SHIPS INVESTIGATION LEARNING ACCOUNT

INCIDENT TITLE: INADVERTENT DISCHARGE OF TVT ALONGSIDE

121500ZMAR14	ARGL NLIM 3-14 URN-746-14 N
Personnel Interviewed WEO [redacted] WO2ET(WE)(Weapons) [redacted] POET(WE) [redacted] POET(WE) [redacted] LET [redacted] LPT [redacted] ET(WE) [redacted]	Investigating Team: PWO(U) [redacted] RN DMEO [redacted] RN JLO [redacted] RN

Executive Summary

Narrative of Events

1. On 12 Mar 14 HMS ARGYLL was berthed alongside in HMNB Devonport 5 Wharf conducting FOST covered MTLS Loading Drills between 1300 and 1430[1]. The serial was conducted to a FOST 'satisfactory' standard with the serial report (dated 13 Mar 14) stating that the respective Weapon Engineering team were well practised in MTLS Handling and Preparation[2].

2. On completion of the MTLS Loading Drills, the MTLS maintainer [redacted] seized the opportunity to conduct an abridged Training Variant Torpedo (TVT) maintenance routine, as required by UMMS as a 6 monthly task. An abridged TVT firing is a simulated firing whereby a weapon is not actually launched[3]. The maintenance procedure (Job Number ARGYJB0000212423) requires the TVT to be loaded within its tube so as to perform the abridged function check correctly.

3. While carrying out the maintenance operation, the TVT exited the launcher onto the jetty. The TVT was propelled along the width of the jetty into a heavy duty metal fence causing damage to the fence and its securing arrangements. The TVT was broken into several pieces. There was no further damage to equipment or personnel at the time of this incident.

4. As soon as personnel involved in the incident, or in the vicinity, realised what had occurred, the abridged firing evolution was ceased and the immediate area was cleared and cordoned so as to preserve it for investigation. Photographs of the area were obtained and personnel involved directly or who witnessed the TVT discharge were interviewed so as to formulate an accurate picture of what had occurred. Command was onboard at the time as was the Explosives Responsible Officer (WEO – [redacted] RN), the Explosives Safety Officer (XO - [redacted] RN) was conducting shore-based warfare training and returned approximately 1 hour after the incident occurred. An ISI team was convened.

5. Once all evidence had been collected by Ship's Staff to facilitate the investigation the Devonport Explosive Safety Advisory Group (DESAG) [redacted] were called in to remove the damaged TVT.

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[1] JSP 862 ART 0601.d allows the movement of drill munitions alongside in HM Naval Bases.

[2] Standard safety precautions were in place including the placing of warning boards. An abridged firing routine does not mandate the striking of guardrails.

[3] The TVT was loaded into the launcher in standard configuration which includes the fitting of the parachute.

Time Line

6. 12 March 14

a. 1300 – [redacted] began MTLS Handling and Preparation drills
b. 1430 – FOST assessed MTLS Handling and Preparation drills complete
c. 1430 – [redacted] began preparations for the abridged TVT firing exercise (UMMS)
d. 1445 – Abridged TVT firing exercise commenced
e. 1500 – Incident occurred (on completion of line 24 Para C of Enclosure 3[4])
f. 1505 – Scene of incident cordoned and access controlled for inspection
g. 1530 – DESAG contacted to investigate and to remove jettisoned round from 5 Wharf
h. 1600 – MTLS System placed back into its safe state
i. 1700 – Ships Investigation team briefed by XO and WEO
j. 1800 – NLIMS IRF completed by SS

Key Evidence

7. **Physical.** Photographs of the scene, taken by DESAG are available and attached as a power point presentation (Enclosure 1). No footage of the incident was taken on either personal cameras or CCTV. The damaged fence remains in situ; the drill weapon has been completely removed. Areas of the jetty remain scarred from the impact of the drill weapon (as of 18 Mar 14: Incident +6 days).

8. **Documentary**

Enclosure 1: Power Point Photographs of the scene of the incident

Enclosure 2: Signal 131212Z MAR 14 from DES BRISTOL stating control measures to be put in place with immediate effect

Enclosure 3: UMMS Job Information Card (JIC) Job Number ARGYJB0000212423

Personnel

9. The following personnel were interviewed:

WEO [redacted] RN

WO2ET(WE)(Weapons) [redacted]

POET(WE) [redacted]

POET(WE) [redacted]

LET [redacted]

LPT [redacted]

ET(WE) [redacted]

[4] Press and release of Fire Switch

Analysis of Casual and Contributing Factors

10. Through analysis of the interviews conducted, it is immediately evident that all the parties involved in the inadvertent jettison of the TVT failed to adhere to SOPs stated in the JIC at Enclosure 2. The JIC clearly details how to safely conduct the serial and the laid down procedures that should be adhered to. This would have ensured the safe operation of the MTLS equipment. The fact that the maintainer was not in possession of the JIC led to a lapse in correct procedure which in turn culminated in the jettison of the TVT.

11. **Culpability.** The interview process has not revealed any evidence of recklessness, sabotage or deliberate violation for either personal or organisational gain. The SOP was not intentionally broken but nevertheless the correct SOP was not applied and a mistake was made; directly resulting in the incident. The failure to have a copy of the JIC/SOP may be considered a neglect of a reasonable precaution or action expected of any experienced maintainer in similar circumstances.

12. **Fatigue**. When interviewing [redacted] stated that he had been on duty the day previous (11 Mar 14), and although there is no mention of feeling tired, fatigue and tiredness is a natural occurrence and is sometimes overlooked by personnel wanting to do their best in given situations, especially with the added pressure of the drills being FOST assessed. WO2ET(WE) (Weapons) [redacted] stated within his interview that fatigue may well have been a contributing factor to [redacted] failure to utilise the appropriate UMMS JICs for the mentioned serial. [redacted] had drawn praise the previous evening for his performance as DWESR during an assessed FOST CBRNDC serial.

13. **Pressure**. It is evident that when Section Heads have any kind of assessed FOST serial added pressure is normally applied, not by Command, but by themselves. Every maintainer strives to be professional and to achieve the best results, wherever possible. Applying undue stress and strain during a busy harbour week only adds to the pressure to achieve an above satisfactory standard when conducting drills in front of staff. [redacted] had not been placed under any organisational pressure to conduct the abridged TVT firing drill, although it is noted that the serial was overdue on UMMS at the time. It is assessed that he seized an opportunity to conduct an overdue serial whilst the system was live and available to him. This may be viewed as a deviation from the intended plan.

Conclusions and Root Causes

14. The MTLS in HMS ARGYLL is in a safe state and is materially sound, with no anomalies or defects[5].

15. The incident was not a result of equipment failure or a failure of professional training.

16. [redacted] is part of the nominated SQEP to conduct this serial. He is a competent[6], experienced and knowledgeable individual who works well with the Air Weapon Magazine Crew. [redacted] has conducted this serial on several different occasions. Training provided to MTLS section maintainers is sufficient.

17. While conducting the MTLS loading drills and subsequent abridged firing evolution, the necessary safety procedures had been appropriately considered. Safety personnel were in place, warning boards had been posted and safety pipes were being made, the Ship Safety Information Board (SSIB) was up to date as well as the OOD being fully conversant with the drills that were

[5] This is based on there being no outstanding defects on the system at the time and the fact that the system functioned in line with design intent.

[6] [redacted] had completed the MWS Collingwood Maintainers' Course and previously conducted FOST training as the AW Maintainer.

being undertaken. In line with standard practice the WEO was not informed of the specific intent to conduct of the abridged firing maintenance routine.

18. [redacted] exercised initiative in attempting to complete scheduled maintenance, following a FOST assessed serial.

19. The UMMS Job Information Card (JIC) sufficiently covers the safety precautions required and is not ambiguous in its intent or instruction.

20. [redacted] failed to conduct step No 4 detailed in Job Number ARGLJB0000212423 (Removal of Beam Torpedo Securing (BTS) air hose) which resulted in the Jettison of a TVT onto 5 Wharf HMNB Devonport on the 12 Mar 14.

21. The ejection of the drill weapon occurred at a time when the jetty was unusually clear of vehicles, stores and personnel. The height of tide also resulted in the weapon clearing the quay side, guardrail stanchions and after shore supply distribution box. This would not have been the case for all states of tide and a potentially more serious and damaging outcome could have resulted.

22. The incident has had an effect on [redacted] confidence and the confidence Command has in him.

23. [redacted] has a reasonable work load commensurate with his experience and rate. His areas of responsibility have not been unduly affected by defects or material failures.

Post Incident Actions Taken

24. The following actions have been taken;

a. Scene of the incident was cordoned and access limited to preserve the site
b. External authorities (NBC, Flotilla, FOST, NCHQ, DESAG, DFC, Fleet Media) contacted by OOD and WEO
c. ISI team established
d. Site investigated by DESAG, NBC, Babcock, DEVFLOT and Ship Staff
e. Photographic evidence obtained by DESAG
f. DESAG removed remnants of the drill round
g. [redacted] interviewed, welfare reviewed and Trim considered.
h. NLIMS process initiated (IRF, Near Miss and Explosives incident) and completed by the XO [redacted] RN, the WEO [redacted] RN and WO2ET(WE)(Weapons) [redacted]
i. NLIMS process reviewed with follow on reports

Recommendations

25. All WE maintenance is to be conducted iaw relevant UMMS JICs.

26. The PT(UWE) conduct a review to ensure that there are no other maintenance routines that can result in an inadvertent jettison alongside.

27. All JICs are to be held within the magazines and laminated to ensure they are used when required. They are to be checked before every UMMS task to ensure the most up to date copy is used. The maintainer is to brief the relevant team on the procedures/instructions laid down in said JIC's thus providing a higher level of assurance against future incidents of a similar nature

28. An S2022 is to be raised to highlight the potential hazard of conducting this routine alongside[7].

29. It is recommended that this drill instruction is no longer to happen alongside in any port facility and is to be conducted at sea in the appropriate areas. If for any reason the test is required to be conducted alongside then the following precautions are to be taken:

a. JIC adhered to at all times
b. Jetty and surrounding area to be cordoned off with sentries in place.
c. Authority is to be sought through QHM and DESAG for testing to be conducted if within a Naval Base.

30. It is recommended that prior to any abridged TVT firing being conducted, at sea or alongside, the ERO/DERO is to conduct a formal check to ensure he/she is content with the condition of the MTLS system and the removal of the air hose in particular.

31. Supervision of [redacted] is to be increased in the short term to rebuild confidence in his reliability and to rebuild his self confidence following a serious incident. The aim of this get well package is to leave him fully trusted by himself and Command, having absorbed the lessons identified by this incident and increased his experience levels in the process. This supervision will be exercised by WO2ET(WE)(Weapons) [redacted] initially and following a review period of 2 weeks will be devolved to head of Group CPOET(WE) [redacted] aiming to have [redacted] acting at normal levels of supervision on completion of OST (17 Apr 14).

32. Administrative action in the form of professional warning for reversion is considered appropriate. In this instance disciplinary action for negligence may be appropriate, following legal advice.

[7] S2022 Reference Number ARGL 0271610581

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Signatures of Investigation Team

[redacted]

[redacted]

[redacted]

Commanding Officer's Comments

I endorse the comments, conclusions and recommendations of the investigation team.

The professional intent, initiative shown and genuine desire to be efficient and maintain the system demonstrated by [redacted] is to be commended. He is however culpable in that he failed to follow the JIC or have a copy ready to hand. While administrative action in the form of warnings for reversion are my initial preferred course of action, disciplinary action may be appropriate and legal advice will be sought to ensure consistency of approach with other Fleet wide incidents.

My immediate priority is to ensure the safe conduct of maintenance and exercises in HMS ARGYLL while providing the opportunity to recover [redacted] professional standing and ensure that the appropriate recovery package is implemented with immediate effect.

[redacted] RN