

► This RA / Manual has been re-formatted for clarity and withdrawn Sub-Regulations / Chapters have been removed. Other amendments have been made and change marks presented ◀

RA 3134 - Air Traffic Management Equipment Release into Service Process

Rationale

There is a requirement to ensure that new and significantly modified Air Traffic Management (ATM) Equipment is assessed to ensure that it is safe to operate and fit for purpose in enabling the provision of a safe and expeditious Air Traffic Service (ATS) prior to its release into service and consequent operation. ► Without such a process, there is a Risk that equipment may enter service without an assured understanding of the cumulative and / or interrelated Risks that the equipment may present. ◀ The requirement ensures not only that the generic equipment is safe but that its use, either independently or as part of an integrated ATM system on a specific platform / site / operating area, is also safe and that any limitations in its use or the service provided are captured.

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Regulation 3134(1)

Air Traffic Management Equipment Release into Service Process

3134(1) ► Aviation Duty Holder-Facing Organizations and Accountable Manager (Military Flying)-Facing Organizations (AA-Facing Organizations)¹ shall ensure that ◀ the ATM Equipment Release into Service Process (RiSP) ► is ◀ followed prior to any new or significantly modified equipment entering service to ensure the equipment is safe to operate and fit for the purpose of enabling the provision of a safe and expeditious ATS.

Acceptable Means of Compliance 3134(1)

Air Traffic Management Equipment Release into Service Process

1. Explicit requirements and derived Safety requirements clearly defining the ATM capability **should** be developed in order to identify the appropriate ATM equipment required prior to procurement / contract award.
2. ► ◀
 - a. ► ◀
 - b. ► ◀
 - c. ► ◀
 - d. ► ◀

¹ ► For clarity, throughout this Regulatory Article (RA), the term AA-Facing Organization may include, but not be limited to Delivery Teams (or equivalent), and ATM Organizations covering both the end users of ATM Equipment and their higher headquarters. Further detail is contained in RA 1032 – Aviation Duty Holder-Facing Organizations and Accountable Manager (Military Flying)-Facing Organizations - Roles and Responsibilities. ◀

Acceptable Means of Compliance 3134(1)

3. The process **should** be initiated by the relevant Senior Responsible Owner (SRO) and / or lead **▶ATM Organization◀** in consultation with the Delivery Team (DT)**▶◀** and stakeholders as part of initial Safety Management planning.
4. The strategy for the development of the ATM Equipment Safety Case (SC)³ **should** be aligned with the ATM Equipment RiSP and be described in the RiSS.
5. For the purposes of this Regulation, Modifications **should** be classed as significant when:
 - a. They change the way components of the functional system are used⁴; or
 - b. The changes to equipment, either hardware or software, could affect the functional performance of the ATM equipment⁵; or
 - c. The changes affect equipment Configuration⁶, excluding changes during Maintenance, Repair and alternative operations that are already part of the accepted operational envelope. **▶◀**
 - d. **▶◀**
6. **▶Minor Modifications are not routinely subject to the RiSP⁷. Notwithstanding the requirements at paragraph 5, if a DT classifies a Modification as minor, Form 1430⁸ should be submitted, with sufficient evidence, to the MAA for review, the outcome of which will determine whether the RiSP is required.◀**

Guidance Material 3134(1)

Air Traffic Management Equipment Release into Service Process

7. It is imperative that those responsible for setting ATM Equipment requirements understand the Air Safety implications of doing so and ensure that comprehensive requirements and derived Safety requirements are agreed by all the stakeholders prior to contract award. Knowledge in Defence⁹, Acquisition Safety **▶and Environmental◀** Management System, the MAA Regulatory Publications and Royal Navy (RN) Books of Reference provide a robust framework to enable procurement of equipment that is safe to operate and fit for purpose.
8. When determining the significance of a Modification, consideration is to be given to any previous relevant changes that could create a cumulative effect, as these may influence the decisions regarding the classification of the change later in the process.
9. By previous relevant changes, it is meant those design changes whose effects accumulate, such as incremental software Modifications. Any previous relevant design changes in the area affected by the current change are to be considered when determining whether a Modification may be classed as significant.
10. Similarly, careful consideration is to be given to Modification of dual-Role Equipment¹⁰ to ensure that the performance integrity of the ATM elements is not compromised by changes to other functional elements.
11. Examples of changes to the way a functional system is used could be using a surveillance radar to provide 3 Nautical Miles (NM) separation when the equipment had previously been assured to provide 5 NM separation or a change in an Instrument Landing System approach category.

² **▶For clarity, throughout this RA, the term DT may also include any organization responsible for delivering ATM Equipment, whether or not they are a Defence Equipment & Support (DE&S) DT; this includes Platform Authorities and other project teams with a similar remit.◀**

³ Refer to RA 3132 – Air Traffic Management Equipment Safety Cases.

⁴ See paragraph 11.

⁵ See paragraph 12.

⁶ See paragraph 13.

⁷ **▶There may be occasions when the RiSP is appropriate for a minor Modification, for example if a series of minor Modifications create a larger cumulative effect to the ATM Equipment in question.◀**

⁸ Refer to MAA Form 1430: Air Traffic Management Equipment Minor Modification Review. **◀**

⁹ Online resource which provides a structured source of information, guidance and instruction for everyone who works in Acquisition, whether they are MOD or Industry. The Knowledge in Defence is a set of documents that explain how Acquisition business is conducted.

¹⁰ For example, Air Defence or ship borne missile defence radars that also provide an ATM Safety function.

Guidance Material 3134(1)

12. Examples of changes to equipment, either hardware or software, that could affect the functional performance of the ATM equipment could be a radar transmitter upgrade or a new signal processing software release. This does not apply to form, fit, function changes or Modifications to dual role systems that do not have the potential to impact ATM functional performance.
13. Examples of changes that affect equipment Configuration could be the changes to Moving Target Indicator marker Configuration or changes to radar optimization settings not covered by the scope of the equipment SC.
14. This includes Modification to legacy ATM equipment¹¹.
15. ► The MAA will aim to provide an initial response to Form 1430 requests within 20 working days. ◀
16. The MAA ATM Certification team (DSA-MAA-MRPEnquiries@mod.gov.uk) are available to address any regulatory or Safety queries.

Regulation 3134(2)

Release into Service Strategy

- 3134(2) The DT ► ◀ shall ► prepare a Release into Service Strategy (RiSS) for ◀ the MAA ► detailing ◀ how new / significantly modified equipment will progress through the RiSP.

Acceptable Means of Compliance 3134(2)

Release into Service Strategy

17. The RiSS should:
- a. ► Be developed in consultation with the relevant ATM Organization and Release To Service Authority (RTSA), as required. ◀
 - b. Define the type and extent of ATS provided.
 - c. Define the Defence Standard (Def Stan) 00-972 requirements or Alternative Acceptable Means of Compliance against which the ATM Equipment is to be assured.
 - d. Define external system and service interfaces.
 - e. Define the allocation of Safety responsibilities¹². ► ◀
 - f. Define ATM Approved Organization Scheme¹³ requirements.
 - g. Define pan-Defence Lines of Development (DLod) responsibilities.
 - h. Define project timescales and milestones where appropriate.
 - i. Define the Safety programme timescales and Safety milestones where appropriate.
 - j. ► Define any claims for Assurance credit in accordance with (iaw) the Manual of Military Air Traffic Management Equipment Assurance (MMATMEA)¹⁴, including sufficient evidence for MAA consideration of acceptance. ◀
 - k. Be reviewed by the MAA and RTSA and authorized by the Project Safety Panel (PSP)¹⁵, prior to issue of an Invitation To Tender (ITT).
 - l. ► Be formally accepted by the SRO, with documented agreement from the MAA and the RTSA. ◀

¹¹ Refer to RA 3120 – Air Traffic Management Equipment Standards.

¹² Refer to RA 3130 – Air Traffic Management Equipment Safety Management.

¹³ Refer to RA 3100 – Air Traffic Management Equipment Approved Organization Scheme.

¹⁴ ► In addition to the conditions outlined in Chapter 4 of the MMATMEA, consideration of Assurance credit is also available for equipment that has been previously assured through the RiSP for a different installation. ◀

¹⁵ Refer to RA 3132(3): Air Traffic Management Equipment Safety Case Management Process.

**Guidance
Material
3134(2)**

Release into Service Strategy

18. It is important that prior to ITT the Def Stan 00-972 ►/ appropriate equipment ◀ requirements applicable to the equipment being modified or brought into service are fully understood. Failure to do so has the potential to cause significant additional costs or increased Duty Holder (DH) Risk later in the project. The RiSS ought to include a summary of the applicable Def Stan 00-972 ►/ appropriate equipment ◀ requirements and those which will require further discussion with the MAA before being deemed non-applicable or out of scope.

19. ► Evidence of formal acceptance by the SRO and documented agreement from the MAA and RTSA may be achieved by completion of suitable signature blocks on the RiSS itself. ◀

**Regulation
3134(3)**

Release into Service Exposition

3134(3) The ►DT ◀ or equivalent **shall** prepare a RiSE for the MAA and RTSA which will be Audited by the MAA to provide Assurance of the underpinning evidence.

**Acceptable
Means of
Compliance
3134(3)**

Release into Service Exposition

20. The RiSE **should** comprise the body of evidence that underpins the safe introduction of ATM Equipment into service. The RiSE **should**:

- a. Include parts 1, 2 and 3 of the ATM Equipment SC or the most recent ATM Equipment SC reports.
- b. Include a draft of the ATM Equipment SC part 4.
- c. Include a statement from the ►DT ◀ that parts 1-3 of the ATM Equipment SC have been signed and authorized iaw RA 3132³.
- d. Provide evidence that the equipment meets all the appropriate legislative requirements, Regulations and Safety Targets.
- e. Provide details of how the equipment will be brought into service.
- f. Identify all shortfalls against Requirements and non-compliance with Regulation.
- g. Include any restrictions on the operation of the equipment.

21. The MAA **should** Audit the RiSE and provide formal recommendation to the RTSA as to whether there is enough evidence to assure a full release.

**Guidance
Material
3134(3)**

Release into Service Exposition

22. The purpose of the MAA Audit is to:

- a. Assure that the ATM Equipment is designed and built to a defined and recognized standard¹¹ and by a Competent organization¹³.
- b. Provide independent Assurance to the RTSA that the ATM Equipment is fit for the intended purpose.

**Regulation
3134(4)**

Air Traffic Management Equipment Acceptance Board

3134(4) An ATM Equipment Acceptance Board (EAB) **shall** be convened to confirm that any new or significantly modified ATM equipment is ready to be released for installation / commissioning on a specific platform / site / operating area.

**Acceptable
Means of
Compliance
3134(4)**

Air Traffic Management Equipment Acceptance Board

23. The Board **should** be convened¹⁶ and chaired by the relevant RTSA.
 - a. For afloat ATM Equipment the RN RTSA **should** take the lead.
 - b. For land ATM Equipment the RAF RTSA **should** take the lead.
 - c. For air-based ATM Equipment the RAF RTSA or RN RTSA **should** take the lead, as deemed appropriate.
24. The Board **should** consist of Suitably Qualified and Experienced ► **Persons** ◀ and include ATM operators / maintainers as appropriate.
25. The Board **should** liaise with the ► **DT** ◀ to ensure they have all the evidence required.
26. The Board **should** be provided with the RiSE Audit Report (RiSAR).
27. The Board **should** be responsible for providing Assurance that the RiSE successfully argues:
 - a. The equipment to be released meets the regulatory requirements.
 - b. All Safety requirements have been met and Hazards are at a level where they can be agreed by ► **all AA-Facing Organizations** ◀ and highlighted to the relevant ► **ADH / AM(MF)** ◀ where appropriate.
 - c. The required Safety processes have been followed.
 - d. All the required Safety documentation is available.
28. The Board **should** assess whether all DLoDs are at an appropriate level of maturity such that their effects upon the Equipment DLoD can be verified prior to initial issue of an equipment release.
29. The Board **should** establish whether the equipment can be Fully Released (Full Release), Released with Limited Evidence (RLE), Released for Emergency Operational Use (Operational Emergency Release (OER)) or not released.
 - a. An RLE **should** be used when insufficient evidence is available to support the normal standards required for Full Release (ie when a fully substantiated ATM Equipment SC is not available to support the RiSP, but on the balance of available evidence, release is judged safe to operate and fit for the purpose of providing a safe and expeditious ATS). An RLE can become a Full Release only with the provision of suitable additional evidence. An RLE **should** be time-bounded whilst the required evidence is gathered.
 - b. An OER **should** be used when the Risk to Life associated with the ATM Equipment's usage is considered too high for normal day-to-day operations, but there is an operational requirement to use the equipment eg in conditions of actual or potential hostile enemy action, in the evaluation of options needed for contingency planning or in other conditions of operational imperative. An OER **should** have an expiry date associated with the operational need it is fulfilling.
30. The Board's decisions, including identifying and specifying the approved Configurations for the equipment, and the procedural Safety mitigations identified by the ATM Equipment SC **should** be included in the ATM Equipment SC part 4.
31. The final decision on whether to release equipment for installation / commissioning **should** be made by the Delegated Release To Service Authority (DRTSA) and formalized through the issue of a ► **Release To Service (RTS)**. ◀
32. The MAA **should** be invited to the Board.

¹⁶ The timing of the EAB within a project **should** be defined in the RiSS.

**Guidance
Material
3134(4)**

Air Traffic Management Equipment Acceptance Board

33. In addition to RTSA personnel the Board may include personnel from ► **all relevant AA-Facing Organizations** ◀ including the Independent Safety Advisor and Independent Technical Evaluator if required.
34. A Full Release may specify limitations on the equipment due to technical or environmental (location) constraints.
35. A RLE or OER can be made with or without full MAA Assurance as deemed necessary by the EAB.

**Regulation
3134(5)**

Site Specific Acceptance and Commissioning Board

- 3134(5) An ATM Equipment Site Specific Acceptance and Commissioning Board (SSACB) **shall** be held to confirm that any new or significantly modified ATM equipment is ready to be accepted into service on a specific platform / site / operating area.

**Acceptable
Means of
Compliance
3134(5)**

Site Specific Acceptance and Commissioning Board

36. The Board **should** be convened and chaired by either the Head of Establishment (HoE)¹⁷, ► **or Head of the relevant AA-Facing Organization** ◀, or their delegated representative as deemed most appropriate.
37. The Board **should** have appropriate representation from ► **relevant AA-Facing Organizations**, ◀ the RTSA, associated Contractor organizations, the installation team, site senior end user¹⁸, ATM equipment senior responsible engineer, Site Work Services, Site Coordinating Infrastructure Design Authority and / or other organizations as directed by the SSACB chairperson.
38. The Board **should**:
- Review the RiSAR and ► **RTS** ◀ to assure themselves that platform / site / operating area specific requirements and Safety issues have been addressed.
 - Review the ATM Equipment SC part 4 to confirm that the equipment will be operated safely.
 - Assess any platform / site / operating area specific issues regarding the installation and operation of the equipment at their platform / site / operating area.
 - Consider factors such as siting, interference, potential infringements, suitability of procedures, interoperability with host platform systems and any Risk mitigations for their platform / site / operating area.
 - Ensure that all the relevant documentation is available for the platform / site / operating area.
 - Confirm that all Safety Risk is assessed As Low As Reasonably Practicable and Tolerable.
39. The Board **should** agree any platform / site / operating area constraints that need to be added to their ATM Equipment SC part 4.
40. The Board's discussions and decisions **should** be recorded and kept with the platform / site / operating area ATM Equipment SC part 4.
41. The final decision on whether to accept equipment into service **should** be made by the SSACB chairperson.
42. The MAA **should** be invited to the SSACB.

¹⁷ ► Refer to RA 1010 – Head of Establishment Aviation Responsibilities and Aviation Duty Holder / Accountable Manager (Military Flying) Establishment Responsibilities. ◀

¹⁸ For example, Senior Air Traffic Control Officer.

**Guidance
Material
3134(5)**

Site Specific Acceptance and Commissioning Board

43. The purpose of including the HoE, ► **Head of the relevant AA-Facing Organization**, ◀ or their delegated representative, as SSACB chairperson is to provide flexibility to ensure the most appropriate accountable person for the safe delivery of the ATS accepts the equipment into service.
44. ► **ADH / AM(MF) representation may be invited to attend at the chairperson's discretion, particularly if acceptance of the equipment in question might impact the provision of a Safe Operating Environment (SOE). It is likely that this will be limited to those responsible for Aircraft based at the site in question, but this does not exclude others from attending if it is deemed necessary**¹⁹. ◀
45. For ATM Equipment being installed on ships or ► **Aircraft**, ◀ an SSACB may be held for each ► **Aircraft** ◀ type or ship class providing the infrastructure that the ATM Equipment uses is the same (eg power architecture) and the potential infringements are the same (eg structures and transmitting devices). This intention will have been articulated in the RiSS and forms part of the RiSE.

**Regulation
3134(6)**

Release into Service Process Audit Trail

- 3134(6) All Air Safety documents **shall** be maintained throughout the ATM Equipment's Service life and retained for a minimum of 5 years beyond the equipment's out of Service date.

**Acceptable
Means of
Compliance
3134(6)**

Release into Service Process Audit Trail

46. The output from the RiSP **should** be:
- a. Auditable and traceable back to the source data.
 - b. Maintained by the ► **DT** ◀ throughout the Service life of the equipment and appropriate data retained after the out of Service date.
47. Correct and meticulous registry procedures **should** be applied to ensure that the Audit trail²⁰ is maintained correctly.

**Guidance
Material
3134(6)**

Release into Service Process Audit Trail

48. Scanned copies of documents are acceptable as evidence.

¹⁹ ► **ADH / AM(MF) Safe Operating Environment responsibilities are detailed in RA 1010(6): Aviation Duty Holder / Accountable Manager (Military Flying) Safe Operating Environment Responsibilities**. ◀

²⁰ Refer to RA 1225 – Air Safety Documentation Audit Trail.

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