

NPA/24/15

Title of Proposal: Air Launched Weapon Release

RA(s) or Manual Chapter(s): RA 1350

Organizations and / or business sectors affected: Whole Regulated Community

RFC Serial No: MAA/RFC/2024/034

MAA Author

Post	Name	Rank	Signature
DSA-MAA-OpAssure-Compliance2	Redacted	Redacted	Redacted - Original Signed

MAA Supervisor

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MAA Independent

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MAA LegAd (if required)

Post	Name	Rank	Signature
N/A	N/A	N/A	Choose an item.

Cross-references to Other Documents or Relevant Sources

Other MRP Amendments: N/A

Service Inquiry Recommendations: N/A

AAIB Recommendations: N/A

Other Investigation Recommendations: N/A

Any Other Document: N/A

Feedback Notes for the Regulated Community

The Regulated Community are invited to offer feedback about the proposed amendment in the following areas:

- Air or Flight Safety impact
- Operational impact
- Errors or omissions
- Timescale for implementation
- Cost of implementation
- Amendment to internal processes/orders

- Resourcing the outcome of change
- (Contract amendments because of the change)

The format for feedback is available within a single Excel Template file on both internal and external MAA websites; it is important to use this format to ensure that your responses are considered and answered correctly.

Summary of Proposed Amendment

Objective: To ensure RA 1350 remains valid and up-to-date with current MOD aviation terminology and policy.

Changes made: RA 1350 has been amended to: simplify; incorporate outstanding changes to the MRP; and to improve consistency, clarity, and coherency.

Impact Assessment: Minimal

Consultation Period Ends: 3 May 2024

The consultation period for this proposed amendment ends on the stated date. Please send your feedback, using the Response Form, via email to DSA-MAA-MRPEnquiries@mod.gov.uk

MAA Approval

Post	Name	Rank	Signature
DSA-MAA-OpAssure-Eng-DepHd	Redacted	Redacted	Electronic Signature above

► This RA has been substantially re-written; for clarity no change marks are presented – please read RA in its entirety ◀

RA 1350 - Air Launched Weapon Release

Rationale

The Carriage, Release and Jettison (CR&J) of Air Launched Weapons¹ (ALW) from Aircraft presents equipment Risk and Risk to Life (RtL), additional to those from the Air System. Not having all ALW limitations and clearances identified and understood could result in the Air System's stakeholders incorrectly utilizing the ALW. The ALW Release (ALWR) allows the stakeholders to understand all the limitations and clearances applicable to the use of the ALW.

Contents

1350(1): Withdrawn Content Incorporated into RA 1350(3)
1350(2): Withdrawn Content Incorporated into RA 1350(3)
1350(3): Air Launched Weapon Release

Regulation 1350(1)

UK MOD In-Service Air Launched Weapons

1350(1) Withdrawn Content Incorporated into RA 1350(3).

Acceptable Means of Compliance 1350(1)

UK MOD In-Service Air Launched Weapons

1. Withdrawn Content Incorporated into RA 1350(3).

Guidance Material 1350(1)

UK MOD In-Service Air Launched Weapons

2. Withdrawn Content Incorporated into RA 1350(3).

Regulation 1350(2)

Air Launched Weapons not requiring an Air Launched Weapon Release Certificate

1350(2) Withdrawn Content Incorporated into RA 1350(3).

Acceptable Means of Compliance 1350(2)

Air Launched Weapons not requiring an Air Launched Weapon Release Certificate

3. Withdrawn Content Incorporated into RA 1350(3).

Guidance Material 1350(2)

Air Launched Weapons not requiring an Air Launched Weapon Release Certificate

4. Withdrawn Content Incorporated into RA 1350(3).

Regulation 1350(3)

Air Launched Weapon Release

1350(3) The ALW Delivery Team (DT) Letter of Air Safety Notification (LoAN) holder^{2, 3} **shall** authorize all ALWs for Aircraft CR&J for acceptance by the Air System Type Airworthiness Authority (TAA)⁴.

¹ Refer to MAA02: Military Aviation Authority Master Glossary.

² Refer to RA 1003 – Delegation of Airworthiness Authority and Notification of Air Safety Responsibility.

³ Where there is no ALW DT LoAN holder, the TAA **shall** contact the MAA (DSA-MAA-Cert-ES4-ArmSys@mod.gov.uk) to ensure an appropriate regulatory framework.

⁴ Where the Air System is not UKMOD-owned, Type Airworthiness (TAW) management regulatory responsibility by either the TAA or Type Airworthiness Manager (TAM) needs to be agreed within the Sponsor's approved model; refer to RA 1162 – Air Safety Governance Arrangements for Civilian Operated (Development) and (In-Service) Air Systems, or refer to RA 1163 – Air Safety Governance Arrangements for Special Case Flying Air Systems. Dependant on the agreed delegation of TAW responsibilities TAM may be read in place of TAA as appropriate throughout this RA.

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5. The ALWR is an argument, supported by a body of evidence, that supports the relevant Type Airworthiness Safety Assessment (TASA)⁵ and Air System Safety Case (ASSC)⁶; and **should** be tailored and proportionate to the complexity of the ALW and the associated Hazards.

6. The ALWR **should** encompass CR&J and refer directly to all the limitations and clearances required by the Safety and Environmental Case Report (SECR) and the “Ordnance, Munitions and Explosives” (OME) Safety Review Panel Assurance Statement (OAS)⁷ for the ALW.

Note:

Where an OAS is not achievable in the required timescales, but the ALW DT can demonstrate continued Safety, a Demonstrably Safe Statement (DSS), which provides first party Assurance, may be acceptable as an interim solution to obtaining an OAS as per DSA03.OME Defence Code of Practice 117(f)⁸. DSSs **should not** normally be longer than 6 months.

Development of Air Launched Weapons

7. Where the ALW is authorized for inclusion in the Military Permit To Fly (Development) (MPTF (Development))⁹ to conduct Test and Evaluation (T&E) activity¹⁰ it **should** be supported by issue of an ALWR by the ALW DT LoAN holder to an appropriate level of maturity.

In-Service Air Launched Weapons

8. Where the ALW is authorized for inclusion in the Release To Service (RTS)¹¹, MPTF (In-Service) or MPTF (Special Case Flying)¹² it **should** be by issue of an ALWR by the ALW DT LoAN Holder prior to any RtL being incurred from in-service operations. Integration of the ALW **should** be addressed by the TAA through the Military Air System Certification Process¹³.

ALW DT LoAN Holder responsibilities

9. The ALW DT LoAN holder **should** ensure:
- a. The Air System TAA is provided with the applicable ALWR, SECR and OAS (See paragraph 6 Note).
 - b. The ALWR conforms to the ALWR template held on the MAA website.
 - c. The Air System TAA and Aviation Duty Holder (ADH) / Accountable Manager (Military Flying) (AM(MF)) are informed of all emergent Hazards or equipment changes that might affect the Air Safety.
 - d. The ALWR documents the ALW's limitations, and the information required (eg interface control documentation) to allow its safe integration and operation on any specified Aircraft.
 - e. The ALWR states unambiguously the applicability of various marks or variants of the ALW on each Aircraft type¹⁴.
 - f. The ALWR is reissued when any change affecting the ALWR is identified.

⁵ Refer to RA 5012 – Type Airworthiness Safety Assessment.

⁶ Refer to RA 1205 – Air System Safety Cases.

⁷ Refer to DSA 02.OME – Defence Ordnance, Munitions and Explosives (OME) Regulations.

⁸ Refer to DSA 03.OME – Part 1 Acquisition Defence Code of Practice (DCOP) 117 – OME Safety Review Panel and Assurance Statement.

⁹ Refer to RA 5880 – Military Permit To Fly (Development) (MRP Part 21 Subpart P).

¹⁰ Refer to RA 2370 – Test and Evaluation.

¹¹ Refer to RA 1300 – Release To Service.

¹² Refer to RA 1305 – Military Permit To Fly (In-Service), (Special Case Flying) and (Single Task).

¹³ Refer to RA 5810 – Military Type Certificate (MRP Part 21 Subpart B) and RA 5820 – Changes in Type Design (MRP Part 21 Subpart D).

¹⁴ If the ALW is utilized on multiple Aircraft types, then there **should** be a single ALWRC for the ALW, with separate Part 3s (eg Part 3 – Typhoon, followed by Part 3 – Lightning II, followed by Part 3 – Reaper, etc) for each Aircraft type it is applicable to.

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- g. Robust Safety Management^{15, 16} processes fully supporting the Safety Panel reviews are employed.
- h. Configuration Management activities are conducted in accordance with a Configuration Management Plan prepared to the applicable requirements of Defence Standard (Def Stan) 05-057¹⁷.
- i. The ALWR is reviewed on an annual basis or when there are changes to the supporting documentation (eg Statement of Operating Intent / Statement of Operating Intent and Usage¹⁸, SECR, OAS (See paragraph 6 Note), Certificate of Design¹⁹, etc).

Air System TAA responsibilities

- 10. The Air System TAA **should**:
 - a. Ensure the SECR and OAS (See paragraph 6 Note) are robust, correctly reflect the Air System operating environment, recorded, and accepted.
 - b. Review the ALWR for suitability for their Air System and:
 - (1) If acceptable, formally accept and acknowledge receipt (template held on the MAA websites) to the ALW DT LoAN holder,
 - (2) If unacceptable, formally reject with an explanation to the ALW DT LoAN holder.
 - c. Ensure that the TASA addresses CR&J of all ALW(s) and any associated Hazards⁵.
 - d. Ensure the RTS Recommendations¹¹ (RTSR), MPTF (In-Service) Recommendations, MPTF (Special Case Flying) Recommendations or MPTF (Development) include all ALW limitations and clearances.
 - e. Ensure that the ALW DT LoAN holder is provided with all information which may affect the Airworthiness of the ALW for CR&J.

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- 11. Where the ALW is being provided by a supplier other than an ALW DT LoAN Holder the MAA will identify the route to clearance, evidence requirements and equivalent acceptable alternatives.
- 12. The ALWR is an argument, supported by a living body of evidence, and will be updated to reflect changes in any of the relevant information or evidence affecting the safe use of, or the limitations and clearances applied to, the Air Systems which utilize the ALW.
- 13. For initial development of the ALWR or subsequent changes, information provided by the TAA includes, but not limited to, Radio Frequency environment, vibration spectrum, configuration change, usage change, change of environment for which the Air System or ALW is cleared, any Air System limitations or clearances applying to the ALW for CR&J of the ALW, etc.
- 14. The chapter headings in the ALWR template are mandatory. The lower-level topics and headings will be considered by the ALW DT LoAN holder, only those appropriate to the ALW need be presented in the final document.
- 15. The ALWR will be used to support acceptance of the ALW and the generation of the Air System RTS or appropriate MPTF.
- 16. An ALWR supplements the Air System RTS or appropriate MPTF:
 - a. It covers all aspects of an ALW build standard and operation in the Manufacture to Target / Disposal Sequence (MTDS), thus providing a link between the ALW SECR and OAS and the ASSC.

¹⁵ Refer to RA 5013 – Air Safety Management of Equipment and Commodity Items.

¹⁶ Refer to RA 5011 – Type Airworthiness Safety Management System.

¹⁷ Refer to Def Stan 05-057 – Configuration Management of Defence Materiel.

¹⁸ Refer to RA 5726 – Integrity Management.

¹⁹ Refer to RA 5103 – Certification of Design.

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b. It records the build standard that has been assessed for safe CR&J on each Air System with its associated Air System specific limitations and clearances.

c. Informs and / or restricts the Air System RTS or appropriate MPTF for each Aircraft that is cleared to carry the ALW. Limitations and clearances are unlikely to be the same for different Air Systems or Air System variants.

17. The ALWR can provide details of what has been met (eg Compliance with Regulations, standards and processes) to confirm the ALW can be operated safely to the Air System TAA and ADH / AM(MF).

Development of Air Launched Weapons

18. Where flight trials are being conducted an ALWR supported by the SECR and OAS will be at a level of maturity appropriate to the activity being undertaken. Where there are gaps in information or evidence and additional limitations these need to be clearly identified within the ALWR.

ALW Limitations

19. The ALW limitations and clearances apply only while the ALW is carried on its host Aircraft, and up to a defined safe separation distance²⁰ after Release or Jettison (ie not all the way to target) from the host Aircraft and to other Aircraft in close proximity.

20. The CR&J design envelope applicable to an ALW (eg the max / min speed, "g", altitude, etc) might be considerably different from that of the Aircraft it is carried on.

Sources of advice

21. Weapons Engineering Centre of Excellence (WESCOE)²¹, Weapons Technical Services (WTS)²², and MAA²³ armament specialists may be consulted in the preparation of the ALWR and Air System RTSR, MPTF (In-Service) Recommendations, MPTF (Special Case Flying) Recommendations or MPTF (Development) to ensure that all ALW aspects have been addressed as described in this RA and DSA 02.OME. Advice and assistance may also be needed from independent organizations.

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²⁰ Defined in AAP-06 as: "The distance from the delivery system or launcher to the munition beyond which the hazards to the users and / or the delivery system resulting from functioning of the munition system are acceptable".

²¹ DESWpnsWES-Tasking@mod.gov.uk.

²² DESWpnsWTS-PE@mod.gov.uk.

²³ DSA-MAA-Cert-ES4-ArmSys@mod.gov.uk.