Part A

Aviation Safety Management System

Version 1 – 6 September 2018

Document Control

Reference No	Version	Status	Sponsor	Author
3077 AO	1	Approved	Chief Operations Officer	Aerodrome Standards & Compliance Manager

Amendments	Date	By whom
Version 1 – Initial document release	06/09/2018	Aerodrome Standards & Compliance Manager
Summary		
Document created to detail Safety Management System Part A for CNS.		

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Introduction

This Part A of the Cairns Airport Integrated Safety Management System (SMS) manual documents Cairns Airport's Aviation Safety Management System as it relates to matters of aviation safety.

Act with a purpose greater than just the business is a core foundation of the NQAs strategic plan and it drives:

- Risk Management and reporting standards across Health and Safety, Aviation Safety, Security and Environment,
- Standardised methodologies of Risk Management, and
- A cultural shift from meeting compliance to above the requirement.

The Safety Manager should be consulted if there is difficulty in complying with any of the procedures described within this manual so that the necessary documents are reviewed and amendments when necessary.

We should always question why we do the things the way we do them and we should always challenge ourselves to see if the intended result can be achieved in a safer, more efficient or reliable way.

To avoid unnecessary duplication, some procedures may make reference to other technical manuals and publications. All the referenced documents are readily available on the NQA SharePoint intranet and each staff member is responsible for ensuring that they can access referenced documents.

The procedures contained in this Manual are directions issued by the NQA Chief Executive Officer, to those persons listed herein to undertake the functions as defined to ensure the safety of aviation operations at Cairns Airport.

Scope and Purpose

Australia, as a contracting State of the International Civil Aviation Organization (ICAO) *Convention on International Civil Aviation* (the Chicago Convention), has an international obligation to establish systems whereby aviation operations are conducted in a safe and orderly manner. The Chicago Convention, including associated amending protocols, is set out in the Schedules to the *Air Navigation Act 1920* (Clth), and further implemented through the *Civil Aviation Act 1988* (Clth), (the Act).

The Cairns Airport Aviation Safety Management System is issued pursuant to the Civil Aviation Safety Regulations 1998 (CASR), regulation 139.250 and meets the requirements of the Manual of Standards (MOS) – Part 139 Aerodromes, Chapter 10, Section 10.1.4 and AC 139-16(1), Jan 2013.

Cairns Airport recognises and has developed an integrated approach to Safety Management in as far as systems used for recording, identifying and reporting can be cross populated and used equally within the organisation for Aviation, WHS, Environmental and Security management.

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This part of the manual describes the philosophy, processes and framework of regulations comprising the Cairns Airport Aviation Safety Management System, and applies to all employees and external service providers who are involved in activities related or interface with any aviation activities at Cairns Airport. The Cairns Airport Aviation safety management system is a systematic approach to the management of safety and details the organisation safety structure, policies and procedures.

Cairns Airport has adopted a unified approach to aviation which includes both airworthiness and aviation safety management. The Airworthiness Management System (AWMS) and Aviation Safety Management System (ASMS) have both been included under the Cairns Airport Safety Management policy. In essence the concept and management of airworthiness supports the application of the aviation safety management system.

Both the AWMS and the ASMS are complimentary to each. The ASMS involves both technical and operational considerations in relation to aviation support systems.

Aviation support systems include the infrastructure and equipment that directly interfaces with aircraft to provide the means and ability for aviation activities to take place and include but not limited to;

- Runways
- Taxiways
- Aprons
- Airspace
- Lighting systems
- Aerobridges

Technical Airworthiness management focuses on the design, construction and maintenance of an aviation support system. As opposed to the consideration of operational airworthiness which focuses on how the aviation support system is operated in an approved manner, by trained and competent approved operators in accordance with procedures and a system of monitoring, review and supervision. In contrast aviation safety management is involved with capability, attitude and professionalism of personnel maintaining an awareness of aviation safety requirements and risk management, in addition to the independent investigation of incidents and occurrences. This further includes review, reporting and hazard identification.

1 Safety policy and objectives

1.1 Management Commitment and responsibility

The NQA Chief Executive Officer (CEO) as the accountable manager for Cairns Airport through his policy statement has provided clear direction and guidance on his commitment to a safe and secure environment were safety is of the highest priority. This policy statement also outlines expectations and commitment of the most senior managers down to all within the organisation.

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NQA

Health, Safety, Security & Environment Policy

NQA will operate in a safe, secure and environmentally responsible way.

We will:

- Foster and maintain a culture of safe, secure and environmentally responsible practices that demonstrate "safety leadership at work" and nurture a "work safe, home safe" ethos;
- Manage our aerodromes safely and securely;
- Eliminate or minimise hazards and risks to health and safety, aviation safety, security and the environment as far as is reasonably practicable;
- Ensure our people are provided with resources, ongoing training and support and we will structure financial delegations so that they have the equipment, knowledge, skills competency and appropriate supervision to work safely, securely and environmentally responsibly;
- Consult with and involve our people on matters relating to health and safety, aviation safety, security and the environment;
- Respond to and investigate incidents and emergencies in an appropriate and timely manner, and document and use finding to reduce hazards and risks;
- Set and review measureable objectives and targets;
- Meet and, where practicable, exceed the requirements of legislative obligations and industry standards;
- Conduct internal and external audits to identify improvements in health and safety, aviation safety, security and environmental management;
- Promote a just culture relating to incident reporting and investigations to ensure the focus is on continuous improvement not blame.

Our people will contribute to a safe, secure, sustainable and incident-free work environment by:

- Taking care of the health and safety of themselves and others, of security and of the environment;
- Participating in training and other activities to ensure they have the knowledge, skills and competency to work safely, securely and environmentally responsibly;
- Following safe work procedures, instructions and rules;
- Reporting hazards, near misses, incidents and injuries in a timely manner;
- Actively participating in risk assessments, audits, investigations and other activities to reduce hazards and risks.

Norris Carter
Chief Executive Officer

1.2 Safety Accountabilities

As communicated and detailed in the NQA CEOs Health, Safety, Security and Environment Policy he will ensure that financial delegations are structured so that human resources and equipment are available and states that each individual employee has a responsibility to the Chief Executive Officer (CEO);

- To follow safe working procedures, instructions and rules,
- To take care of the health and safety of themselves and others, of security and of the environment,
- To participate in training and other activities to ensure they have the knowledge, skills and competency to work safely, securely and environmentally responsibly,
- To report hazards, near misses, incidents and injuries in a timely manner, and
- Actively participating in risk assessments, audits, investigations and other activities to reduce hazards and risk.

1.3 Appointment of key safety personnel

The NQA CEO as the accountable manager has appointed the Aerodrome Safety and Compliance Manager as the Safety Manager for Cairns Airport. The Safety Manager has an open and direct line of communication to the NQA CEO for all safety related matters.

The responsibilities of the Safety Manager includes;

- Hazard identification and risk assessments
- Developing and maintaining the SMS documentation
- Developing risk treatments/controls
- Reviewing and acting on Hazard Notifications
- Investigation of incidents and accidents
- Core member of the Risk and Safety Committee that includes representation from operational and the leadership team from Cairns Airport and Mackay
- Maintaining records relating to the Risk and Safety Committee membership and activities
- Ensuring Cairns Airport employees understand the SMS including the role of the Safety Manager and the Risk and Safety Committee
- Regularly review the Aviation Safety Management System (ASMS)
- Regularly review the safety performance of contracted third party safety performance.

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1.3.1 Business Unit Senior Managers

- Conduct a monthly review of their departments performance, risk management and trending against the ASMS,
- Review all Aviation Risk Assessments and Treatment Plans for airfield activities and major Projects and
- Provide input and advice to the Safety Manager and at the Risk and Safety Committee meetings as required.

1.3.2 The Aerodrome Standards and Compliance Manger

- Review and advise on all projects and operations associated with aerodrome and airspace activities,
- Support and advise the Safety Manager on matters associated with aviation safety,
- Support and assist with investigations of aviation incidents and
- Conduct a monthly review of reported aviation risks, incidents and trending against the ASMS.

1.3.3 Risk and Safety Committee

The Risk and Safety Committee has been established and meet quarterly or sooner if required by the CEO or the Safety Manager and is responsible for:

- Providing advice and direction on aviation safety related matters,
- Encouraging lateral thinking in relation of aviation safety matters,
- Establishing and review of procedures and policies,
- Reviewing high risk incidents and share learnings across the NQA group,
- Reviewing of the corporate hazards and risk registers,
- Developing and promoting safety management across the NQA group and
- Reviewing of reporting and incident trends.

The Risk and Safety Committee membership and terms of reference are detailed in the "Risk and Safety Committee Structure and Terms of Reference"

Membership of the Risk and Safety Committee includes:

- NQA Chief Executive Officer
- Cairns Airport Chief Operations Officer/Safety Manager
- Mackay Airport General Manager/Safety Manager
- NQA Chief Financial Officer
- NQA Risk Advisor

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1.3.4 Operations Team

The Operational Team consists of experienced individuals who are experts in their field and are responsible for:

- Ensuring Cairns Airport is compliant with relevant regulations
- Monitor the implementation of all legislation changes to ensure they transition effectively into operation
- Provide support and input during internal and external audits including Aerodrome Technical Inspections and CASA audits.
- Provide input into risk assessments and operational planning relating to works and airside projects.
- Maintenance of the Operations Hazard/Risk Register
- Change management process and controls

1.4 SMS implementation plan

With the restructure of the organisation in 2017 and the NQA board's continued commitment to safety, it was identified that a review of the ASMS was necessary to ensure that it was aligned with the organisation focus and section 4a of the strategic strategy which is to relentlessly focus on safety and security always.

Cairns Airport supports a reporting and just culture where everyone is willing and encouraged to report without ridicule for mistakes but where deliberate deviation from rules and procedures are not tolerated.

On review it was identified that current safety policies, procedures and data capturing processes are still relevant and effective. The current generated reports require updating to provide more relevant analysed data, to gauge a greater understanding of the effectiveness of the ASMS.

It was also identified that with this rewrite of the ASMS that a training needs analysis needs to be conducted which should include induction, Inform data base reporting, investigation, risk assessment, human factors and also focus on developing training for all skill levels and positions including senior management.

Given that the level and detail of training that Cairns Airport intends to develop and deliver it's likely that it will a number of years to fully develop and roll out.

Initially the focus will be to get all staff to undertake induction sessions to ensure an understanding and awareness of the ASMS and their responsibilities. Once completed more detailed and specific training will be implemented.

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1.5 Third Party Interface

Cairns Airport has a responsibility for the safety of any contracted services and products delivered through tendering and service level agreements. Therefore Cairns Airport will prior to the awarding any contract or entering into any agreement will ensure that the contractor is fully aware of their obligations in relation to Cairns Airport's ASMS.

In determining the suitability of a third party to deliver services, Cairns Airport will consider any past safety history and the ability of the organisation to meet expectation through the examination and review of the organisations safety, emergency and hazard plans including qualifications/certificates, licences and insurances.

Cairns Airport has in place processes, procedures and rules that capture required documentation, review and approval of the engagement of third parties. These procedures include tendering arrangements, a permit to commence work assessment, site rules for working on airport and induction training.

For the purpose of identifying the requirements of individual contractors Cairns Airport has a number of categories from A-F dependant on the nature of work being undertaken. Refer to Part B Section 3 para 3.3 of this manual.

These categories further determine the type of induction and or Permission to Commence Work (PERCOW) requirements that must be completed prior to any work taking place.

1.5.1 PERCOW Process

Cairns Airport has in place a permit to commence works system that is a systematic approach in the assessment and evaluation of third parties claims in their ability to safely conduct proposed works at Cairns airport. The PERCOW is a written document which authorises certain people/organisations to carry out specific work at certain times and locations. The process also ensures that all stakeholders are aware and have an opportunity to comment on any concerns.

The Manager Instructure and Maintenance is responsible for the administration and issuing of PERCOWs and contractor induction processes. Copies of all issued PERCOW's and induction training is recorded and held on SharePoint.

Contractors that are required to submit a PERCOW application must in addition to the standard application also submit additional documentation such as Safe Methods of Working Statements and Traffic Management Plans. Copy of the PERCOW application form and PERCOW Instructions is located on the Cairns Website.

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1.5.2 Inductions

It is a requirement that contractors including all their staff, complete a Cairns Airport Induction prior to performing any works landside or airside at Cairns Airport. Those that are required to complete the induction are provided access through the Cairns Airport website to the online presentation. Once completed the presentation and the assessment, a certificate is printed and a green contractor's card is issued. The induction covers the following;

NQA vision and values

Contractors duty of care to their workers and others as stipulated in the WHS ACT 2011

NQA key safety policies Guidelines:
- responsibilities under the Cairns Airport ASMS
- DAMP
- Hearing conservation
- High vis clothing
- PPE requirements
- Airside No Smoking policy
- Work harassment policy

Tools of trade and requirements when taking them into security sensitive areas.

Sign in sign out locations for contractor cards

PERCOW and associated permits i.e. fire impairment, hot works, and excavation

Additional requirements for working including:
- Risk assessments, JSA, SWMS are completed
- Construction white cards
- Insurances
- Parking locations
- Vehicle and tool security

Duties as per Environmental Protection Act
- Waste generation and disposal

Working airside including:
- FOD
- Bird and wildlife including food scraps and waste
- Vehicle requirements
- Restricted access, the difference between ASIC, VIC passes. Where and how to obtain them
- First aid requirements and evacuation areas.
- Role of the RO/WSO (ASO)

In addition to this mandatory induction and dependant on the nature and location of the works site more specific inductions will be conducted face to face.

Further details of the contractor engagement process can be found in Part B Health and Safety Management sect 3.

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1.5.3 Working Airside

Any third party engaged in works airside is further assessed against the Cairns Airport Operations Manual part 2 Section 08 and further restrictions may be applied including the development of an aviation Method of Working Plan (MOWP) dependant of the nature of the work and effects on aircraft movements.

For all works involving MOWPs an Airport Safety Officer will be appointed as the aviation Works Safety Officer (WSO) and the MOWP will be developed in accordance with MOS 139 Chapter 10 section 10.11 and approved by the Cairns Airport Aerodrome Standards and Compliance Manager. All effected aviation stakeholders and regulatory authorities are consulted prior to any works and contractors are briefed on the MOWP contents, restrictions along with the WSOs responsibilities and authority.

A risk assessment workshop is conducted involving all stakeholders for all major airside projects and works that may introduce additional hazards and risks.

1.6 Coordination of emergency response planning

Cairns Airport has developed an incident management framework that details the management structure and systems that will be put into effect in the event of an incident. This framework provides details of the Command, Control and Coordination along with the Cairns Airport and external agencies responsibilities and legislative powers in the event of an incident occurring at Cairns Airport.

The incident management framework forms the bases for management for all levels of incidents at Cairns airport and provides the criteria for each level of incident from 1 through 5 and the activation process. Dependant on the level of incident it will determine the involvement of internal and external agencies.

The Incident Management Framework contains elements such as;

- Incident Management,
- Reporting and classifying incident,
- Activation,
- Cairns Airports incident management structure,
- Police and emergency services,
- Investigations,
- Communications/Media Policy,
- Incident debrief and lessons learnt.

Supporting the incident management framework are a number of plans relevant to the type and location of an incident. These plans may be activated wholly or the sub plans within these plans activated individually in support of other plans. For example the media plan contained within the

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Aerodrome Emergency Plan may be activated in support of the terminal 2 Fire and Building Evacuation Plan.

As part of Cairns Airport 's Safety Management System all emergency response plans are document controlled, review and exercised annually, further details are listed within the plans and in the case of the Aerodrome Emergency Plan details are listed additionally within the Airport Operations Manual.

As part of the planning and development of Cairns Airport emergency response plans a number of committees are responsible for the review, exercise planning and post exercise or incident debriefing. All post exercise and incident reports are reviewed and assessed by the Risk and Safety Committee.

In complying with the following legislation;

- AS 3745-2010 Planning for emergencies in facilities
- Fire and Rescue Service Act 1990
- Building Fire Safety Regulation 2008
- Work Health and Safety Regulation 2011

Cairns Airport has developed the following emergency plans;

- T1 Fire and Terminal Evacuation Plan,
- T2 Fire and Terminal Evacuation Plan, and
- Airport Administration Centre Building Plan.

1.6.1 Aerodrome emergency planning

Cairns Airport is required as a certified aerodrome to meet the requirements of the Civil Aviation Safety Regulations 1988 part 139 contained in MOS 139 Chapter 10 Section 10.7 to develop and maintain an Aerodrome Emergency Plan. Details of responsibilities, review and testing of the Aerodrome Emergency Plan (AEP) is listed both in the Cairns Airport AEP and the Cairns Airport Operations Manual part 2 Section 08.

The AEP is document controlled and uploaded with password protection on the Cairns Airport web site.

The AEP covers off on the following emergency responses;

- Local standby,
- Full emergency,
- Crash on airport,
- Crash off airport,
- Ground emergency fire,
- Medical emergency,
- Pandemic influenza,

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- Aviation security,
- Unidentified substance,
- Hazardous materials,
- Environmental Damage / Natural disaster,

In addition the AEP contains a number of supporting plans;

- Media management,
- Management of affected passengers,
- Care of relatives / friends,
- Care of the injured and deceased, and
- Disabled aircraft recovery.

In addition to the AEP the Cairns Airport has a separate Cyclone plan which details responsibilities and detailed action plans which cover activation stages, pre, during and post event. The Cairns Cyclone plan is located on the Cairns Airport Web Page.

1.7 Documentation

The Cairns Airport ASMS is document controlled and reviewed annually and at periods more frequently if the need arises such as major changes to processes, resources or policy.

The Cairns Airport ASMS is published on SharePoint were all Cairns Airport staff have direct access, and the Cairns Airport website where stakeholders have controlled access.

1.7.1 Document Control

Cairns Airport has in place a document control procedure which describes the way in which Cairns Airport's documents including this ASMS are issued, received, reviewed, controlled and stored. Cairns Airport's document control procedures are based on ISO 9001:2008 and;

- Ensures the availability of resources and information necessary to support the operation and monitoring of processes,
- Process documented procedures in accordance with the international standards,
- Include documents needed by the organisation to ensure the effective planning, operation and control of its processes.

Once a document has been processed it is made available on Cairns Airport SharePoint and dependant on the nature of the document it will be published on the Cairns Airport website.

Controlled documents are monitored and advice sent to the document author and sponsor that the document is due for review, once the document has been reviewed it is signed off and re published, notification is then sent to document holders and effected parties.

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Details of the process is found in the Document Control Procedure manual on the SharePoint.

Minutes are taken and recorded for all safety committee meetings along with agendas, correspondence and reports tabled. These documents are deposited and held on SharePoint.

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2 Safety Risk Management

2.1 Aviation Hazard Identification

Introduction

To effectively manage and understand risk we must understand the nature, location and types of hazards within the environment that we live and work.

The hazard identification process is both a proactive and reactive process that occurs either when a hazard is identified in the workplace during inspection or through hazard reporting (proactive), and after an investigation of a safety occurrence (reactive).

Only after fully analysing such reports and occurrences can we fully realise the extent, potential harm and risks associated with any one single hazard.

Cairns Airport also understands and assesses the hazards and risks associated with the introducing of new equipment, works and procedures.

2.1.1 Aviation Hazard tracking
Reference documents

- NQA Risk Management Framework
- AOM Part 2 section, 03 Aerodrome Lighting.
- AOM Part 2 section, 06 Aerodrome Serviceability Inspections.
- AOM Part 2 section, 07 Aerodrome Technical Inspections.
- AOM Part 2 section, 11 Bird and Wildlife Management.
- MOS 139 Chapter 10 Section 10.18.
- Civil Aviation Safety regulations 1988.

The aim of any aviation hazard report is to document hazards to aviation safety, which have been discovered in the workplace or through an occurrence investigation, and to make recommendations for management to assist in controlling or eliminating these identified hazards. The term 'hazard reporting' covers all safety reports used by Cairns Airport, including the Cairns Airport Hazard Notification form, Inform database, ASO Log sheets and the Cairns Airport Airside Operators Incident Notification form. Additionally hazard reporting may be submitted on stakeholders own forms or email.

Reporting a hazard or an occurrence has very little safety value unless the report identifies recommendations and actions that will prevent a further safety occurrence. Managers must ensure that all aviation safety hazard and occurrence reports are fully investigated and any actions and recommendations resulting are actioned within a reasonable timeframe.

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Any reported aviation safety incidents identified as a medium or high risks must be reviewed by the Safety Manager and referred to the Risk and Safety Committee for assessment.

Daily serviceability inspection by the ASOs, Bird and wildlife monitoring on and off the airport, technical pavement inspections, airfield lighting inspections, external annual technical inspections and CASA surveillance inspections all contribute to the identification and monitoring of aviation hazards. Details and responsibilities of these routine inspects and checks are listed in the AOM Part 2 sections, 03, 06, 07, 11 and MOS 139 Chapter 10 Section 10.18.

Any identified hazard that cannot be eliminated immediately, must have controls put into place and an action plan established for its treatment.

Hazards identified, are dealt with in a number of ways through a hierarchy of controls from the most desirable and effective means from elimination of the hazard through to administrative controls and placement of barriers.

2.1.2 Manager's responsibilities

All managers at all levels must proactively manage hazards. To achieve this they must:

- Encourage and support open and honest reporting of hazards and safety occurrences by all staff and external stakeholders throughout the airport.
- Ensure all reported hazards and occurrences are treated in a just and fair manner; that is, personnel are responsible and accountable for their actions but the context within which those actions were made is taken into consideration.
- Ensure that all hazard and safety occurrences reports are coordinated and investigated by an appropriately qualified person.
- Review all action plans to ensure hazards are being addressed in a timely manner.
- The Cairns Airport safety manager has an additional responsibility to establish a closed loop system of review.

Hazards and risk registers can be found on SharePoint under Risk Management on the people, communication & Compliance area.

2.2 Safety Risk Assessment and Mitigation
Reference documents

- NQA Risk Management Framework
- Annex 1

Cairns Airport core business is the provision of air transport infrastructure and support systems to facilitate the safe movement of aircraft and all other aviation activities. Efficient and responsible management of risk is essential for Cairns Airport to achieve its corporate objectives and to avoid

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the significant flow on impact that loss of reliability of its vital infrastructure, resources and reputation would have on the business, community and the region's economy.

It is recognised that the management of risk is a key element of good corporate governance, as well as providing an increased level of safety. NQA's Risk Management Framework describes the manner in which Cairns Airport identifies, assesses, monitors and manages risk. The Framework is supported by a strong system of internal control. Cairns Airport is committed to reducing risks to a level as low as reasonably practicable and Cairns Airport policy on Risk Management is to:

- identify and evaluate the significant risks to the achievement of its objectives, set boundaries for risk taking and apply risk treatment responses including risk mitigation where appropriate;

- incorporate risk management principals into management systems to address opportunities, protect aviation, company assets to facilitate effective and efficient aircraft operations and help to ensure reliable reporting and compliance with applicable laws and regulations while ensuring the Aviation Safety Management System retains its effectiveness, and ;

  - monitor the effectiveness of the systems of internal risk controls,
  - comply with relevant NQA and Cairns Airport policies, guidelines, Standard Operating Procedures (SOP) and Standard Work Procedures (S.W.P),
  - requires the NQA Chief Executive Officer and the Leadership Team to report to the board on a six-monthly basis that the risk management and internal control system is operating efficiently and effectively in all material respects.

Cairns Airport has integrated the principles of risk management into its management processes to minimise reasonably foreseeable disruption to aircraft operations, non compliance, aviation safety, and community profile impact on Cairns Airport.
NQAs Risk Management Framework provides a detailed Risk Management process for use when undertaking risk assessments within the organisation.

Generally, risk management is integrated into Cairns Airport management systems including aviation safety, security, workplace health and safety, environment, operations and major projects. Each one of these management systems includes a requirement to undertake risk management assessment to control the organisations risks. This Risk Management Framework provides the risk management processes which will be used when undertaking risk assessments in the organisation.

Risk Management is included in the annual business planning cycle as one of the processes that leads to the approved business plan. This results in risk identification, evaluation and treatment decisions being documented, scheduled and resourced within the business plans. This process will identify and document all risks including Key Strategic Risks.

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2.2.1 Aviation Risk Management
Reference documents
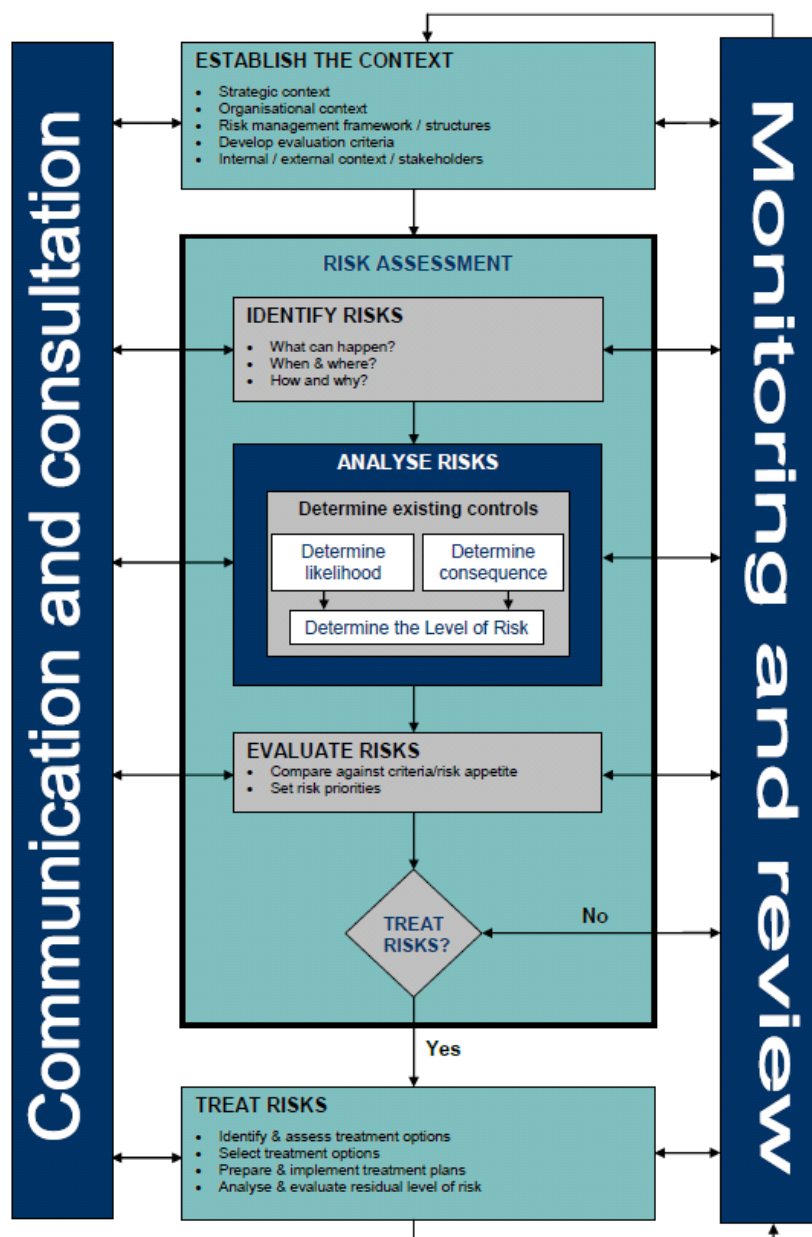
- NQA Risk Management Framework

The principals applied to risk management in other areas of the organisation are equally relevant and are applied in the management of aviation risks. The risk management methodology and principals contained in the NQA Risk Management Framework Policy should be considered as part of the decision making process at all levels of the organisation.

Ideally we would like to live and work in an environment free from hazards and the associated risks. The principal of risk management is to eliminate the known hazards however this is not always possible, risk management is the identification of all the risks associated with a hazard and treating them by control measures to a point where the risk is considered As Low As Reasonable Practicable (ALARP). All residual risks after treatment that are assessed as moderate or above must be referred to the Cairns Airport Safety Manger who may refer it to the Risk and Safety Committee.

The first principal of good Risk Management is in determining the scope and the hazards involved in any activity that is conducted or considered to be undertaken within the aviation environment. Not until hazards are identified and their association with activities that the full extent of all the potential risks can be realised.

Steps in the risk management process are:

- Step 1 Establish the context,
- Step 2 Identify the risks,
- Step 3 Analyse the risk,
- Step 4 Evaluate the risks,
- Step 5 Treat the risk,
- Step 6 Communication and consultation,
- Step 6 Review and Monitoring,

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It is important to note that stakeholder involvement is essential in the assessment and risks controls. Cairns Airport engages with all relevant stakeholders internal and external. Risks and safety issues are discussed and considered at committee meetings such as the Airside Safety Committee and Bird and Wildlife Management Committees. Sub committees may be formed from time to time to address a specific issue.

These principals are applied to the following situations which have been identified as requiring focus to be applied along with any hazard identified through the hazard tracking process that is in place.

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- The introduction of new aircraft types and the assessment of the suitability of the airports support systems to interface with the aircraft type,

- Any new equipment introduced for use airside by the ASOs is risk assessed and recorded on share point and if required documented SOPs or SWPs are developed and introduced through ASO training and awareness,

- Any new equipment introduced that interfaces or is related to any aviation system or process, and

- When any major works or upgrades are in the planning stage risk management workshops are conducted to identify hazards and analyse the risks that are associated with the works. Processes and procedures are developed to eliminate or reduce residual risk to As Low as Reasonable Practical. As part of the process consultation is also conducted with contractors, and airlines.

Additionally any routine tasks are risk assessed and procedures developed such as SOP and SWP which are to be followed when undertaking any particular task. These documents detail steps and requirements to safely conduct the activities along with the identified hazards, all SOPs and SWPs are reviewed regularly or after any event or safety incident. The introduction of any new SOPs or SWPs are communicated at ASO training days or via a Notice to Officers process, to stakeholders and operators at committee meetings and email via the distribution network.

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3 Aviation Safety Assurance

3.1 Safety performance monitoring and measurement

In determining the performance of the ASMS Cairns Airport uses indicators such as an upward trend in reporting, downward trends in incidents and serious reportable incidents.
All incident and hazard reports are analysed monthly to determine the effectiveness of the ASMS process. In determining its effectiveness, trending of incidents and hazard reports is conducted by the Safety Manager, the NQA board and a number of committees. The review and analysis is conducted by the following;

- NQA Board reviews reports prepared and present monthly which provide,
  - An overview of the reporting culture, trends and significant incident investigations
- Risk and Safety Committee (see Annex A)
  - review of incidents, hazards, CASA audit reports, Internal, external parties audit reports, ATIs and post major incident debriefs.
- Monthly operational reporting and tracking reviewed by the Chief Operations Officer.
  - By way of a summary report of incidents and any increased risks.
- Airside Safety Committee meetings.
  - These meetings discuss and review;
    - airside incidents and contributing factors,
    - trends,
    - FOD tracking,
    - discuss and communicate audit results and
    - airside stakeholders issues

- Annual review and monthly tracking of bird risks
- Major works weekly meetings
  - During any major Aerodrome works, weekly meetings are conducted to discuss progress, any changes to planned work, effects to aircraft movements, any safety incidents and identified hazards. Risks are discussed and decisions are made on their mitigation or removal.
- Representation at AsA Local RWY Safety Team meetings
  - A group consisting of aerodrome management, CASA, AsA, operators and pilots.
  - The group highlights safety improvements relating to aircraft operations and standard of visual, navigation aids and airspace procedures.
- CASA Aerodrome audits,
- Annual ATI audits and
- Annual Safety understanding and culture audits (To be introduced as part of the SMS implementation process)

3.2 Internal safety investigation

Internal safety investigations are monitored by the Safety Manager who will determine the scope, structure and delegate who will be appointed to conduct an investigation involving incidences that

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are of a serious nature, such as those described as serious incidents and accidents in table 1 in Section 3 para 3.2.1. Occurrences such as events may not involve a formal investigation however the Safety Manger may initiate a more formal review or investigation were a trend of similar or same types of events have occurred.

The primary means by which Cairns Airport tracks reports, details of safety occurrences and the investigation outcomes is through the raising of INform database reports on SharePoint. All employees and managers have obligations and responsibilities within the system.

All employees that are required to raise Inform database reports must have received training in the use of the INform system and those employees that are identified as required to complete more complex investigations and close out these reports must have had training in investigation techniques and human factors.

Unless exceptional circumstances exist, all INform database reporting should be initiated on the day of the occurrence i.e. within six hours.
Inform database reporting has two key timelines to consider. Initial notification same day and closed within 72 hours.

For an event, this is achieved by releasing the completed Inform report within 72 hours.
For an incident or above, this is achieved by releasing the Inform report as either completed within the 72 hours or with an open investigation with approval of your supervisor, manager or the Safety Manager.

Whilst investigating officers and supervisors will strive to uphold Inform reporting progression timings, the Inform report drafter's manager has responsibility to ensure the completion of the report adhering to the earliest of all deadlines.

Reporting on the same day and update or completion within 72 hours ensures all stakeholders are made immediately aware of an actual or potential issue e.g. the occurrence may have the potential to cause a serious accident but the seriousness or subsequent implications may not be immediately obvious or known to other stakeholders. It also facilitates rapid implementation of any actions required to prevent a recurrence, whilst preventing a backlog of investigations.

There is a 30 day investigation deadline to facilitate any additional time approved by the supervisor, manager or Safety Manager. However they should restrict the 30 days to complete detailed final fact-finding and analysis of highly complex investigations. This level of detail is usually only required for serious incidents or accidents.

Accurate human recollection of information significantly degrades over time, in particular beyond the first 24-48 hours. This is why investigations will require immediate prioritisation and cannot be delayed; there are time and accuracy efficiencies associated with immediate recording of 'fresh' incident information as;
- Witness statements,
- CCTV footage,

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- Photos.

Whilst time limits have been placed on the completing of investigations the completeness and quality of investigations should not be sacrificed to achieve this. If more time is required due to investigation complexities, it can be sought through your supervisor, manager or the Safety Manager.

3.2.1 Classification and Level of Occurrences

Aviation Safety occurrences

Are any occurrence which adversely affects or could adversely affect the airworthiness of an airframe or aviation support system.

Occurrences are further Classified dependant the severity of the consequence and the defences which limited the consequential outcome.

Post occurrence, an immediate assessment of the classification event, incident, serious incident or accident that best describes the occurrence is required. Definitions of classifications are as in the following table;

Table 1

Aviation Incident Classification	
Event	An occurrence that had the potential to affect the airworthiness of an aviation system but did not due to; • System defences that were adequate to prevent a compromise to airworthiness or • Safety tolerance that was sufficient to prevent any degradation to airworthiness
Incident	An occurrence that did affect, or could affect the airworthiness of an aviation system and the system defences were; • Adequate to limit the severity of the occurrence such that the consequence to airworthiness was less than major or • Inadequate/absent to limit the severity of the occurrence, however system tolerances limited the consequence to airworthiness to less than major.
Serious Incident	An occurrence that did affect the airworthiness of the aviation system and; System defences were; • Only just adequate to prevent an accident and the consequence to airworthiness was less than critical/catastrophic or • Inadequate/absent and an accident almost occurred and any consequence to airworthiness was limited by the system tolerance to less than critical/catastrophic.

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Accident	An occurrence that did effect the airworthiness of an aviation system and system defences were inadequate/absent to limit the severity of the occurrence resulting in a critical/catastrophic consequence to airworthiness.
System tolerances	
The inherent ability of the aviation system to compensate for inadequate/absent defences.	

The classification is a measure of the seriousness of the occurrence. If the occurrence has aviation safety implications and requires an investigation that will yield a tangible outcome, it should be classified as an incident, serious Incidence or accident.

For a minor occurrence it must be recorded for statistical purposes, an investigation is not required and should be classified as an event. Multiple events raised for a recurring issue may trigger an investigation, but it is not required for the individual event. If there is any doubt as to the classification, seek immediate guidance from the Aerodrome Standards and Compliance Manager or the Cairns Safety Manager.

3.2.2 SUMMARY

Raising accurate Inform database reports and producing superior quality investigations efficiently, is an integral part of Cairns Airport aviation safety management system. To do so demands personal investment, prioritisation, communication and management. Completing Inform database reports efficiently and accurately improves the quality of investigations, identifies root causes and enhances our effectiveness in identifying hazards, the controls and management of risks within the NQA group.

3.3 The management of change

Reference documents

- NQA Risk Management Framework

There are many triggers that will see the need for organisational change such as economics, increase or decrease in aircraft and passenger movements, new equipment, new aircraft types major developments and organisations strategic change.

Any change to embedded processes, procedures, organisational structure, key staff and environment can introduce new hazards and challenges. Cairns Airport recognises this and has in place a change management process that not only considers the financial and economic risks but places great emphases on the Aviation safety and human factors elements.

Cairns Airport has adopted a six step process:

1. Identify change
   a. Consider the need for the change

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b. Consider the scale of change
c. The outcome hoped to achieve

2. Consider who and what will be effected and how
   a. Determine the areas effected (RWY, TWY, Aprons, Ramp operations etc.)
   b. Determine the stakeholders whom will be effected

3. Conduct risk assessment with the inclusion of all stakeholders
   a. Conduct aviation risk assessment including human factor considerations.

4. Develop a plan
   a. Include time lines and stages of how the plan will be delivered
   b. Include any mitigation actions identified during the risk assessment process
   c. Include a communication plan
   d. Include how the plan will be assessed

5. Implement the plan

6. Monitor and review
   a. Dependant on type of change
      1. Conduct regular checks such as meetings
      2. Conduct regular onsite inspection
      3. Reassess plan
      4. Gauge acceptance
      5. Conduct lessons learnt review

3.4 Continuous improvement of the SMS

The Cairns Airport document control procedures are applied to the ASMS as a controlled document and is monitored and automatic reminders generated when annual reviews are due. The Safety Manager is responsible to ensure that an annual review process is in place and undertaken, this will involve input from the risk and safety committee, a review of safety performance and feedback from the wider campus.

Any serious safety occurrence, increase in safety indicators, trends or post lessons learnt analysis of any major airside projects may trigger a review of the ASMS.

Regularly throughout the year monitoring of the safety areas are conducted by way of monthly management reporting at section level and reporting up through the board for review. This monthly reporting includes and focus on;

- previous accidents or incidents
- internal and external audit results
- Identified patterns of risks and trends
- bird/wildlife numbers and strikes

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4 Safety promotion

4.1 Training and education

Cairns Airport has in place individual online induction and refresher training modules that cover Environmental, WH&S and HR.

4.1.1 Aviation SMS Training

A training needs analysis and training design project is being conducted by Cairns Airport as described in section 1 para 1.4 *SMS implementation plan* and outcomes will be progressively introduced.

At present Cairns Airport has in place initial training modules that target new employees and contractors.

Initial Induction and safety awareness training of all new employees is delivered via online modules which is further followed up with a face to face session to verify that individuals have completed the online module and that they have gained the required understanding of the ASMS along with their personal responsibilities and that of Cairns Airport towards them. The areas that are covered include,

- How the ASMS operates
- Awareness of the role they play in the ASMS
- Understand that the aim of the ASMS is to improve safety – not to attribute blame
- Understand the Importance of complying with the NQA Health, Safety, Security and Environment policy along with the S.O.P's and processes that form part of the ASMS
- Understand organisation, roles and responsibilities of staff in relation to safety
- Understand corporate safety goals & objectives
- Understand the reporting process of reportable matters, hazardous events and potential hazards.

Contractors also are required to complete a similar online module prior to the issue of a contractor pass, this process is described in Sect 1.5 Third Party Interface.

All training completed is captured on the Cairns Airport training matrix system which will send out a notification to individuals to remind them that compulsory refresher training is due.

Any new ASO that starts with Cairns Airport is also required to complete the ASO training package and be assessed prior to conducting any individual shifts. The training addresses CASA skill requirements and modules from the national training framework aviation packages.

Further aviation safety and hazard training is conducted for those that are required to drive and operate airside. This training is conducted through a system of face to face presentations, formal

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exam and the requirement to complete a driving log whilst under supervision. Refresher training and assessment is required every 2 years. Apart from airside hazards, rules and procedures hazards associated with human performance such as situational awareness, distractions, time pressures and DAMP policies are also addressed.

All Cairns Airport aviation safety critical staff attend safety and skills training days every eight weeks. These sessions are used to;

- Discuss any upcoming works plans sessions
- Any incidents, and incidents outcomes
- Any hazards or safety improvements
- Regular refresher training delivered by internal and external providers

All training is registered on the NQA training matrix system and maintained by the Operations Training Coordinator.

4.2 Safety Communication

Cairns Airport promotes positive safety engagement through a number of communication channels and encourages feedback up, down and sideways. This includes Cairns Airport staff, airport tenants and contractors.

Cairns Airport takes the opportunity to provide information through;

- Monthly operation, and board level reports,
- Scheduled Risk and Safety, Airside Safety, Airport Emergency, Bird and wildlife and Local Runway Committee meetings as standard agenda items,
- Formal letters, email, phone and face to face correspondence to individuals and organisations,
- Notice boards, posters and notices to officers,
- Tool Box talks at ASO training days and onsite airside with contractor during major projects,
- The promotion of safety focused activities during safety week,
- Safety Alerts and Bulletins
    - Cairns Airport has in place a system for the registering and recording on SharePoint of any Safety Alerts/Bulletins that are raised and issued. Prior to release it is also reviewed by the NQA Health and Safety Adviser.

Internal newsletters "*On The Radar*" and externally through "*Terminal and Aerodrome Talks*"

Cairns Airport values any positive input and suggestions on safety improvement initiatives and actions from staff, tenants and contractors and through the Airport Customer Experience (*ACE*) program nominees may be rewarded.

The effectiveness of Cairns Airport safety communication, promotions, ASMS and safety culture is gauged though an annual safety understanding and culture audit to be introduced in 2018.

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Guidance Material – Aviation Risk Analysis Process

Risk Identification

It is necessary to identify all of the potential risks that may affect the safety of aircraft movements on and above the airport along with the interface between aircraft and ground vehicles and equipment, whether or not they are under your control or not.

The following points should be used to assist in risk identification and analysis. These points should be used as a general guide or starting point.

Risk Analysis

The objective of risk analysis is to separate the minor acceptable risks from major risks and to provide data to assist in evaluation and treatment of risks. Risk analysis involves considering the sources of risk the hazard, the likelihood of an event taking place and the consequential outcome.

The level of risk is analysed by combining estimates of degree of the consequence and likelihood taking into account any existing control/treatment measures.

A preliminary analysis can be carried out so that similar or low risks are excluded from further more detailed consideration. The excluded risks should however be listed on the aviation risk assessment worksheet to demonstrate they have been considered and therefore the process has been thorough.

The level of risk (likelihood and consequence) can be assessed quantitatively where the risk level is reasonably expected to be higher and the data is available. For instance, in relation to consequence the potential financial cost of a delay or reduced operational capability can be estimated having regard to existing and forecast revenue/profitability.

In many cases the data will not be available to make a quantitative assessment of the level of risk in such cases qualitative assessments are undertaken. Cairns Airport has developed the following scales to be used for qualitative risk level determination.

Cairns Airport aviation risk assessment worksheet format provides for the description of the likelihood, consequence and risk controls of a hazard to be documented. This description can include a qualitative description and if available, quantified estimates.

Based on the description, the manager and team analysing the risk should use the following categorises to determine the likelihood and consequence:

Areas of Risk Assessment

The Initial aviation risk assessment should be focused on level of aircraft damage and capacity of the airport to support aviation activities if an event was to occur. Once an assessment on the risk level

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has be determined the Safety Manager should consult other specialists within the company for consideration of the risks associated with other outcomes such as WHS/financial.

Risk Levels after Assessment and Controls.

Outcomes that produce a level of risk of medium or greater must be referred to management for further consideration and possible consideration by the Safety Manager.

Any outcomes that produces a level of risk of high or greater must be referred to the Safety Manager for further consideration and possible consideration by the CEO, Risk and Safety Committee and board.

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Likelihood and Consequence Definitions

LIKELIHOOD	DEFINITION
Almost certain (5)	**Expected to occur during the activity under consideration.**
Likely (4)	**Once in the next month, will probably occur in most circumstances**
Possible (3)	**Once in the next 12 months, might occur at some time**
Unlikely (2)	**Once in the next 1–5 years, could occur at some time**
Rare (1)	**Once in the next 10 years–may occur only in exceptional circumstances**

CONSEQUENCE	DEFINITION
Catastrophic (A)	**Capability:** Extensive impact on airport operations and damage to airport assets or airworthiness of aviation support systems. **Airframe Safety:** aircraft lost. Cat 5 damage (unrepairable, missing or inaccessible for recovery) to an aviation system.
Major (B)	**Capability:** Major impact on airport operations, significant damage to airport assets or airworthiness of aviation support systems. **Airframe Safety:** major aircraft damage. Cat 4 damage (repairable in more than 14 days) to an aviation system
Moderate (C)	**Capability:** Moderate impact on airport operations damage to airport assets or airworthiness of aviation support systems. **Airframe Safety:** aircraft category 3 damage. Cat 3 damage (repairable but third party assistance required)
Minor (D)	**Capability:** Minor impact temporary disruption on airport operations or airworthiness of aviation support systems. **Airframe Safety:** aircraft category 2 damage Cat 2 damage (repairable onsite possible third party assistance maybe required)
Negligible (E)	**Capability:** Negligible impact on airport operations or airworthiness of aviation support systems. **Airframe Safety:** aircraft category 1 damage. Cat 1 damage (repairable onsite with minimal or no consequence to operations)

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Risk Matrix Example

		CONSEQUENCE				
		Catastrophic (A)	Major (B)	Moderate (C)	Minor (D)	Negligible (E)
LIKELIHOOD	Almost Certain(5)	5A	5B	5C	5D	5E
	Likely(4)	4A	4B	4C	4D	4E
	Possible(3)	3A	3B	3C	3D	3E
	Unlikely(2)	2A	2B	2C	2D	2E
	Rare(1)	1A	1B	1C	1D	1E

Assessment risk index	Risk Critera
5A,5B,5C,4A,4B,3A	Unacceptable under the existing circumstances
5D,5E,4C,4D,4E,3B,3C,3D ,2A,2B,2C,1A	Acceptable based on risk mitigation. It might require management decision
3E,2D,2E,1B,1C,1D,1E	Acceptable

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Aviation Risk Assessment Worksheet

Risk assessment for

Task Analysis	Hazard Identification	Identify Risks	Analyse Risks				Evaluate Risks		Risk Reduction Measures						
Task/Job	Hazard	Risk	Existing Controls	Consequence	Likelihood	Risk Level	ALARP?	Decision	Additional Control Strategies	Consequence	Likelihood	Risk Level	ALARP?	Final Decision
Acceptable.				Capability: Airframe Safety:		Capability: Airframe Safety:	Y	Acceptable		Capability: Airframe safety:		Capability: Airframe Safety:	Y	Acceptable.
				Capability: Airframe Safety:		Capability: Airframe Safety:	N	Not Acceptable		Capability: Airframe safety:		Capability: Airframe Safety:	Y	Not Acceptable.
Acceptable on implementation, completion and monitoring of additional control strategies.				Capability: Airframe Safety:		Capability: Airframe Safety:	N	Not Acceptable		Capability: Airframe safety:	Rare	Capability: Airframe Safety:	Y	Acceptable on implementation, completion and monitoring of additional control strategies.

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