



DEFENCE AVIATION SAFETY AUTHORITY

NOTICE OF PROPOSED DASR AMENDMENT NPA 2020-028 Revision 2

UPDATE: AIRCRAFT CRASH PROTECTION POLICY (REMOVAL OF ARO.40)

References

- A. [DASR Safety Management Systems of Feb 24](#)
- B. Minute - *Advance Notification of DASA Intention to Remove DASR ARO.40* of Feb 2023 ([BP30884680](#))
- C. Notice of Proposed Amendment (NPA) DASR 2020-028 Revision 1 of Nov 2020 ([BP13093245](#))
- D. Interim Comment Response Document (CRD) to DASR NPA DASR 2020-028 Revision 1 of Mar 2021 ([BP15095579](#))
- E. DIA-DASA *Crash Protection Policy* of 28 Sep 20 ([BJ3579669](#))
- F. Notice of Proposed Amendment (NPA) DASR 2023-010 *Safety Management Systems* of May 2024 (proposed release February 2025).

INTRODUCTION

Applicability

1. This proposal is applicable to Groups that operate Defence-registered aircraft.

Purpose

2. The purpose of this NPA (revision 2) is to remove the DASR ARO.40 *Aircraft Crash Protection* (CP). In lieu, compliance to CP design requirements from the *Defence Aviation Safety Design Requirements Manual* (DASDRM), and the application of DASR SMS (reference A), assures the protection of aircraft occupants during survivable crashes—without the need for a specific CP DASR.
3. This NPA is an integral part of key stakeholder consultation to allow for comment and input to DASR development prior to its formal release. At reference B, stakeholders were provided advanced notification of the impending removal of DASR ARO.40.

Proposed Amendments

4. The proposed amendments are expected to:
 - a. remove:
 - (1) the DASR ARO.40 Part, with all accompanying Guidance Material (GM) and Acceptable Means of Compliance (AMC)
 - (2) related CP definitions from the DASR Glossary
 - b. add a new chapter in DASPMAN Volume 3 to include crash protection supporting material.
5. Annex A contains a summary of changes and cross references. Enclosure 1 and enclosure 2 contain the full text of proposed amendments.
6. The benefits of this proposal include:
 - a. allowing MAOs to make risk management decisions without the undue influence of artificial priorities inferred from the existence of DASR ARO.40



- b. reducing regulatory burden created by compliance with duplicate regulation
- c. aligning Defence CP practices with international regulatory best practice.

7. This NPA supersedes reference C by incorporating feedback from the Interim Comment Response Document at reference D. DASA has concluded this proposal comprehensively documents an appropriate framework under which crash protection hazards and associated risks can be managed within Defence.

Background

8. In response to the Board of Inquiry into the 2005 Sea King accident¹, the Defence Airworthiness Authority (DAA) released an aircraft CP policy focused on the treatment of CP design deficiencies. This policy was replaced in subsequent years by a series of revised policies, and finally the standalone policy was replaced by a single regulation Part—DASR ARO.40. While previous policies placed obligations on diverse stakeholders, DASR ARO.40 only placed CP obligations on the Military Air Operator (MAO).

9. However, DASR ARO.40 duplicates the risk management obligations placed on MAOs by DASR SMS, which in turn amplify the MAO's risk management obligations under the *WHS Act 2011* (Cth). Of all the potential aircraft design deficiency risks that require MAO management under DASR SMS, only CP design deficiencies are currently specifically regulated. Given the DASR singled out CP design deficiencies for special treatment, the implied priority afforded to DASR ARO.40 compliance influences holistic risk management decisions within MAOs. Less severe CP related design deficiency risks may be prioritised over more severe risks in other areas. Such prioritisation may result in a less safe aircraft, when considering the overall risk profile. Ideally, MAOs should have the discretion to risk manage design deficiencies in accordance with their own risk assessments, unconstrained by the pressures resulting from the need to remain compliant with DASR ARO.40.

10. The reference E review concluded that DASR ARO.40 no longer provided ongoing value given the context differences between the current aviation safety environment and the environment which existed when the CP policy was first published. In particular, the statutory obligations, regulations, procedures, organisational practices and personnel competencies applicable to risk management are markedly superior to their equivalents over 10 years ago.

11. Reference E resulted in the release of the initial NPA 2020-028 Revision 1 (reference C) to the regulated community, describing planned changes. Given responses to that NPA, DASA did not enact the change at that time. Responses highlighted the regulated community's concern that removal of DASR ARO.40 in its entirety would be premature at that time. In particular, responses highlighted:

- a. the uncertainty of stakeholders in the maturity of the alternative systems available to manage crash protection risks
- b. the potential for the removal of DASR ARO.40 to result in inconsistent approaches to ensuring that crash protection attributes of Defence aircraft are continuously harmonised with contemporary practice.

12. As a result, DASA concluded that further effort would be required to comprehensively document an appropriate framework under which crash protection hazards and associated risks can be managed within Defence. DASA has now further considered the removal of DASR ARO.40 and, noting the time elapsed since the Revision 1 NPA release, has concluded that:

- a. MAO SMS's have matured to a point where concerns raised in response to reference C regarding the robustness of risk management associated with crash protection shortfalls, are no longer applicable.
- b. Removal of DASR ARO.40 would not have a detrimental effect on the level of crash protection afforded to occupants of Defence aircraft.

¹ Royal Australian Navy, Nias Island Sea King Accident Board of Inquiry Report of 2007.



- c. The recent release of the DASP Manual provides an opportunity to retain a ‘regulatory’ linkage to aircraft crash protection, by documenting associated supporting material in Volume 3 specifically contextualised for crash protection (refer to Annex A and Enclosure 2).
- d. The planned release of Reference F in February 2025 will contain additional improved regulatory clarity, leading to improved organisational SMS effectiveness—through incorporation of additional DASR SMS supporting AMC material Safety Risk Management (SRM) of design standards:

Safety Risk Management (SRM) of design standards (AUS):

- (1) *Safety recommendations from accident and incident investigations, technological advancements and research often lead to new or improved design standards for aircraft and are included in the Airworthiness requirements of products. These requirements/standards are only applicable to new aircraft types and to certain significant changes of existing types. However, some of these new developments, if incorporated in the existing fleet of in-service aircraft, can bring safety improvement.*
- (2) *The DASR requires organisations to continuously monitor and review RM practices related to Airworthiness/Aviation Safety risks as part of an organisation’s SMS. During review of an aircraft’s risks, the organisation must review the ways to control a hazard and identify new ways if available. This requires the organisation’s SMS systems to apply ‘reasonable knowledge’ (refer to section 3.5 of Advisory Circular (AC) 003/2018) and undertake assessments for specific aircraft design risk. One of many inputs to identifying new controls will be the latest standards/design requirements of the product captured within Primary Certification Codes and Defence Aviation Safety Design Requirements.*
- (3) *Further supporting material for specific aircraft design risk is available in Defence Aviation Safety Program Manual (DASPMAN) Vol 3, the Defence Aviation Safety Design Requirements Manual (DASDRM) and AC 03/2018.*

13. DASA does not consider that removal of DASR ARO.40 would return Defence to the situation before the Sea King accident. On its removal, the residual set of statutory, regulatory and policy requirements will provide assurance that CP risk management remains effective.

14. Specifically, Sea King Board of Inquiry recommendations 13.2 and 14.12 were satisfied by the implementation of the Contemporary Crash Protection Design Requirements (CCPDR) in the (now) *Defence Aviation Safety Design Requirements Manual (DASDRM)* and resourcing within the DASA. Consequently, recommendations 14.29, 17.4, and 17.5 continue to be satisfied through: Airworthiness Boards; DASA Audits; SOIU reviews; application for Major changes under DASR 21.A.101; and the requirements in DASR SMS. DASA’s evaluation of each of these recommendations ensures they will continue to be satisfied after the removal of DASR ARO.40. Its removal would not adversely affect:

- a. DASA continuing to monitor changes in CP design requirements and updating contemporary CP design requirements in the DASDRM over time—as it does for all other forms of airworthiness-related design requirements
- b. Military design organisations continuing to ensure that proposed changes to the aircraft configuration retain the extant level of aircraft CP, and also satisfy the relevant DASA prescribed CCPDR
- c. MTC holders continuing to monitor the type design for non-compliance with airworthiness requirements, and to identify and control new hazards and risks
- d. MAOs continuing to discharge their DASR SMS risk management obligations using the 7-step risk management process to ‘monitor and review’ identified CP hazards and risks.

15. Regulatory linkages for satisfying CP obligations also remain implicit through DASR SMS, specifically the Safety Risk Management component (refer to Annex A). The removal of DASR



ARO.40 allows the responsible manager to identify hazards associated with CP, and to assess and mitigate CP risk. This approach allows the responsible manager to set the CP review period commensurate with the level of CP risk on the platform, and cognisant of all other platform risks.

16. Aircraft that have the largest risks associated with CP are those that do not meet the current CCPDR and have exception MCRI tailoring to their type certification basis. In these circumstances, though the need for regular review will not be required through DASR ARO.40, risk management obligations remain through the Airworthiness Issue Paper (AwIP) process and the platform's hazard log.

17. DASA will retain a level of oversight into platforms' crash protection risk management through oversight and enforcement (O&E) activities. All platforms are exposed to risks associated with a crash and DASA oversight of DASR SMS will provide assurance that crash protection risks are managed appropriately.

18. Notwithstanding, substantial sections of DASR ARO.40 GM and AMC remain as valuable guidance for ongoing CP risk management, including for establishing the likelihood and consequence of CP risk. This supporting material will be retained in Volume 3 of the DASP (Enclosure 2).

19. DASA policies and regulations are a product of their environment. Over ten years ago, in response to the Sea King accident, Defence justified a need for a CP policy that prescribed specific risk treatments for the management of CP design deficiencies. However, today's improved risk-management environment no longer requires this special treatment. With DASR ARO.40 removed, the WHS Act and DASR SMS would still oblige MAOs to risk-manage CP design deficiencies, and could do so unconstrained by artificial risk management priorities. This aligns the requirement for the management of crash protection with other airworthiness requirements, which may provide a similar (or greater) level of platform safety improvement.

Implementation Strategy

20. The DCP is intended to be released in conjunction with the DASR update in July 24.

21. DASA assesses that this DCP will not introduce any additional training requirements.

22. Given this DCP removes a DASR, no compliance transition period is necessary.

HOW TO SUBMIT COMMENTS ON THIS NPA

Format

23. Responses to this NPA are to be recorded on the NPA Response Sheet included at Annex B.

24. Responses are to be submitted by email to [DASA](#). Hardcopies of the NPA Comment Sheet are not required.

Timing

25. Comments on NPA 2020-028 (Revision 2) are to be forwarded to DASA by close of business 27 Jun 24.

Additional Information

26. Additional information concerning this NPA is available from the Deputy Director Design Technology Standards (DD DTS), dasa.dtsenquiries@defence.gov.au.



DISPOSITION OF RESPONSES RECEIVED

27. A Comment Response Document will be published on the [DASA Website](#). DASA will not individually acknowledge or respond to comments or submissions.

ORIGINAL SIGNED 27/05/24 BP29702724 (V3.0)

C POUNCEY

GPCAPT
DAVNOPS
Defence Aviation Safety Authority

Tel: (03) 5169 8204

May 24

D GROSSE

Mr
DIA
Defence Aviation Safety Authority

Tel: (03) 9200 0756

Annexes:

- A. Summary of Changes - NPA 2020-028 Revision 2.
- B. NPA 2020-028 Revision 2 - Response Sheet.

Enclosures

- 1. Proposed amendment to DASP Volume 2 - DASR ARO (Removal of DASR.ARO 40).
- 2. Proposed amendment to DASP Volume 3 – Crash Protection (Inclusion of new chapter).



NPA 2020-028 Revision 2

Summary of Changes

| Current Reference | Type of Change | Existing Reference A | New Reference | Rationale |
|-------------------------------------------------------------------|----------------|-------------------------------------|---------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DASP Vol 2 DASR.ARO 40 Aircraft Crash Protection | | DASP Vol 2 DASR.SMS ² | DASP Vol 3 Crash Protection Guidance Material | |
| ARO.40 (a) | Removed | SMS.A.25 | N/A | <p>Intent met through existing DASR SMS. The requirement to maintain a system to eliminate or otherwise minimise risk So Far As is Reasonably Practicable (SFARP) is covered in DASR SMS.A.25.</p> <p>DASR SMS imposes specific obligations on MAOs to manage risks associated with aviation operations, including aircraft design deficiencies.</p> |
| GM ARO.40.A - Maintaining a system to treat CP risk to personnel | Removed | SMS.A.25 | Para 6.10.7 Para 6.10.30 | <p>The requirement to maintain a system to eliminate or otherwise minimise risk So Far As is Reasonably Practicable (SFARP) is covered in DASR SMS.A.25.</p> <p>SMS.A.25(b)(2)(2.2) discusses Safety risk assessment and mitigation.</p> <p>DASP Vol 3 Crash Protection Para 6.10.7 elaborates on risk based approach to CP and explains rationale as to why Crash Protection is treated like all other risks to health and safety. Para 6.10.30 contains guidance on maintaining a system to treat CP risk to personnel.</p> |
| AMC ARO.40.A - Maintaining a system to treat CP risk to personnel | Removed | SMS.A.25 | Para 6.10.9 – 6.10.18 Para 6.10.32-6.19.47 | <p>Content placed in guidance material DASP Vol 3 Crash Protection.</p> <p>Para 6.10.9 - 6.10.18 contains initial airworthiness and flight operation considerations contained in AMC ARO.40.A</p> <p>Para 6.10.32-6.19.47 contains detailed on CP Risk Management framework.</p> |

² NOTE: Reference F, Notice of Proposed Amendment (NPA) DASR 2023-010 Safety Management Systems of May 2024 (proposed release: February 2025) will provide improved regulatory clarity and structure. As such, existing reference numbering will be updated.



| Current Reference | Type of Change | Existing Reference A | New Reference | Rationale |
|--------------------------------------------------------|----------------|-------------------------------------|--------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DASP Vol 2 DASR.ARO 40 Aircraft Crash Protection | | DASP Vol 2 DASR.SMS ² | DASP Vol 3 Crash Protection Guidance Material | |
| ARO.40 (b) | Removed | SMS.A.25 | N/A | <p>Intent met through existing DASR SMS regulation.</p> <p>Interval review period not exceeding five years removed. DASR SMS.25 requires ongoing maintenance and review of control measures to risk (AMC SMS.A.25(b)(2)(2.2) - Safety risk assessment and mitigation).</p> |
| GM ARO.40.B – Periodic review of risk assessments | Removed | SMS.A.25 | 6.10.47 | <p>Intent met through existing DASR SMS regulation.</p> <p>Interval review period not exceeding five years removed. DASR SMS.25 requires ongoing maintenance and review of control measures to risk (AMC SMS.A.25(b)(2)(2.2) - Safety risk assessment and mitigation.</p> <p>Para 6.10.47 states CP risk treatment documentation should be produced, reviewed and stored by the responsible organisation as part of their SMS structure.</p> |
| AMC ARO.40.B – Periodic review of risk assessments | Removed | SMS.A.25 | 6.10.46 6.10.47 | <p>Intent met through existing regulation.</p> <p>Interval review period not exceeding five years removed. DASR SMS.25 requires ongoing maintenance and review of control measures to risk (AMC SMS.A.25(b)(2)(2.2) - Safety risk assessment and mitigation).</p> |



NPA 2020-028 Revision 2 Response Sheet

DASR ARO.40 AIRCRAFT CRASH PROTECTION

Please forward this sheet as an email attachment to [DASA](#) by 27 Jun 24. A word version of this response sheet can be found via obj no: [BO3960659](#) or alternatively contact [DASA](#).

Please indicate your acceptance or otherwise of this proposal by ticking the appropriate box below. Additional comments, suggested amendments or alternative action are welcome and may be provided on this response sheet or by separate correspondence.

- The proposal is **acceptable without change**.
- The proposal is **acceptable but would be improved if the following changes were made:**
- The proposal is **not acceptable but would be acceptable if the following changes were made:**

| LSN | NPA Reference: (i.e Regulation number, NPA paragraph etc) | Comment or suggested change | Explanation |
|-----|--------------------------------------------------------------|-----------------------------|-------------|
| 1 | | | |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |

RESOURCE IMPLICATIONS

Please provide specific comment on any significant resource implications that this proposal may have for your organisation, for both its implementation and ongoing compliance. Your comments should address both financial and human resource considerations.

| | |
|-------------------------------------------------|--|
| Resource implications – Proposal implementation | |
| Resource implications – Proposal sustainment | |



RESPONDENT DETAILS

| | |
|----------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Your name: | |
| Submission date: | |
| Your organisation: | |
| Email address: | |
| Postal address: | |
| Phone: | |
| <p>Whose views are represented in your response?</p> <p>i.e. Is your response the authoritative response from your organisation?</p> | <p>Responding on behalf of :</p> <p>Individual []</p> <p>Regulated Military entity []</p> <p>Regulated Commercial entity []</p> <p>Wing HQ []</p> <p>Group HQ []</p> <p>ADF Regulatory, Technical or Logistics policy agency []</p> <p>Other commercial entity [],</p> <p>Other [] Please describe:</p> |
| <p>Do you consent to your name being published as an NPA respondent within the NPA Summary of Responses:</p> | <p>YES []</p> <p>NO []</p> |

