

RA 5723 - Ageing Air System Audit

Rationale

A rigorous periodic Audit is necessary to provide Assurance that the Airworthiness risks associated with Ageing of a fleet's Air System are being managed appropriately. An Ageing Air System Audit (AAA) covers both Air System physical condition and wider Assurance of continued applicability of Airworthiness procedures and management processes, providing a comprehensive review of the interrelated effects of Ageing on the fleet. The requirement for an AAA is supplementary to routine Integrity Management (IM).

Contents

Definitions Relevant to this RA 5723(1): Ageing Air System Audit

Definitions

Definitions Relevant to this RA

1. **Ageing.** The degradation of the system (equipment, knowledge or information) potentially leading to an increased Safety Risk.
2. **AAA initiation.** The AAA is deemed to start at the point where the AAA initiation meeting is held with the organization responsible for conducting the independent aspects of the Audit.
3. **AAA completion.** The AAA is deemed to have been completed following the production of the final AAA Report, covering all Audits and detailing the closure plan for all resultant actions and recommendations.

Regulation 5723(1)

Ageing Air System Audit

5723(1) All UK military registered Air System types **shall** be subjected to an AAA, to provide an overall indication of the condition of the fleet and to give confidence that the Integrity of the Air System is being sustained as the fleet ages and regulatory requirements evolve.

Acceptable Means of Compliance 5723(1)

Ageing Air System Audit Programme

4. The Type Airworthiness Authority (TAA)¹ **should** initiate² an AAA for each Air System type³ under their control at an appropriate stage but no later than the earliest occurrence of the following:
 - a. 15 years after a type's declared In-Service Date (ISD).
 - b. The mid-point between the declared ISD and the initial planned Out of Service Date.
 - c. Where any member of a fleet, acquired under short-duration arrangements (ie a service provision contract), exceeds 50% of its Air System-level certified life (in any parameter).
 - d. In the case of the acquisition of a fleet which can already be regarded as Ageing, an AAA **should** be conducted before ISD.
5. The TAA **should** initiate repeat audits at periodic intervals, no greater than 10 years from the previous initiation date.

¹ Where the Air System is ►not UK MOD-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. Dependant on the agreed ►delegation◄ of TAW responsibilities TAM may be read in place of TAA as appropriate throughout this RA.

² In initiating the AAA the TAA **should** consult with the Military Continuing Airworthiness Manager as manager of Continuing Airworthiness and the Operating Duty Holder as owner of the Air System Safety Case.

³ For RPAS refer to RA 600 series – Remotely Piloted Air Systems.

**Acceptable
Means of
Compliance
5723(1)**

6. The TAA **should** submit requests for recognition of comparable programmes as Alternative Acceptable Means of Compliance to the MAA at least 12 months prior to the Audit becoming due.
7. The TAA **should** ensure that all Audit activity is completed and a final AAA report, covering all Audits and detailing the closure plan for all resultant actions and recommendations, is issued within 2 years of the AAA initiation.

Scope

8. The AAA **should** cover the Airworthiness and IM of the Air System, giving particular consideration to Ageing. To achieve this, the TAA **should**:
- Specify the areas to be covered by the Audit.
 - Identify the organizational boundaries of the Audit based on current issues.
 - Assess the Safety consequences of potential failure (of Aircraft structure, Systems, components etc).
 - Analyze information from all available resources (supply chain constraints, IM systems, etc).
9. The TAA **should** clearly state which Air System areas or Systems, if any, are to be excluded from the AAA and the rationale for their exclusion.
10. The AAA **should** include a detailed, independent condition survey to assess the condition and Husbandry standards of representative Air Systems (and, where appropriate, sub-systems) from the fleet. The condition survey **should** be undertaken by an organization which is independent of those responsible for the condition and Husbandry of the Air System.
11. The AAA **should** include items managed by Commodity Delivery Teams (DT), where necessary. The Air System DT **should** take primacy in the Audit, seeking Commodity DT support as necessary.
12. The AAA **should** include an independent review of the continued applicability of Airworthiness procedures, management processes and interfaces between organizations providing aspects of the overall fleet delivery. This review **should** be undertaken by an organization which is independent of those responsible for providing these Airworthiness aspects.

**Guidance
Material
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13. Refer to the Manual of Air System Integrity Management⁴ for related Guidance Material and other non-regulatory process.

⁴ Refer to Manual of Air System Integrity Management (MASIM) Chapter 10: Ageing Air System Audit.