - » coordination of an ERP
    - » SMS documentation.
  - Safety Risk Management, including processes for:
    - » hazard identification
    - » risk assessment and mitigation.
  - Safety Assurance, including details of processes for:
    - » safety performance monitoring and measurement
    - » internal safety investigation

    - » management of changes
    - » continuous improvement of the SMS.
  - Safety Training and Promotion, including details of:
    - » SMS training and education
    - » SMS safety communication.
- The implementation plan should provide details on the development of processes (e.g. hazard identification and risk assessment, reporting processes etc.) and how the provider intends to implement all of the key SMS components and elements.

Phased approach

- Due to possible deficiencies a provider faces after an initial gap analysis, it would be unrealistic to impose tight timeframes for SMS implementation. Depending on the size and complexity of the organisation, 12 to 18 months is normally sufficient time to implement an SMS - up to 24 months.
- It is recommended that providers undertake a phased approach to SMS implementation. If a phased approach is undertaken it should include realistic timelines for starting and completing each of the major SMS elements.

C.4.1.7 Relevant third-party relationships and interactions

- The provider's SMS should ensure that the level of safety of the provider is not eroded or compromised by the inputs, services and supplies provided by external (third party) organisations (e.g. Geoscience Australia).
- The provider holds the overall responsibility for the safety of services provided by a contractor. Therefore, any agreement between the provider and a third party must specify the expected safety standards that the provider will ensure the contractor complies with.
- A provider should ensure the following minimum standards apply when engaging third party contractors:
  - service level agreements
  - evidence of contractor prior safety performance
  - evidence of contractor experience and qualifications.

Service level agreements

- There should be a written contract, known as a Service Level Agreement (SLA), in place between the provider and the contractor prior to services being provided.
- All SLAs should contain a schedule of identified oversight items and issues to monitor the contractors' performance on a regular basis.
- All agreements should detail how any noted safety hazards and deficiencies will be addressed, and the response timeframe.
- Where a service being provided is CASA-licensed, approved or certified, the written agreement should require the contractor to advise the organisation of any CASA regulatory action that may affect their ability to provide the required services.

Contractor performance/qualifications

- All third-party providers should hold the appropriate qualifications/credentials or approvals for the work being carried out.
- All third-party providers should be able to demonstrate that they are providing trained and competent staff.
- All third parties should understand the provider's SMS, and their responsibilities within it. This should be accomplished by third party SMS induction training delivered by the provider.

- There should be a mechanism in place where the provider can assess the third party's previous safety record, before the contracted services commence.

C.4.1.8 Coordination of an emergency response plan

- An ERP is an integral part of the provider's SMS and should be established to facilitate management of a hazardous event or accident and mitigate the impact on normal operations.
- The provider's ERP should:
  - assign responsibilities to specific individuals
  - provide emergency procedures
  - control notification to outside agencies (fire, police etc)
  - nominate channels and centres of communication
  - provide for internal emergency response
  - provide effective liaison with accident investigators and outside emergency services
  - provide methods for communicating with the public in the event of a major incident.

The provider should ensure that their ERP is properly coordinated with the ERPs of those organisations it must interface with during the conduct of the proposed activities.

- An ERP may be a stand-alone document, may form part of a provider's SMS manual, or may be a combination of both. For example, the ERP policies, roles and responsibilities may be contained within an SMS manual, and immediate response information may be contained in easily accessible booklets, pamphlets etc.
- As a minimum, the provider's ERP should include the following elements:
  - purpose of the ERP
  - when to activate the ERP
  - external agency interface
  - casualty and next-of-kin coordination
  - accident investigation
  - coordination of the ERP
  - preservation of evidence
  - media relations
  - claims and insurance procedures
  - emergency response planning.
- The provider should have a means for ensuring that personnel are adequately trained and familiar with the procedures that will be employed in the event of an accident or serious incident. This should include rehearsing plans regularly and providing training, including:
  - actual scenario-based training on-site
  - desktop exercises
  - safety stand-down day review.
- The provider should ensure that personnel are aware of the location of the ERP instructions to enable efficient access in case of an emergency. This may be achieved by the provider ensuring the emergency response posters, instructions and information pamphlets etc. are accessible in all relevant workplaces.
- Following an ERP training exercise, or should personnel have feedback relating to the provider's ERP which will provide improvements, the provider should have a mechanism in place to incorporate lessons learned into the SMS and ERP.

- The provider's mechanism for incorporating lessons learned should ensure that feedback and improvements are widely disseminated throughout the provider's organisation, to ensure personnel are aware of the lessons learned. Methods the organisation can employ to achieve this may be via:
  - company intranet
  - safety newsletters
  - safety stand-down days.

C.4.1.9 SMS documentation

- A provider's SMS should be supported by robust, current and controlled documentation
- The provider should ensure the requirements for personnel to support the SMS, at all levels, are documented and the relevant documents are freely available
- The provider's safety documentation should demonstrate to all personnel and third parties that business is conducted based on safety management principles.
- If the provider's procedures are in separate manuals (as may happen in larger organisations), the provider should clearly publicise this so that all personnel have simple and effective access to detailed information about the SMS procedures and processes.
- A provider's SMS documentation should consist of:
  - an SMS implementation plan
  - an SMS manual, describing the SMS.

Implementation plan

- The SMS documentation should include the SMS implementation plan.

SMS manual

- The provider's exposition may include an SMS manual which describes the safety management system. The SMS manual would generally be developed and maintained as part of the provider's SMS documentation.
- The most effective method to document all SMS procedures, policies and practices is to consolidate all the information within one manual (an SMS manual).
- An SMS manual should:
  - contain all the written policies, procedures and instructions covering the provider's SMS standards and SMS requirements
  - be concise and clearly written to facilitate easy comprehension and application.
- Any information that may change regularly in an SMS manual (e.g. personnel assigned with specific safety roles and responsibilities) may be put into appendices/annexes to the SMS manual to enable this information to be easily updated and maintained.
- All SMS components and elements should be documented within the SMS manual.

C.4.2 Safety Risk Management

References: CASR: 175.405(2)(c)

Introduction

Safety risk management is the identification of hazards and the analysis, evaluation and mitigation of associated risks to an acceptable level. The systematic identification and treating of risks and hazards in an

organisation, together with the continual monitoring and communication of the risk management processes, are vital to the sustainability and effectiveness of the SMS.

Things for Consideration

The following information may be of value in determining if the provider has sufficient processes to ensure hazards are identified and associated risks analysed and mitigated, and where possible eliminated.

C.4.2.1 Hazard identification

- The provider must develop and maintain a process that ensures hazards associated with its aviation processes are identified.
- The provider's hazard identification process should be based on a combination of reactive, proactive and predictive methods of safety data collection.
- The starting point for any safety risk management process needs to be the establishment of the context of hazard identification. The provider must have a systematic and comprehensive hazard identification process because hazards not identified at this stage may be excluded from further risk analysis and mitigation.

C.4.2.2 Risk management process

- The specific design and development, integration and implementation of the organisation's safety risk management process will be influenced by the size, complexity and requirements of the provider, its processes, policies, practices and its SMS.
- At a minimum, the provider should employ the following risk management methodology:
  - Hazard Identification - identification of hazards that could adversely affect people, equipment, property or the environment.
  - Assess and Rank - assessment of the risks in regard to likelihood and severity of the hazards and their rank in order of importance.
  - Controls - identification of the current controls/processes in place to manage the hazards.
  - Evaluate - evaluation of the effectiveness of each defence/control (i.e. has the hazard been reduced to as low as reasonably practicable?).
  - Further Mitigation - identification of additional defences/controls to be implemented to mitigate the hazards/risks (i.e. is the risk now as low as reasonably practicable?).
  - Record, Monitor and Review - recording, and continual review and monitoring, of the information in a hazard/risk register, as well as the effectiveness of all steps of the risk management process.

C.4.3 Safety Assurance System

References: CASR: 175.405(2)(d)

Introduction

Safety assurance systems need to include the following internal elements:

- Safety Performance Monitoring and Measurement - a provider must be able to receive appropriate feedback within their respective SMS, so that the safety management cycle can be completed. The feedback is utilised to evaluate system performance and to implement changes to the system if required. Furthermore, it gives stakeholders an indication of the level of safety within the organisation.
- Internal Safety Investigation - enables a provider to investigate occurrences that are not required to be investigated or reported to the Australian Transport Safety Bureau or CASA and investigate potential hazards that would only be revealed through a systematic investigation.

- Management of Change - a provider should have a formal process for identifying internal and external change that may affect established processes and services, or have an adverse effect on safety.
- Continuous Improvement of the SMS - all providers (regardless of size and complexity) require a means of regular review to ensure the aims and objectives of the SMS are being achieved. Periodic safety reviews validate the SMS and pave the way for continuous improvement. Regular review and evaluation allow the provider's senior management to pursue continuous improvements in safety management and ensure that the SMS remains effective and relevant to the conduct of the provider's activities.

Things for Consideration

The following information may be of value in determining if the provider has an appropriate safety assurance system in place to ensure the organisation's safety objectives are being met and periodically reviewed for relevance.

C.4.3.1 Safety performance monitoring and measurement

- A provider's safety performance monitoring program should be specifically adapted to determine the best methods employed according to the organisation's size and complexity.
- A typical safety performance monitoring program will employ the following:
  - safety performance
  - safety monitoring
  - safety measurement
  - safety review.

Safety performance program

- An effective safety performance program may include:
  - an effective hazard reporting system
  - safety objectives where 'SMART' targets have been established
  - defined and promulgated safety performance indicators
  - relevant safety performance indicators that are linked to the provider's safety objectives
  - safety objectives, safety targets and safety performance indicators that are reviewed and updated periodically.

Safety monitoring

- The provider's periodic monitoring processes may include:
  - monitoring and reporting on safety management activities (by the safety committee, SAG or SRB)
  - measuring and reporting on safety management performance
  - monitoring and trend analysis of safety performance indicators.

Safety measurement

- The provider may accomplish safety measurements through:
  - safety surveys/questionnaires
  - safety studies
  - internal/external safety audits, that include:
    - » assessing normal operations
    - » ensuring adequate resources are available to carry out the audits
    - » ensuring personnel are adequately trained to carry out the audits

» assessing risk mitigations and controls/defences to ensure they remain relevant

» tracking audit findings through to completion

» conducting feedback and trend analyses to identify systemic issues throughout the organisation and appropriate actions to be taken.

Safety review

- Safety review may include:
  - a feedback mechanism within the program to ensure relevant data is collected, analysed and used to assess safety performance
  - systematic review and follow-up on all reports of identified safety issues
  - communication to all stakeholders of the level of safety within the organisation.

C.4.3.2 Internal safety investigation

- The scale and scope of any investigation should be suitable to determine and validate the underlying hazards. A systems approach is useful to provide a broad appreciation of the context of any occurrence. Effort expended should be proportional to the perceived benefit to the organisation in terms of identifying hazards and risks.
- The provider's internal safety investigation system should include:
  - a reporting system
  - an investigation policy
  - the investigation methodology
  - investigation recommendations and follow-up.

Reporting system

- The provider should have certain processes in place for personnel to report hazards or events in the workplace. Processes that enable reporting may include:
  - a paper-based reporting system
  - a web-based reporting system
  - a reporting system on the company's intranet.
- The provider should have a documented procedure to determine what hazards and events need to be investigated. The procedure should be able to demonstrate that the provider has a review, classification and decision process in place to establish which hazards and events are investigated, and how thoroughly.

Investigation policy

- Documentation for internal safety investigations should be clearly documented within the provider's SMS. Points covered should include:
  - the scope of the investigation
  - the composition of the investigation team
  - how investigation outcomes are recorded for follow-up trend analysis
  - the timeframes for completion.
- The provider's investigation policy documented within the SMS should highlight the purpose of the investigation. The policy should clearly state that:
  - each investigation will be systematic in nature (focus on the 'why' rather than just the 'what')

  - the purpose of each investigation will not be to apportion blame to individuals, confirming that safety culture principles apply in relation to individual or team behaviours (therefore not focussing solely on 'who' was involved)
  - all contributing factors to the event should be considered, as well as root causes, rather than focusing only on the active failure (i.e. the event itself).

Investigation methodology

- The extent of each investigation will depend on the actual and potential consequences of the hazard or event. The provider may determine this through an initial risk assessment. Where resources are limited, the provider needs to determine that the effort expended, in terms of identifying hazards and risks to the organisation, will be proportional to the perceived benefit of the investigation.
- The provider should have a means to ensure personnel conducting internal safety investigations are trained in aviation safety and safety investigations.
- The provider should provide the safety investigator with:
  - the authority to interview personnel or managers
  - access to the source of any relevant company information.

Investigation recommendations

- The provider should have a means for:
  - using identified safety issues (as a result of an investigation) in re- evaluating existing risk controls and defences
  - ensuring that identified safety issues and lessons learned, as well as further controls and defences incorporated to prevent a recurrence of the hazard or event, are reviewed by the appropriate safety committee
  - ensuring that recommendations are used to improve or amend the organisation's SMS.
- Identified safety issues, lessons learned and controls and defences implemented to prevent the recurrence of a hazard or event should be disseminated throughout the provider's organisation. Methods the provider may use to facilitate this include:
  - safety stand down days
  - company intranet
  - safety newsletter
  - specific safety posters, prominently displayed within the provider's headquarters and training bases.

C.4.3.3 Management of change

- The management of change process included in the provider's SMS should be a formal process to be used in the event of external and/or internal change that may affect established processes and services.
- The management of change process should utilise the provider's existing risk management processes to ensure that there is no adverse effect on safety.
- The provider's management of change process within an SMS should only focus on hazard identification and the controls or defences to be employed to improve the safety in the conduct of the Part 175 activities. Other potential risk factors (such as a lack of business growth) may also be considered; whilst they are additional to the scope of SMS management of change, they may have the potential to affect operational safety.
- In determining whether the provider's management of change process is appropriate, consideration should be given to the provider's processes for:
  - identifying the change
  - managing the change
  - monitoring during and review after the change.

Management of change identification

- Changes that require a formal risk assessment, such as organisational changes, should be clearly identified and documented in the provider's SMS. Organisational changes that may require a formal risk assessment may include:
  - implementation of new design systems
  - amendments or modifications to new procedures or operations
  - appointment of a new senior management team or senior managers
  - changes to the work environment
  - new training programs
  - changes in customer expectations or requirements
  - relocation or expansion
  - reallocation of resources.

Management of change process

- The provider's management of change process should involve the following steps:
  - develop the case
  - conduct a risk assessment and planning
  - prepare the plan
  - implement the change
  - on-going monitoring and review.
- The provider's management of change process should demonstrate that:
  - the changes made are implemented in a prudent and staggered way in order to minimise potential adverse effects on organisational and operational safety
  - the use of resources and the involvement of personnel in the process will not impact operational safety
  - a review of previous risk assessments and existing known hazards, and current controls or defences, are undertaken to determine possible validity and consequence
  - communication and consultation take place with all key stakeholders during the management of change process.

Monitoring and review

- To ensure changes incorporated do not alter the provider's priorities, the provider should have a means to ensure implementation is constantly monitored and reviewed and where necessary, adjusted.
- The provider should ensure that communication and consultation take place with all key stakeholders during the ongoing monitoring and review of changes.

C.4.3.4 Continuous improvement of the SMS

- The provider must have processes for continuous improvement of the overall performance of the SMS. The provider should monitor and assess the effectiveness of its SMS processes to enable such improvement. Methods to achieve this may include:
  - a continual improvement process
  - feedback mechanisms
  - review and follow-up of feedback mechanisms.

Continuous improvement process

- The continuous improvement process may be achieved and demonstrated by:

- formal annual review of the SMS by the SRB (or equivalent)
- regular monitoring of safety performance against stated safety objectives
- identifying hazards, and employing appropriate controls or defences in a timely manner
- reactive evaluations, following incidents, accidents or investigations, to verify the effectiveness of controls and defences.

Feedback mechanisms for continuous improvement

- Feedback methods employed to determine and measure whether the continuous improvement process is effective may include:
  - internal safety audits
  - regular internal and external (third party) safety surveys
  - evaluation of individual performance to verify safety responsibilities
  - tracking organisational changes to ensure they are relevant and effective
  - regular SAG or safety committee meetings to provide high-level SMS review details to the SRB for consideration.

Review and follow-up

- The provider should have a means for ensuring follow-up from feedback mechanisms is reviewed and considered by the accountable manager and safety committee to ensure issues raised are addressed to the SRB (or equivalent).
- Any incorporated improvement processes included in the provider's SMS should be communicated to all personnel.
- Following review, the provider should ensure that any amendments or additions to the SMS are monitored and evaluated for ongoing effectiveness. The provider should provide a means for ensuring that evidence of improvements is documented as a part of the continual improvement process.

C.4.4 Safety Promotion

References: CASR: 175.405(2)(e)

Introduction

An SMS must have a safety promotion system which includes SMS training and education and safety communication. Safety training is related to, but different from, safety promotion. A provider should ensure that their personnel are trained and competent to perform their roles within the SMS, and that the training programs are 'tailored' to suit the needs and complexity of the organisation.

Safety promotion assists in setting the SMS tone and aids in building a robust safety culture. Safety promotion communicates the lessons learned, safety information, safety procedures, and key safety messages from senior management that can also assist the organisation to foster improved safety performance.

Things for Consideration

The following information may be of value in determining if the provider has an appropriate safety promotion system in place for the organisation's size and complexity.

C.4.4.1 SMS training and education

- Providing appropriate safety training to all personnel highlights management's commitment to providing an effective SMS. The provider should have a means to ensure that the key function of SMS training is to create awareness of the SMS for all personnel (internal and external) involved in the system.
- The provider's SMS training should focus on the identification and reduction of hazards in the system, and the significance of the human component in achieving this.
- Depending on the size and complexity of the organisation, the SMS training may include:
  - SMS training for all personnel, and where possible third-party service providers
  - SMS training aimed at the safety responsibilities of senior management.
- The provider should develop and maintain a safety training program that ensures personnel are trained and competent to perform their SMS duties. The scope of the safety training program should be appropriate to each individual's involvement in the organisation's SMS.
- The provider's SMS training program should include:
  - the conduct of a Training Needs Analysis (TNA)
  - an SMS Induction Course
  - SMS recurrent training
  - continuous improvement and review of the SMS courses.

Conduct of a Training Needs Analysis

- In order to develop an internal SMS training program, the provider should have undertaken a TNA to determine what level of SMS training is required.

SMS Induction Course

- The provider should have a means for ensuring that all personnel, including safety-critical personnel, operational personnel, supervisors, managers and senior management, take part in an SMS induction course and recurrent SMS training.
- The provider should ensure that their SMS induction course is made available to third party contractors, part-time employees and temporary workers who are conducting Part 175 activities.

SMS recurrent training

- The provider should be able to demonstrate that they have an on-going program of SMS training for all employees.
- While the recurrent training doesn't necessarily have to be the same as the SMS induction training, the training should cover:
  - a review of the organisation's SMS principles
  - hazard identification and risk mitigation (risk assessment)
  - hazard reporting
  - review of safety occurrences and reports
  - any changes or improvements to the organisation's SMS
  - safety objectives (i.e. have targets been met?)
  - HF principles.

Continuous improvement

- The provider should demonstrate that information gathered from various feedback mechanisms (e.g. critiques/surveys) is used to regularly review and amend future courses. This process should form part of the continuous improvement cycle of the organisation's SMS.

C.4.4.2 SMS safety communication

- The provider's on-going safety promotion and communication program should ensure that the personnel benefit from safety lessons learned and continue to understand the organisation's SMS.
- Safety communication is essential to maintaining two-way communication, ensuring that all staff are informed and that their feedback is captured and acted upon where appropriate.
- At a minimum safety communication should:
  - ensure all staff are aware of the organisations SMS
  - convey safety critical information
  - explain why particular actions are taken
  - explain why safety procedures are introduced or changed.
- The provider may also use safety communication as a valuable tool to communicate 'good to know' safety principles and information to staff
- The provider should have developed a formal means for safety communication that:
  - ensures personnel are aware of the SMS to a degree commensurate with their positions
  - conveys safety-critical information
  - explains why particular safety actions are taken
  - explains why safety procedures are introduced or changed.
- The provider should have methods to achieve safety communication. Such methods should include:
  - standards for safety communication
  - the delivery of safety communication
  - the feedback and review loops for safety communication.

Standards for safety communication

- All methods of safety communication require competence, skill and experience in order to be effective. The provider should have a means for their senior management personnel to determine the best methods for getting the SMS message across as a part of the organisation's safety strategy.
- The provider should have a means to ensure, through effective communication, that all personnel are aware of the SMS to a degree commensurate with their positions.
- The provider should have a means to ensure they use their safety communication processes to highlight relevant hazard reporting outcomes, recommendations from safety meetings, internal investigations, and to highlight various improvements to the SMS (e.g. why particular safety actions are taken, why safety procedures are introduced or changed).
- Safety communication is closely linked with safety training and the dissemination of information. Therefore, the provider should base safety topics on the experience of past events and/or incidents, hazards or potential hazards raised by recent hazard analyses, and observations from routine internal safety audits.
- Where appropriate, the provider may have a means for sending some safety- related outcomes or information to third party contractors or customers to highlight the provider's commitment to improving safety.

Safety promotion delivery

- The provider may deliver safety communication and promotion internally through various methods, such as:
  - SMS training courses
  - a safety newsletter or bulletin
  - posters

- DVDs
- a safety stand-down day
- workshops or seminars.

Safety communication feedback and review

- To be effective, safety communication should be a two-way process. The provider should provide a means for managers to convey safety messages, and for personnel to be able to voice their concerns and have them acted upon so that the feedback loop is closed. Various methods may be used to achieve this, such as:
  - surveys
  - questionnaires
  - observations
  - interviews.
- As part of the continual improvement process the provider should have a means to evaluate whether the current communication processes are being received, and are relevant and understood.
- The provider should have a means to ensure safety communication content and methodologies are reviewed in response to feedback.
- The provider should have a means for ensuring that safety-related outcomes are widely published. It is essential that the provider publishes safety-related outcomes raised through the hazard/risk reporting process. This ensures that safety messages communicated and promoted by the organisation are widely read, understood and acted upon.

C.5 Quality Management System

C.5.1 Quality Management Procedures

References: CASR: 175.360; 175.380(1)(x); 175.400; 175.410; 175.435(1)(c)

Introduction

The need for aeronautical data and information of a required quality is an imperative in the current air traffic management system in which a higher accuracy of data is required to support RNAV, RNP and airborne navigation databases and applications. Quality requirements for aeronautical data and information have evolved to include characteristics such as integrity, accuracy, order of publication and charting resolution, and protection of electronic data.

The ISO 9000 series of standards and associated guidelines are based on principles which emphasize satisfying the "customer" and meeting customer requirements. The underlying justification is that it is the customer upon whom a business or service depends and who ultimately determines the acceptability of the product or the service delivered. The customers, in an Aeronautical Information Management (AIM) context, are equivalent to users of aeronautical information/data (e.g. pilots, aircraft operators, air traffic controllers, flight planning organisations, general aviation, data vendors etc.).

A QMS which is compliant with ISO 9001 encourages organisations to analyse customer requirements, define the processes that contribute to the achievement of a product which is acceptable to the customer, and keep those processes controlled.

At the core of ISO 9001 is the 'process approach' which defines a process as any activity that resources and transforms inputs into outputs. A simple example of an AIM process is data input into a database which is converted to output for chart production. This process may be linked to a previous or succeeding process, and within this process may be other processes, such as verification of the data against certain established parameters. The QMS requirements focus on systematically identifying, organising, documenting, managing and improving processes, and interactions between processes.

Things for Consideration

The following information may be of value in determining if the provider has implemented an appropriate QMS.

C.5.1.1 Data service functions

- The QMS should be implemented and maintained to address all functions of the data service provided, and each functional stage should be auditable. The exposition must describe the provider's QMS and should detail each function and the processes surrounding those functions.

C.5.1.2 Aeronautical data quality

- Quality management should be applicable to the whole aeronautical data chain from data origination to distribution to the next intended user, taking into consideration the intended use of data. Data product specifications, provided to the AIS provider through licence agreements, should ensure the quality of data received by the DSP and the data supplied to customers. Compliance with the AIP and aeronautical chart resolutions should provide sufficient evidence that the data quality meets the requirements of the end user.
- The QMS should provide assurance that the aeronautical data is applicable during its period of intended use. This can be demonstrated through the validity requirements. Further information relating to validity requirements can be located in Section C.2.5.2 of this handbook

C.5.1.3 Competency and skills of operational personnel

- Within a QMS, the competencies, knowledge, skills and attitudes required for each function are required to be identified.
- Personnel assigned to perform functions should be appropriately trained.
- Processes should be in place to ensure that personnel possess the competencies required to perform specific assigned functions.
- Initial and periodic assessments should be established that require personnel to demonstrate the required competencies. Periodic assessments of personnel should be used as a means to detect and correct shortfalls. This can be demonstrated through the provider's training and checking system.
- The provider must maintain records of the endorsements, qualifications and competencies of operational personnel that process aeronautical data.

C.5.1.4 Error correction and notification

- Aeronautical data should be traceable throughout the aeronautical information data chain to allow any data anomalies, or errors detected in use, to be identified by root cause, corrected and communicated to affected users. This can be demonstrated through the provider's error correction and notification procedures.

C.5.1.5 ISO 9001

- The provider should be able to demonstrate compliance against ISO 9001 for all its data service functions. The usual means of compliance with ISO standards is an ISO 9001 certificate issued by an accredited certification body.

C.5.2 Aeronautical Data Processing Standards

References: CASR: 175.335(4)(b); 175.345; 175.410(b)

Introduction

In addition to the QMS requirements of ISO 9001, RTCA/DO-200B and EUROCAE ED-76A address the specific standards of quality management of the aeronautical data process.

RTCA/DO-200B and EUROCAE ED-76A assume that organisations have an acceptable QMS in place and only address the requirements associated with quality management of the aeronautical data process.

The specific aeronautical data processing requirements related to quality management are contained in section 2.5 of the RTCA/DO-200B and EUROCAE ED-76A document.

Documented quality management procedures should ensure that:

- data accepted from the AIS provider meets the data quality requirements
- valid data processing procedures are applied
- procedures are adhered to and there is no unauthorised deviation from the procedures
- reviews and controls are in place to ensure quality.

The means used to meet the RTCA/DO-200B and EUROCAE ED-76A quality management requirements are not intended to be prescriptive. Compliance can be demonstrated by any quality management structure that meets the requirements

Things for Consideration

The following information may be of value in determining if the provider has met the aeronautical data processing quality management requirements of RTCA/DO-200B or EUROCAE ED-76A.

C.5.2.1 Plans and procedures

- These refer to a provider's compliance plans, data quality requirements and data processing (procedures, configuration management, skills and competencies and tools (e.g. software)).
- Quality management procedures
- The criteria for the review of, and maximum time interval between reviews of, the following should be defined and documented:
  - plans and procedures
  - personnel skill records
  - qualified tools.
- The person who has the authority to do the following should be identified and documented:
  - approve plans and procedures
  - certify that personnel have satisfied skill and competency requirements
  - authorise (qualify) tools for use.
- The authorised version of approved procedures should be the current procedures. There should be no unauthorised versions available to personnel.
- The provider should have procedures that describe what to do if unauthorised deviations from the documented procedures are discovered and what corrective action shall be taken. The corrective action may include changing the procedures and/or the competency requirements.

C.5.2.2 Review

- All plans and procedures must be reviewed and approved prior to being implemented, including when changes are introduced. The reviews must be conducted on a regular basis and should include addressing any problems identified with procedures, personnel or software. This is intended to ensure the continuing ability to maintain the data quality objectives.

- The provider should ensure that skills required for the various data processing functions are reviewed on a regular basis to determine if they are still relevant. If new or obsolete skills are identified the provider must ensure that operational personnel continue to have the required skills.
- Before supplying new data to a customer, the provider should review their plans and procedures to ensure they are still appropriate.
- When introducing new software, a review should be undertaken to ensure that no changes to existing procedures is required and before incorporating new software the performance of the software is reviewed to ensure that data quality will be maintained.
- All records of any reviews conducted must be maintained. The accountable manager is required to conduct annual reviews against Part 175 which includes the data processing standards. Any significant deficiencies are required to be identified and addressed.

C.5.2.3 Records

- The RTCA/DO-200B and EUROCAE ED-76A standards require records to be kept and retained. This can be demonstrated through the record keeping and retention period requirements under regulations 175.435 and 175.440. Refer to Chapter C8 of this handbook for record keeping considerations.

C.6 Contingency Plan

C.6.1 Contingency Plan

References: CASR: 175.325; 175.380(1)(n),(y); 175.420

Introduction

A provider must have a contingency plan that sets out the procedures that operational personnel are to follow to maintain services in the event of a failure or the non-availability of personnel, facilities or equipment which affect the provision of the data service.

The plan must also cover procedures for the safe and orderly transition back to full service provision. The provider's exposition must include details of its contingency plan for managing circumstances where there is a disruption of services.

Things for Consideration

The following information may be of value in determining if the provider has an appropriate contingency plan.

C.6.1.1 Continuity of services

- The measures used to ensure continuity of services should be described. This should cover catastrophic events, such as facilities or equipment being completely destroyed either maliciously, by accident or natural disasters, as well as the temporary unavailability of facilities and equipment.
- The exposition must describe the provider's arrangements for providing continuity of services to their customers. These arrangements may form part of the provider's contingency plan if there are sufficient safeguards and redundancies built into the provider's systems, such that a disruption of service is not possible.
- A provider must have documented procedures that account for the unavailability of any part of any of its systems which, if unavailable, would result in a loss of service availability.
- A provider must have documented procedures that account for the unavailability of operational personnel, such that, if they were unavailable, would result in a loss of service availability.

C.6.1.2 Threats to delivery of services

- The provider should be able to identify any threats to its ability to provide any of its services. These could be in relation to availability of data and information from the AIS provider or their ability to supply data and information to customers. Other threats may be in relation to availability of facilities, equipment or personnel.

C.6.1.3 Alternative means of service delivery and resumption of service

- The contingency plan should include actions required to be taken by personnel and possible alternative arrangements for providing the service.
- The contingency plan should include arrangements for restoring personnel, facilities or equipment to normal levels and resumption of normal service.

C.6.1.4 Notifications to affected parties

- The provider should be able to describe how it will communicate the unavailability of services to affected parties.
- The provider is required to notify CASA of any circumstance which will significantly affect its ability to provide any of its services. This should be included in the contingency plan. An example of discontinuity of a data service would be the late delivery of aeronautical information products after the effective date of the data or information.

C.6.1.5 Review and testing of contingency plan

- The provider should be able to demonstrate that the contingency plan is reviewed at regular intervals.
- The provider should be able to demonstrate that the contingency plan is tested on a regular basis. The results of the tests should be recorded and any deficiencies identified in the plan rectified and reflected in a new version of the plan.
- The provider should be able to demonstrate that personnel are appropriately trained to ensure the contingency plan can be safely implemented.

C.7 Changes

C.7.1 Change Management

References: CASR: 175.295(4); 175.310; 175.315; 175.320; 175.380(1)(zc)

Introduction

A change management system provides a structured framework for managing most aspects of change.

Part 175 refers to changes as either changes to activities that require a change to the certificate and other changes that don't require a change to the certificate but require a change to the provider's exposition.

Any change that requires a change to the certificate requires formal approval of the change by CASA – before the change taking place. Changes that require a change to a DSP certificate relate to the availability of aeronautical products (i.e. if approval is being sought for a new product or an existing approved product that is no longer available). Additionally, approval is required if the area of coverage of an existing product is amended. Other changes can be implemented by the provider after they amend their exposition to reflect the change and notify CASA of the change.

If CASA is asked to approve a change, CASA must approve that change if satisfied that the provider can continue to meet the requirements for the issue of the certificate.

CASA may also direct a provider to make a change to their exposition, if satisfied the change is necessary in the interests of safety. If the change causes the provider's certificate to contain incorrect information, CASA must also issue a new certificate.

The exposition must include a description of the procedures for making changes, such as changes to the services that are provided or changes requiring the exposition to be amended.

Things for Consideration

The following information may be of value in determining if the provider's change management process is suitable.

C.7.1.1 Identification of changes

- The provider should have a system for identifying and recording changes and classifying those changes that require approval by CASA prior to the change being implemented.
- The change management system must be capable of distinguishing changes that do not maintain or improve, or are unlikely to maintain or improve, aviation safety.

C.7.1.2 Management

- The change management procedures should demonstrate how the provider ensures that changes are differentiated between those requiring CASA approval and those requiring the provider to notify CASA.
- The change management process may form part of the provider's SMS. Considerations in relation to the SMS are described in Chapter C.4 of this handbook.
- The change management system must include procedures to ensure changes are incorporated into the exposition. Considerations relating to the exposition are described in Section C.1.10 of this handbook.
- The procedures for managing change should describe:
  - how changes are initiated and assessed
  - a process for applying for CASA approval or notifying CASA of the change
  - development of a case for the change
  - risk assessment and planning, including:
    - » implementing change using a phased approach to minimise potential adverse effects
    - » ensuring use of resources will not impact on operational safety
    - » communication and consultation with all key stakeholders.
  - preparation of a plan
  - implementation of the change
  - ongoing monitoring and review.
- The system should ensure new facilities, equipment, processes or services are thoroughly tested to ensure reliability.
- The system should address the management of unexpected changes.
- Training for personnel should include training in management of changes.
- The provider may have a dedicated person or a change management committee responsible for managing changes and ensuring the exposition is updated.

C.7.1.3 Changes directed by CASA

- A direction from CASA to make a change to their exposition may relate to:
  - the removal, inclusion or variation of information, procedures or instructions
  - the removal of a person from an operational position.

- The provider's system for managing changes should include procedures for complying with, and implementing, changes directed by CASA.
- The provider may have a dedicated person responsible for ensuring changes directed by CASA are implemented in accordance with any conditions imposed by CASA, such as time limitations.

C.8 Record Keeping

C.8.1 Procedures for Record Keeping

References: CASR: 175.380(1)(z); 175.435; 175.440

Introduction

Part 175 imposes obligations on providers to maintain certain records.

Providers must have a reliable, auditable, secure and confidential record keeping system.

The provider's record keeping procedures should address which records are required to be kept, for how long, where they will be stored, how they are classified and how and when records will be disposed.

Things for Consideration

The following information may be of value in determining if the provider has appropriate record keeping procedures.

- The exposition must include procedures for a record keeping that cover the following in the relation to the records:
  - production
  - collection
  - indexing
  - storage
  - security
  - maintenance
  - access
  - disposal.
- The procedures should address the types of records to be kept as described in regulations 175.435 and 175.440.

C.8.2 Data, Information and Record Retention

References: CASR: 175.435; 175.440

Introduction

Part 175 imposes obligations on providers to retain certain aeronautical data and information and certain records.

Aeronautical data and information is published in the IAIP and on aeronautical charts. Data service providers provide aeronautical information products to be used in lieu of the AIP and aeronautical charts, which may have been used by pilots at the time of an aviation incident or accident.

In the event of an aviation incident or accident resulting in injury or death, it is often necessary to determine if the published data or information effective at the time of the event may have been a causal factor leading to the event. The courts will request access to the published data or information. For this reason, it is important that data, information and records are kept for an appropriate period after the data or information ceases to be effective.

Aeronautical data, information or records are to be kept for a period of 7 years as stipulated in Part 175. The retention period required under Part 175 differentiates between the actual data and information that is published and other records.

The record keeping system should address which records are required to be kept, for how long, where they will be stored, how they are classified and how and when records will be disposed of.

Things for Consideration

The following information may be of value in determining if the provider has appropriate arrangements for retaining data, information and records for the required periods.

- The provider should have documented procedures that demonstrate that data and information published in their aeronautical information products is retained for at least 7 years after it ceases to be effective.
- The provider's documented procedures should demonstrate that records relating to data and information published in their aeronautical information products are kept for as long as the data or information is valid (e.g. records from the AIS provider that are associated with new, amended or deleted data and information).
- The provider should have documented procedures that demonstrate that, for other records required to be kept by the regulations, the records are kept for 7 years after the records have been made.

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Appendix 1 – Technical Assessor Worksheet

The CASR Subpart 175.C Technical Assessor Worksheet is referenced as Appendix 1 to this handbook.

How do I access the worksheet?

The worksheet is available in an electronic excel format and published along with the handbook in the CASA Document Catalogue. CASA-04-0028

Worksheet User Instructions

The instructions for the worksheet are found within the CASR Subpart 175.C Technical Assessor Worksheet, in the User Instructions tab.