MINISTRY OF DEFENCE

DEFENCE FIRE RISK MANAGEMENT ORGANISATION
South East Area Team HQ
Headquarters 145 (South) Brigade
Wavell House, Cavans Road
Aldershot, Hants GU11 2LQ

Telephone: Civil 01252 [redacted] Military 94222 [redacted]
Fax: Civil 01252 [redacted] Military 94222
E-mail: [redacted]@mod.uk

[redacted]
HQ DFRMO
Ramillies Building,
Level 1, Zone 8, IDL 421
Marlborough Lines
Monxton Road,
Andover.
SP11 8HJ

Reference: DFRMO/3/3/3005

Date: 17 Sep 2010

AWE ALDERMASTON B-AREA INCIDENT RESPONSE REVIEW REPORT

Introduction

1. A fire incident occurred at AWE Aldermaston, within B-Area on the 3rd August 2010 at 2106 hours. The fire investigation is ongoing and once access to the scene of the fire can be obtained the DFRMO Fire Investigation Report will be produced. Following any significant incident on the MOD estate and independent of the fire investigation a review of the on-site Fire & Rescue Service response to the emergency should be completed. Such a review should identify whether any lessons can be learnt and what if anything could be done differently to improve upon those elements which may have adversely impacted upon or had a negative contribution to the emergency response and the safety of personnel at the incident. The review will also identify any positive action or other factors which contributed to the successful intervention measures resulting in mitigation of the incident. This Response Review Report identifies the learning points from the AWE incident and the subsequent recommendations that need to be addressed and actioned. It also details factors of the operational response that worked effectively during the incident.

Learning Points

2. Information Management. There appears to be a culture of e-mail overload at AWE. Watch Managers (WM's) often have to wade through numerous e-mails during a shift before identifying any of significance. Before there is an opportunity to read any e-mails, there is the shift change over to consider. Not only do WM's have to detail crews to their positions; but they have to oversee the change over routine, ensure that there is no planned equipment testing or servicing scheduled during the shift, plan and conduct continuation training (for the crews) and deal with any staffing issues. If AWE employees are to work late in B-Area and the Works Control Centre (WCC) is to remain open it is normal practice to inform the fire station of this via e-mail. An e-mail was sent to this effect the night of the incident. However, the WM had not had the time to read it.

3. Emergency Calls. After 1830hrs the telephone exchange shuts down at AWE and all emergency calls are redirected through to the Watch Keeper (WK). It was identified during the course of the investigation that no recorded messages exist for any of the emergency calls received in the watch-room that night. According to an AWE employee the tape machine in the telephone exchange had been reported broken for a number of months prior to the incident. The electronic recording of all emergency calls (both registering the timings and caller details) would allow for the opportunity to play back any recorded messages to ensure that all critical elements of the call have been noted and passed through to the responding incident commander. The facility is also essential for ensuring that all information gained is correctly annotated in the occurrence

book. Given the problems identified with regards to the receipt of the emergency calls that night; it is strongly recommended that AWE reviews and identifies a solution to improve upon the current existing method for receiving such calls.

4. Communication. Any information gained from the initial emergency call has a fundamental effect on the decision making process and level of response that the WM will dictate. His decision to head straight into the explosive area that night was based upon the information he had at the time i.e. 'he was told there were persons reported injured and there was a known fire at a building address'. He remained conscious of the risk he was taking; he parked his vehicles away from the incident whilst he conducted a Dynamic Operational Risk Assessment in search of casualties and the fire. If whoever is receiving the initial call does not ask for all the necessary key information then mistakes are likely to occur. The WK did not follow AWE Fire and Rescue Service (FRS) laid down watch room standard operating procedures. He did not ascertain that the casualties were actually leaving the risk area, or ask the caller what was going on at the time, more importantly he did not ask what was the nature of the incident ('what is burning and whether there were any significant hazards involved').

5. Watch Room Procedures. Whilst on route two further calls were received in the watch room only one of which was logged in the occurrence book. The second call came from the WCC. This omission was attributed to the workload that the WK was now dealing with. Not only did he have to make outgoing calls to the, 'on-call' AWE duty Fire Officer, MOD Police, Royal Berkshire Fire & Rescue Service (RBFRS), Defence Fire Risk Management Organisation (DFRMO) on-call officer, and the AWE Shift Manager but he was also taking incoming calls as well. On top of all this he had to turn out the Ambulance crew to the newly reported location of the casualties (this was the third call). Both callers when questioned by the investigating officer said that they had told the watch room there were explosives involved. Unfortunately this cannot be verified, as previously mentioned no recorded evidence exists to prove this either way. The information written in the occurrence book is intended to provide a valuable source of detail for any subsequent investigation, board of inquiry or court proceedings. There were a number of key decisions, timings and messages which also were not logged in the occurrence book.

6. Standard Operational Procedures (SOPs). Whilst the WM's decision to go direct to the incident address was an emotional response to the situation; SOP's exist to minimise the risks that are taken by fire fighters 'when attempting to save saveable life'. By reporting to the WCC the incident commander would have been given the knowledge that all casualties were accounted for and told what the inventory for the building was. The on-site explosive experts could then have advised him to let the explosives burn; such was the case in the end. The AWE Senior Fire Officer must ensure that all of his personnel are mindful that SOPs must be followed, as to step outside of these could have serious consequences on the fire ground.

7. B - Area Lighting. Both fire crews were keen to point out that street lighting within B Area is particularly poor. Poor lighting had a detrimental affect on the operations and affected the WM's decision making process. When questioned none of the fire fighters said that they had observed any explosive warning symbols. Had the WM known that the building contained explosives and once he had ascertained that there were no casualties in the building he has stated 'under interview' that he would not have committed his assets to fight the fire. It was not until a full eight minutes after booking in-attendance that he was notified that all casualties had been accounted for. By this time his crews had set up a pump relay and had got two high pressure hose reels to work, as well as laying out a 45mm covering jet. The pump operator from Alpha one (the base pump) reported particular difficulties in locating the nearest available hydrant in the dark. The delay in locating this hydrant almost resulted in both pumps running dry and this would explain a possible cause of the pulsating jets observed when the ground monitors were finally up and running. Did the lack of lighting prevent the crews from observing the class 1 explosive warning sign? Clearly no one observed it in the dark and as the incident site is out of bounds I therefore cannot verify this for myself. Within the B-Area all of the swan neck hydrants are painted faded pink and these would be difficult to observe in the dark.

8. Interoperability. After speaking with one of the facilities managers in the WCC who made the second call they told me they were desperate to get the fire fighters out of B-Area. Having spoken with the casualties via the telephone, they knew they were no longer at the fire scene. Having no direct means to contact the fire fighting crews they said they feared for the safety of the fire fighters when they did not report direct to the WCC but instead drove straight into B-Area. Having already informed the AWE FRS watch room that explosives were involved they did not know what else to do. For a split second they contemplated going into the B-Area however, they had no transport and were conscious this would have left the WCC empty. They did however leave the building for a short time and by chance waved down a passing MOD Police van. Having told the MOD Police that they wanted the fire crews out of B-Area immediately, they said they became very frustrated when the policeman told them that their radios were not compatible with the FRS's. An investigation needs to be undertaken to see whether compatible communications between the emergency services are achievable on-site with the current range of communications that are readily available.

9. Emergency Access Control. During the incident security access and egress controls to the site were a real cause of delay. A point raised by numerous elements of the external off-site attending agencies. The attendance of these outside organisations was requested by the AWE FRS and AWE Plc whose own resources were lost to the incident. All emergency responding organisations attended the incident under blue light emergency conditions only to be held at the main gate until an MOD Police escort could be located to escort the emergency responders to the forward control point. Some responders had to wait almost 30 minutes in the external car park for this to happen. Whilst it is recognised that security and protection of assets at this site must be maintained for national importance there appeared to be a distinct lack of personnel available for escort duties. This point was further exacerbated when the local fire authority attempted to relieve all of its fire personnel on mass at 0400hrs. This complicated access control matters further as those crews wishing to leave the site had to wait whilst relief fire crews were granted access to the site. Access control issues were not helped either by the RBFRS Fire Officer who was supposed to be liaising in the Site Control Centre (SCC) removing himself from this position. As a result of the issues raised a review of on site emergency control access (during silent hours) is required.

10. SCC. The failure of RBFRS to maintain a liaison officer in the SCC throughout the incident almost resulted in a decision being enacted upon which could have put lives at risk. Whilst the RBFRS Fire Officer was absent from the SCC, a misunderstanding between the AWE incident controller and MOD Police very nearly resulted in the lifting of the outer cordon and the MOD police re-opening the Reading and Aldermaston roads, to local traffic. These roads both passed through the 600 metre exclusion zone. The RBFRS Area Manager (AM) FRS and fire service incident commander had not authorised the lifting of the outer cordon. The condition of the explosives at this time had still not been ascertained. This decision requires further investigation and must form part of any internal AWE incident review. Another important factor which needs to be stressed is once the incident is handed over to the local authorities, the police have primacy of control and whilst the local authority FRS are conducting fire fighting and rescue operations they will advise the police on public safety. Although having never relinquished control of the incident the most senior Police Officer in attendance would normally give the order to reopen any affected roads only after receiving counsel from the FRS that it was safe to do so. A recommendation is that AWE facilitates a meeting inviting those off-site key responders to clarify their roles in any future incident which may occur on-site and to iron out any procedural and or organisational differences.

11. Briefings. Right up until the point the AM from RBFRS was relieved at 0400hrs regular 'bronze control' hourly briefing sessions were being held within the WCC. Those attending these meetings included the on-site explosive specialists, Shift and Facilities Managers, AWE FRS, Local Authority Ambulance Service and the DFRMO liaison officer. After 0400hrs these briefing sessions did not resume for almost 90 minutes. The oncoming AM instead elected to brief his personnel within the RBFRS incident control unit. It was not until after I approached him and appraised him of the on site specialists that he had at his disposal that regular briefing sessions resumed. Whilst it is recognised from a tactical role that the oncoming AM needs to take stock of the incident and the resources that he has available to him; there were significant personnel left waiting around for

the next briefing session unaware of what was going on. This could form an agenda item should the off-site responders agree to meet with AWE to discuss any response issues they had on the 3rd/4th August 2010.

12. Process Operating Procedures. A significant factor which does need reviewing is the decision that was taken which led to the incident occurring. Was it the right time to be adding Nitrocellulose to the solution fourteen hours into a shift? Did fatigue or a momentary lapse of concentration contribute to the incident? Was the ventilation extraction system in the large room sufficiently capable of extracting the vapour during the process? The whole mixing process and DSEAR risk assessment must be subject to a full review.

13. Fire Risk Assessment (FRA). Although the building had an in-date FRA it was noted that it was being subjected to a three year period of review. As an explosive processing building it is a recommendation that this review period be reduced to reflect the level of risk that the occupants potentially could find themselves exposed to. It is strongly advised that all other processing buildings be subjected to an FRA review and if applicable their re-inspection periods similarly reduced.

Factors that Worked Well

14. A number of factors which worked extremely well on the night are worthy of mention. The bronze control set up by RBFRS outside of the WCC proved very effective. Although there was the hiccup during the change over of the RBFRS AM's, the hourly briefing sessions proved extremely valuable. Although ultimately RBFRS was the lead agency during the fire fighting stage of the incident the AM's made sure that all parties were part of the decision making process. The welfare support provided by AWE was very good; all responders were provided with refreshments at various times throughout the incident. It is also understood that those persons evacuated from nearby properties were offered or provided with hotel accommodation. The on-call AWE Fire Officer performed his role of incident liaison officer admirably; functioning as the information conduit between RBFRS and AWE staff within the SCC and WCC. Finally also worthy of note was the performance of the AWE FRS 'Learning Development Manager' although on retained FRS duty with RBFRS, he provided a supporting role to the full time Hazmat FRS Officer. His working relationship with a number of the onsite specialists and knowledge of the site provided the Officers from RBFRS with a valuable insight during the incident.

Conclusion

15. AWE Aldermaston is no different from any other MOD location in that it has a well rehearsed emergency response plan in place which it exercises regularly. However, it is always the actual incident which identifies any areas which need reviewing. This report seeks to identify where those improvements need to be made to the emergency response plan in the event of a further fire incident at AWE Aldermaston. An action plan needs to be produced to address those issues identified and forwarded to this officer who can review it during the next AWE FRS formal staff visit and audit programmed for December 2010.

[redacted] ***– Signed on DIIF***

[redacted]
DFRMO South East
for CFO