

PART 1.5 – RECOMMENDATIONS

- 1.5.1. **Introduction.** The following recommendations are made in order to enhance Defence Air Safety:
- 1.5.2. **RN SDH, Army SDH and RAF SDH should:**
- a. Ensure that Aviation Duty Holders (ADHs) have formally appointed SQEP SOs and CAEs. 1.4.5.28.
1.4.5.35.
 - b. Ensure that ADHs carry out a formal and auditable handover of Rtl. 1.4.5.26.
- 1.5.3. **RN SDH, Army SDH, RAF SDH, CofM (Air) and CofM (JE) should:**
- a. Ensure that personnel with an aviation risk management function are appropriately trained in this discipline. 1.4.5.28.
- 1.5.4. **D(Tech) MAA should:**
- a. Determine and articulate the acceptable means of compliance for the amendment of documents covered by RA 4353, RA 2401 and the MAP and ensure that they are coherent. 1.4.5.22.
1.4.5.24.
- 1.5.5. **D (Ops) MAA should:**
- a. Consider mandating the requirement for a dedicated out-brief. 1.4.5.19a.
- 1.5.6. **CofM (Air):**
- a. Conduct risk assessments of current designs for, and the interaction between, ejection seat firing handles, safety pins and pilot restraint equipment to ensure that the associated risks are appropriately mitigated to tolerable and ALARP. 1.4.2.7.
1.4.2.9.
1.4.2.13.
1.4.2.15.
1.4.2.20.
1.4.2.26.
 - b. Ensure that components in the supply chain with safety critical applications meet design specification. 1.4.3.7c.
 - c. Conduct a risk assessment of the current design of drogue and scissor shackle assemblies fitted to ejection seats to ensure that any risks are identified and mitigated to tolerable and ALARP. 1.4.3.10.
1.4.3.12.
1.4.4.3.
 - d. Evaluate the requirement laid down in DAP108A-0006-2(N/A/R)1 for the user to be responsible for BF Servicing of non-CBRN AEA and, if required, specify the necessary content of the servicing to be conducted by the RAF and the Army. 1.4.5.19bii.
 - e. Ensure that the UK MFTS PT has a robust and auditable method of tracking, reviewing and managing airworthiness decisions. 1.4.4.6.
1.4.4.7.
 - f. Ensure that the UK MFTS PT maintains an accurate hazard log. 1.4.4.6.

- g. Ensure that the AES PT has a robust and auditable method of tracking, reviewing and managing airworthiness decisions. 1.4.4.6.
1.4.4.7.
- h. Ensure that the AES PT maintains equipment safety cases in accordance with MAP Chap 14.1. 1.4.4.5.
- 1.5.7. **CofM (Air) should:**
- a. Ensure there is a robust and auditable method of tracking, reviewing and managing airworthiness decisions between DE&S, the user and industry. 1.4.4.6.
1.4.4.7.
- b. Implement a robust and auditable method of tracking changes to aircraft document sets, including warnings, relating to UK military registered aircraft, between DE&S, the user and industry. 1.4.4.2.
- 1.5.8. **CofM (Air), ACNS (A&C), AOC 1 Gp, AOC 2 Gp and AOC 22 (Trg) Gp should:**
- a. Ensure the safety cases for all platforms fitted with ejection seats are fit for purpose. 1.4.4.5.
- b. Ensure the document sets for all aircraft fitted with ejection seats accurately reflect the safe operation and maintenance procedures, to include but not be limited to, the existence of SFH 'position 2 and 3', safety pin insertion into the handle alone, incorrect strap routing warnings and different methods of unintentional initiation. 1.4.2.7.
1.4.2.9.
1.4.2.13.
- c. Ensure robust through life training regimes for ejection seats is implemented to include but not limited to, the existence of SFH 'position 2 and 3', correct safety pin insertion, incorrect strap routing and different methods of unintentional initiation for: 1.4.2.15.
1.4.2.20.
1.4.2.26.
- i. Aircrew who interact with the ejection seat.
- ii. Engineers who interact with the ejection seat.
- iii. Armourers.
- 1.5.9. **ACNS (A&C), AOC 1 Gp, AOC 2 Gp and AOC 22 (Trg) Gp should:**
- a. Implement procedures to ensure that aircrew using ejection seats fitted with seat firing handle safety pins visually confirm the correct insertion of the safety pin into the handle **and** the housing both after fitment and prior to removal; and that this is reflected in the relevant document sets. 1.4.2.22.
- b. Implement procedures to ensure that aircrew using ejection seats fitted with seat firing handle safety pins visually confirm that all straps are correctly routed prior to seat firing handle safety pin removal and after safety pin fitment; and that this is reflected in the relevant document sets. 1.4.2.22.
1.4.2.23.
1.4.5.20.
- c. Review procedures to ensure that the correct stowage or fitment of 1.4.2.23.

- ejection seat safety pins occurs at the appropriate time and that a positive confirmatory check is obtained where able. 1.4.5.20.
1.4.5.24.
- d. Ensure that all persons flying in ejection seat equipped aircraft are reminded of the requirement to have a lowered visor at all times when the ejection seat is 'live', specifically to protect against MDC splatter burns. 1.4.2.a.
1.4.2.23.
1.4.5.20.
- 1.5.10. **ACNS(A&C), Comd JHC, AOC 1 Gp, AOC 2 Gp and AOC 22 (Trg) Gp should:**
- a. Ensure that the risks of self medication are understood by aircrew and that the practice is actively discouraged and policed. 1.4.2.28.
- b. Ensure that the risks of distraction amongst all personnel involved in the delivery of and direct support to aviation are promulgated widely, understood and actively discouraged. 1.4.2.29.
1.4.5.24b.
- c. Review and where appropriate revise the extant limitations for the wearing of immersion suits with regard to differing temperature limitations. 1.4.5.19b.
- d. Ensure that command and DH responsibilities for lodger units are clearly defined and understood. 1.4.5.29.
1.4.5.36.
- 1.5.11. **Service Personnel Secretaries should:**
- a. Review pre-command selection criteria and pre-employment training to ensure that aviation commanders are SQEP to meet the requirements of their TORs. 1.4.5.4.
- 1.5.12. **AOC 22(Trg) Gp should:**
- a. Carry out a review of the current training structure for RAFAT engineering officers and engineers of all trades and ensure that it is fit for purpose. 1.4.5.15
- b. Ensure that all RAFAT engineer training is DSAT compliant to deliver suitably qualified and experienced personnel to maintain and operate the Hawk aircraft. 1.4.5.15.
- c. Ensure that an auditable, competency based process is implemented for the assessment and award of engineering authorizations at the RAFAT. 1.4.5.13.
- d. Ensure that the engineering authorization levels held by RAFAT personnel are appropriate for their roles and responsibilities, and that where possible they separate assurance and delivery. 1.4.5.34.
- e. Ensure there are effective internal and external assurance processes in place to assess RAFAT operating and engineering standards and practices. 1.4.5.15.
1.4.5.35.
- f. Carry out an assessment of RAFAT engineering and operating procedures to identify all deviations from the Hawk document set, 1.4.5.24.

rectifying by elimination or appropriate authorization.

- g. Ensure that a unified risk register is in place to effectively manage RtL across the 22 (Trg) Gp AOR. 1.4.5.28.
 - h. Assess the command and DH structures responsible for RAFAT operations and ensure that they provide appropriate oversight and assurance. 1.4.5.35.
 - i. Ensure that accurate records are kept to enable an audit of decisions concerning airworthiness. 1.4.4.6.
1.4.4.7.
 - j. Assess and, if appropriate, implement the requirement for MB to be consulted during DSAT reviews of armourer training. 1.4.5.15.
 - k. Ensure that a more objective and transparent RAFAT pilot selection process is employed and appropriately assured. 1.4.5.7.
 - l. Ensure that any extant or future RAFAT deviations from the Hawk document set have been risk assessed, staffed correctly and appropriately authorized. 1.4.5.23.
1.4.5.24.
 - m. Ensure that an effective ASMP is in place and that the RAFAT operate and is represented within a robust ASMS. 1.4.5.30.
1.4.5.35.
 - n. Ensure that a robust and auditable QA system is in place at the RAFAT. 1.4.5.35.
- 1.5.13 **MAA Hd of Cert and Reg should:**
- a. Review the extant regulatory articles concerning unified risk registers to ensure coherence. 1.4.5.25.
- 1.5.14 **DD Av Med should:**
- a. Review the minimum requirement for AEA IAW RA 2130. 1.4.5.19.
- 1.5.15 **RAFAT DDH should:**
- a. Carry out a risk assessment of the RAFAT timeline; from brief to take-off, sortie execution, land and debrief to ensure that sufficient time is allocated to enable operations that are tolerable and ALARP. 1.4.5.20.
 - b. Ensure that all briefing requirements outlined in RA 2305(5) are adhered to by RAFAT aircrew prior to each flight. 1.4.5.19a.
 - c. Ensure that all RAFAT sorties are authorized iaw RA 2306(1) and that aircraft captains sign the authorization sheets appropriately. 1.4.5.11.
1.4.5.19a.
 - d. Ensure that RAFAT aircraft captains carry out an appropriate inspection of the MOD F700 prior to every flight iaw RA 2115. 1.4.5.19c.
 - e. Ensure that only qualified and appropriately authorized personnel carry out aircraft checks in accordance with the Hawk aircraft document 1.4.5.19d.

set.

f. Ensure that RAFAT pilots operate the Hawk aircraft iaw the document set. 1.4.5.22.

g. Implement the accurate and relevant recording of training for all RAFAT pilots that is judged against suitable MOEs; and that the MOEs are regularly reviewed. 1.4.5.8.

h. Assess the periodicity, content and recording of RAFAT Hawk simulator training and ensure that a suitable system is in place to deliver, track and accurately record simulator currency and competency. 1.4.5.9.

i. Assess the periodicity, content and recording of RAFAT CT, IF and instrument approaches and ensure that a suitable system is in place to deliver, track and accurately record currency and competency. 1.4.5.10.
1.4.5.11.

j. Ensure that there is a robust and inclusive flight safety system in place to cover all aspects of RAFAT operations and engineering. 1.4.5.30.

k. Ensure that the RAFAT Crash and Disaster (C&D) Plan is regularly reviewed and that the process includes all relevant stakeholders. 1.4.6.1

l. Ensure that the RAFAT C&D plan includes a requirement to review and record PCM actions following activation to feed into the review process. 1.4.6.1.

m. Identify RAF Scampton, RAF Cranwell and RAFAT personnel who would likely be charged with PCM duties following an accident, and ensure that they receive routine training in PCM. 1.4.6.1.

1.5.16. **Tucano DDH should:**

a. Review ejection seat pin procedures for Tucano to ensure that RtL is tolerable and ALARP. 1.4.2.21.b.

1.5.17. **MilAAIB should:**

a. Produce a list of documents (including electronic) that are to be preserved for evidence post an aviation serious occurrence.

1.5.18. **OC Handling Sqn should:**

a. Review the emergency egress procedures in the Hawk document set and make changes where appropriate to ensure coherence. 1.4.2.21.a.