Australian Government
Civil Aviation Safety Authority

PRINCIPLE

(AIM.05) - Alternate means of compliance (AMOC) and exclusions from an airworthiness directive

October 2025

Acknowledgement of Country

The Civil Aviation Safety Authority (CASA) respectfully acknowledges the Traditional Custodians of the lands on which our offices are located and the places to which we travel for work. We also acknowledge the Traditional Custodians' continuing connection to land, water and community. We pay our respects to Elders, past and present.

Artwork: James Baban.

Contents

1 Terminology

1.1 Definitions

Table 1. List of definitions

Term	Definition
Aeronautical product	Any part or material that is, or is intended by its manufacturer to be, a part of or used in an aircraft, unless excluded by the regulations. (Civil Aviation Act, section 3)
Airworthiness Directive (AD)	A mandatory regulatory document that requires the Registered Operator to comply with the requirements to address an unsafe condition on an aircraft or aeronautical product.
Alternate Means of Compliance (AMOC)	An alternate means of compliance with an AD, approved by CASA or NAA of the State of Design.
Exclusion	A power of CASA that can exclude an aircraft or aeronautical product from the requirements of an AD because the unsafe condition cannot exist and cannot develop.
Kind	The use of the term kind in this principle is to cover a class or group of the same nature or character. For example, type, series or model of aircraft or aeronautical product.
State of Design	The State having jurisdiction over the organisation responsible for the type design. (i.e., The issuer of the Type Certificate)
State of Design AD	An airworthiness directive issued by the NAA of the State of Design.
Unsafe Condition	A condition which, if not corrected, is reasonably expected to result in one or more serious injuries.

1.2 Reference to regulations

Unless specified otherwise, all subregulations, regulations, Divisions, Subparts and Parts referenced in this Principle are references to the Civil Aviation Safety Regulations 1998 (CASR).

2 Revision history

Amendments/revisions for this principle are recorded below in order of the most recent first.

Table 2. Revision history table

Version No.	Date	Parts / Sections	Details
1.2	October 2025	Para 5.4 (was 3.4)	Updated reg reference and template change. Global change from "equivalent" level of safety to "acceptable" level of safety for consistency with CASR 39.004.
1.1	October 2022	All	Administrative review only
1.0	May 2020	All	First issue

3 Introduction

While the AD mandates a particular means of compliance, it may be possible to address the unsafe condition through other means.

Regulation 39.004 of the Civil Aviation Safety Regulations 1998 states that CASA may approve a means of compliance other than that set out in an AD, or an exclusion to an AD.

3.1 CASA issued guidance material (GM)

CASA Advisory Circular 39-01 provides guidance to industry on all matters related to ADs including AMOCs and exclusions to an AD.

The exclusions and AMOCs to Airworthiness Directives page on the CASA website, also provides guidance to industry about how to apply for an AMOC or an exclusion.

4 Using this principle document

4.1 General

The airworthiness principle document aligns with the associated worksheet and provides clarification on the condition statements provided in the worksheet, as well as guidance on how best to assess the application considering the specific requirements in each section. To achieve this, the language used aims to encompass the regulatory requirements and CASA's understanding of safe practices including items for consideration that will establish what CASA believes to be a level of safety that is at least acceptable for an approval to be given.

4.1.1 An explanation on terms

Must

When this document states a requirement as a "must", the term will reference a legislative requirement and as such it cannot be omitted or changed from the stated requirement without further legislative variation or exemption.

Should

The use of the term "should" reflect a requirement that CASA has determined is important to be satisfied that the authorisation is considered to provide a level of safety that is at least acceptable. As these requirements are not specified in legislation, such requirements should be considered only as acceptable means of compliance. Alternate means that can be shown to meet the same intent can be accepted by the delegate, where deemed appropriate. The regulatory basis for these requirements is CASR 11.055. Where alternate methods do not show or meet the same intent, a condition may be placed on the authorisation to compensate and re-establish an acceptable level of safety. The regulatory basis for such requirements is CASR 11.056.

It is not acceptable to ignore or omit any "should" requirement that is applicable to the authorisation being assessed without a justification demonstrating the decision retains a level of safety that is "at least acceptable". Conversely, it is also important to consider whether imposing such circumstances may be inappropriate and unduly onerous on the operator.

May

The term "may" signify something that is permitted but not required through legislation or deemed important for approval. The term is used to provide options, alternate methods or examples.

4.1.2 Using worksheet (AIM.05) and airworthiness principle (AIM.05)

Worksheet AIM.05 follows the same numbering reference structure of this Principle. i.e., Section 4.2 of this Principle aligns with the same reference section of the worksheet. The numbering is sequential to facilitate the cross-referencing between the Worksheet and this Principle document.

The Principle document incorporates information from several sources, as well as technical expertise from CASA officers. This assistance aims to facilitate the assessment process by elaborating on regulatory issues and expanding on practices that must, should and may be positively identified to be considered compliant with current legislation.

4.2 Assessment

4.2.1 Assessment scope

An AMOC allows an operator to address an unsafe condition identified in an AD through a process or method that allows for an acceptable level of safety to be maintained in the context of the unsafe condition addressed by the AD. An acceptable level of safety is the level of safety intended by the certification basis of the aircraft or aeronautical product.

To achieve an acceptable level of safety, a safety assessment must be performed to establish acceptability and a verification that other potential conflicts do not exist (other ADs for the same system, MELs, Configuration Deviation List, etc).

An exclusion provides a mechanism to exclude an aircraft/product from compliance with the AD. The assessment must show that the identified unsafe condition does not exist and cannot develop in the future.

4.2.2 Assessment of an AMOC

To assess a proposed AMOC the assessor should:

- review application form CASA-04-4607 to ensure that it is completed correctly
- familiarise themselves with the subject airworthiness directive and any associated service documentation
- verify that the proposed means of compliance results in an acceptable level of safety.

AMOC or exclusion approval is recorded by the delegate using the assessment summary of Worksheet (AIM.05).

4.2.3 Assessment of an exclusion

The assessment of a proposed exclusion will require the assessor to review application form CASA-04-4607 to ensure that it is completed correctly. Assessors should also familiarise themselves with the subject airworthiness directive and any associated service documentation.

The assessor should verify that the unsafe condition identified in the AD cannot exist in the aircraft.

Exclusion approval is recorded by the delegate using the assessment summary of Worksheet (AIM.05).

5 Approval of AMOCs and exclusions

5.1 Individual or general AMOC or exclusion

CASR 39.004(2) and (3) allow CASA to issue an individual or general AMOC or exclusion.

An individual AMOC or exclusion applies to a particular aircraft or aeronautical product.

A general AMOC or exclusion applies to a kind of aircraft or product. General AMOCs and exclusions are legislative instruments and are managed by AEB working with LIRA.

5.2 Safety analysis

5.2.1 Acceptable level of safety

To establish an acceptable level of safety for a requirement of an Airworthiness Directive, a safety analysis should be carried out. The depth of analysis should be proportionate to the manner of the alternate method being proposed but should as a minimum consider the following:

- Type design and certification requirements (Type Certificate)
- Effect on crew workload, decrease in crew efficiency, and environmental impact on the crew
- Effect or interaction on other systems
- Failure of any backup system to the original item (next critical failure)
- Performance degradation of systems or the aircraft

The assessment of an acceptable level of safety for an AMOC may involve one or more of the following methods of justification:

- Certification Statement
- a qualitative analysis
- a quantitative safety analysis.

5.2.2 Certification statement

In order to ascertain the effect of inoperable equipment and establish an acceptable level of safety, it should be encouraged that a certification statement from an appropriate source be provided with the application for the AMOC. Depending on the complexity of the system, an appropriate source may be the equipment designer (OEM), the NAA that issued the TC, a CASR Subpart 21.M or Subpart 21.J approval holder or an appropriately Licensed Aircraft Maintenance Engineer (LAME).

The Certification Statement should state that a technical assessment has been carried out on the item that is defective and provide the reasons why the alternate method will provide for an acceptable level of safety in relation to the unsafe condition addressed by the AD.

5.2.3 Qualitative safety analysis

These analytical processes assess system and aircraft safety in a subjective, non-numerical manner, based on experienced engineering judgement or a precedent that has been set by previous approvals.

If an alternate method can be shown to provide an acceptable level of safety, a qualitative safety analysis must be used to consider the impact that the proposed method has on all other aspects of the aircraft's operation. The qualitative analysis should consider:

- Type design and certification requirements (Type Certificate)
- the impact on crew workload and operating environment
- the impact (individual and cumulative) of invoking multiple PUs or MEL items
- the impact of any other open existing defects
- the complexity of maintenance and/or operational procedures.

The above points should be considered for each application, however for a qualitative analysis to be used, a certification statement or a quantitative analysis would usually have been established previously, typically through a prior approval for a similar scenario.

5.2.4 Quantitative safety analysis

These analytical processes apply mathematical methods to assess system and aircraft safety.

If the alternate method cannot be justified through qualitative means, then a quantitative system safety analysis may be carried out. This involves a quantitative analysis of the likely risk of the worst effects that could result from the alternate method leading to an unacceptable exposure to the unsafe condition.

It should be shown that the probability of the unsafe condition existing or developing is not increased beyond the levels dictated by the requirements of the AD.

This process is complex and typically requires the support of the type certificate holder for access to appropriate data.

International standards such as SAE ARP4761 provide guidelines on the methods for conducting a System Safety Assessment.

5.2.5 Approval based on precedent

An AMOC may be approved based on a precedent set by a previously approved AMOC or exclusion where the application is considered equivalent. The steps associated with the qualitative assessment above should be followed to establish whether the precedent is suitable to use as the justification for an approval or exclusion.

5.2.6 Multiple ADs and inoperative items

It is important to consider the effect of the alternate method and the impact of other ADs and permissible unserviceabilities (PUs), including MELs applied to an aircraft.

An inoperative component approved as a PU in a particular system can affect the operation or limit the inoperability of a component in another system (e.g., inoperative components of a wheel braking system limiting the inoperability of the thrust reverser system).

In addition to understanding the interrelationships between items, consideration must be given to the crew and the impact that multiple item failures and deferrals can have on the safety of flight. Any alternate method that involves changes to the crew workflow (e.g., temporary supplements to the AFM, POH, etc) must give consideration of the effect of possible additional item failures while an aircraft is en route.

5.3 Extension of compliance times

An AMOC may be approved to extend the compliance period of an AD with suitable inspection. This will only be approved when an AD requires replacement of parts, and the manufacturer is unable to supply these parts. To approve such an AMOC, the delegate must ensure that the application is supported with a qualitative safety analysis as a minimum with the additional following information:

- a technical assessment and concurrence from the manufacturer or the relevant NAA
- confirmation of the unavailability of the parts from the manufacturer (if appliable)
- evidence that the situation was outside of the control of the registered operator (e.g., not down to poor planning).

5.4 Conditions and limitations of an AMOC or exclusion

In order to achieve an acceptable level of safety, an AMOC or exclusion may be approved with conditions in accordance with CASR 39.004(6). These conditions may result in an operational and or maintenance procedure that must be performed whilst the AMOC or exclusion is in effect.

5.5 Amendments to an AD

If an AD is revised, amended or cancelled, all associated AMOCs or exclusions to the AD will cease and require a new application to ensure that they meet the new AD requirements.

If an Australian AD is amended and previous AMOCs or exclusions can still apply, the AD will include a note indicating as such.

In some instances, such as for the purpose of correcting typographical errors, ADs (including those issued by a foreign state) may be re-issued with the same AD number and revision status. In such cases the issued AMOC will typically retain its validity if the reference document retains all properties (revision, issue, etc).

However, if there is any doubt, advice should be sought regarding the legal validity of such documents though the airworthiness@casa.gov.au email address.

5.6 Operational limitations

If the safe implementation of the AMOC or exclusion relies on operational or maintenance procedures, the approval should be conditional on the aircraft remaining with the current registered operator.

If the operation and/or maintenance of the aircraft was not a significant consideration of the assessment, the AMOC or exclusion may be transferred to a new operator when the aircraft is sold, leased or returned.