ACCIDENT TO A CONTAINERISED WE117 ON 2 MAY

Introduction:

1. AWRE were informed (on the 2 May at about 2100 hrs) by RAF Bruggen that whilst taking delivery of a WE117 Store (600 A round) the container had fallen from the transport trailer. An Oldham (the standard signal for initial report of an accident to a nuclear weapon) alert was raised on the 3rd May. At no time has there been concern over the radioactive components, but during one phase some damage to the HE assembly was suspected; this was subsequently discounted. Approval to return the store was granted by D Air Arm and A3(Nuc) on the 25 May.

Synopsis of Events

2 May

2. Upon arrival at RAF Bruggen, by Hercules aircraft, (circa 1600 hrs local) the containerised weapon was transported by a flat top trailer (towed by a Land Rover) to a storage building. When rounding a corner (at a speed now estimated at about 7 mph) the container slid from the trailer; fell some 3.5 ft and slid about 20 ft coming to rest after rolling through 270 deg. The container was only slightly damaged and a check for RA gave a negative response.

3 and 4 May

3. AWRE advised the RAF how to move the store to a secure building and following the receipt of a damage report (of an impact mark on the weapon nose) sent a small team to undertake a detailed investigation.

5 May

4. The team noticed what appeared to be damage to the Radar mount which was surprising; and in view of the paradoxical nature of this evidence that caused the AWRE team to conclude that it would be prudent to radiograph the warhead. This entailed the removal of some, non nuclear, components but with no breach of the sealed section containing the physics package. The capsule atmosphere had been checked for Tritium earlier and returned to pressure with dry air under normal procedures.

6 - 9 May

5. Using RAF equipment the warhead was radiographed and an unexpected feature that could be interpreted as a cracked tile was found. Another warhead was taken from the RAF Bruggen store and radiographed in a similar manner but the same feature could not be found.

6. On the 9th May (1900 hrs) the RAF were advised that AWRE considered the warhead should be dismantled on site and returned as components.
10 May

7. A large number of radiographs of the suspect store had been taken during the period 6 - 9 May at the end of which time the team returned to AWRE with radiographs for detailed technical discussions.

11 May

8. A meeting with the team members and other AWRE specialists concluded there were no grounds for changing the decision to dismantle on site unless additional information could be obtained. It was agreed that the weapon was quite safe in the stored condition. It was also agreed work at AWRE and ROF B would be undertaken to obtain a clearer understanding of the feature seen on the original radiograph. Meanwhile preparations were being made to start dismantling at the end of May.

12 - 18 May

9. Work in this period was primarily occupied by the investigations initiated on the 11 May which culminated in a further meeting on the 18th that decided the evidence gained during the investigation had shown there were two positions on the warhead where a crack like feature existed. This occurred at the abutment of three tile edges where a gap was permitted and filled with an elastic material. If the filling was less than the full depth of the tile the feature would show as a gap or a crack on the radiograph.

10. This evidence was obtained by radiography and physical examination of an ex Service round as well as a geometrical analysis of the tile drawings.

11. The meeting reversed the decision to dismantle on site and recommended that the store be reassembled (less the drogue gun and nose cartridges) and returned by normal means. The RAF were signalled of this recommendation that evening (18th).

19 - 25 May

12. There was a natural pressure to return the weapon to the UK at the earliest opportunity and the RAF redrafted the programme accordingly.

13. D A Arm, on the 24 May, took evidence from Wpn Eng 3, RAE, CB, and AC(Nuc)staff and concluded that he could grant approval to move the weapon subject to AC(Nuc) approval for the nuclear package.

14. The AWRE team returned to Bruggen to reassemble the store.

15. At a meeting on the 25 May AC(Nuc) after taking evidence from AWRE, D A Arm, and RAE approved the movement provided the normal engineering procedures were followed. The CB staff had indicated to AC(Nuc) staff prior to the meeting that they were fully in agreement with the proposals. The meeting also included DAWF staff who agreed they would accept the store in this condition on its return to ROF B. The store was considered to be safe if not serviceable, the only reservation on this being that after partial
dismantling the reassembly had not been qualified by QA. The appropriate signals were dispatched, approving the release of the weapon, by 1100 hrs on the 25 May.

**SUMMARY**

16. The accident at no time rendered the weapon unsafe and the container provided protection to the required level. The investigations at AWRE confirmed that there were no grounds for supposing the HE components had been damaged and monitoring of the warhead capsule showed there were no radioactive hazards. The store could therefore be transported by normal means.

17. Although serviceability under these minor accident conditions was not maintained there was no reason to doubt that the current methods of transport and handling should not provide the necessary high safety standards and AC(Nuc) sees no reason to inhibit the movement of other stores under normal conditions.

18. It is the stated intention of D A Arm and RAE (as the authorities concerned with the store structure and container) to examine the possibility of modifying the container to maintain serviceability under minor accident conditions whilst still maintaining the safety standard.

19. The cost of any such modifications will have to be weighed by the user Services against the need to preserve the stockpile.

AC(Nuc)

Copies to:
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DAWF;
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ADWD(Nuc)2.

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