



# HAZCON Pty Ltd

Health, Safety & Environmental Consultants

**Report To:  
Blake Dawson**

## **HEALTH AND SAFETY REVIEW – CFA BANGHOLME TRAINING GROUND**

Report Number: 12-0260 Final

February 2012

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## 1. EXECUTIVE SUMMARY

Mr Robert Jamieson of Blake Dawson, representing the CFA to provide legal advice, engaged HAZCON Pty Ltd to conduct a health and safety review of the CFA training ground located at Bangholme.

There were some activities that should be addressed immediately as they put at risk CFA personnel outside of the Bangholme facility and others that should be addressed to enhance safety and comply with relevant legislation.

1. Cease the distribution of the diluted Biogard as soon as possible until a safer dilution rate can be confirmed. Ensure labelling meets the OH&S Regulations 2007 or the Code of Practice for the labelling of workplace hazardous substances.
2. Review bund requirements in line with AS 1940-2004 and address.
3. Ensure the saw and grinder guarding in the workshop is addressed.
4. Initiate housekeeping audits against minimum standards in the workshop
5. Remove the placards from the gas storage and the BA filling room.
6. Place a HAZCHEM placard at the entry gate.
7. Remove the MSDS from the First Aid room and institute regular checks on the inventory.
8. Fill gaps in workshop to prevent the potential for gas entering.
9. Determine maximum aggregate quantities of unleaded as well as any blends with Aviation gas and any other Class 3 packaging group II products. If greater than 2500L, develop a manifest and notify WorkSafe in the approved method as per Schedule 3 of the Dangerous Goods Regulations 2011

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## 2. INTRODUCTION

Mr Robert Jamieson of Blake Dawson has requested on behalf of the CFA for HAZCON to undertake a Health and Safety Review at the CFA's Bangholme Training Ground to identify any potential health and safety risks to individuals utilising or visiting the site. The review is to be conducted as **confidential and subject to legal professional privilege**.

## 3. SCOPE

The following scope of work will be addressed as part of the project:

- A site visit to review the potential for health and safety risks posed by the current systems and practices involving the use and handling of chemicals and will encompass
  - Storage and handling of fuels and foams
  - Maintenance practices of critical equipment
  - Appropriateness of risk assessments for the chemicals used and the tasks undertaken utilising them
  - The potential for known disposal sites to present uncontrolled hazards
  - The rigour and relevance of training and documentation with respect to managing chemicals
- Interviews with various staff members to assess the level of chemical storage and handling knowledge and the degree to which the relevant policies and procedures have been implemented on site;
  - Photographic evidence will be taken where it is deemed to add value and clarity to the findings;
- Prepare a preliminary report, outlining recommendations where appropriate.

## 4. OBSERVATIONS

The review was conducted on 28<sup>th</sup> February. Leona Latcham, Bill Ellis and Will Hodgson escorted me across the whole of the site.

### Grounds

The grounds roads are well maintained. A proposed driver training area is under review due to the possible presence of asbestos in the soil.

### Buildings

There are several buildings used for administering and maintaining the site. The main administration building contains offices, a canteen and training rooms for trainees.

A maintenance workshop is used for supporting minor building works, repairs and ground maintenance. The housekeeping in this building is poor and some of the machinery and storage practices require improvements. **Refer photographs 1 and 2.** The grinder did not have an eye shield on the grinding stone wheel and the metal saw guard did not appear to engage adequately. The floor was covered in off-cuts of wood and the area was generally in need of a housekeeping review.

A gas store is located next to the workshop. **Refer photograph 3.** It has placards on it as it contains primarily forklift LPG. The placards are not necessary although some information on the nature of the hazard should be placed on the fence. The potential for gas leaking into the workshop is slight due to the gaps in the wall. They should be filled to eliminate this from occurring.

## **PAD – Fire Fighting Training Ground**

There are several PAD areas for fire fighting training exercises. The main area uses LNG as its fuel source. The prop fires are controlled from a control booth that can accommodate two supervisors running two different exercises. **Refer photograph 4** Wired controllers with dead man switches are also used as some of the exercises are not easily observed from the control booth. The instructors keep in radio contact with the booth controllers to add a further layer of safety.

The props are checked prior to an exercise by the instructors.

It was noted that the PAD briefs were reviewed in 2009.

There is no safety line used for fire fighting on the site. Appliances are on hand as back up for lack of fire water.

The other fire fighting ground utilised liquid fuels for the exercises. **Refer photograph 5** The fuel is generally a blend of ULP and aviation gasoline. Control over the fuel is similar to the gas PAD via a control booth although as the fuel is liquid, instantaneous extinguishment is not possible .

## **PAD buildings**

### **Temple of Doom**

This is a search and rescue structure on various levels. Where the potential for a fall over 2 m, ring lock fencing has been put in. Theatrical smoke is used to simulate a burning building.

### **TARR**

This is used to demonstrate the effect of smoke on visibility in a room.

### **SES Roof Prop**

Currently this prop is only used by SES and MFB and exercises are solely controlled by them. CFA have not used the prop as many of their trainees have not had working at heights training. A modification to the prop was made through the installation of wire in the ceiling to stop roof tiles falling onto personnel.

### **Other Structures**

Confined space training is conducted in a structure with secure access to confined spaces. Anchor points around the room have been load tested and tagged.

There are number of structures around the PAD to simulate buildings, structures or vehicles on fire.

Roof top structures are also on the site to familiarise trainee with moving over roofs without the risk of a fall.

## **Incident Data**

The incidents for this site are manual handling, thermal stress, particles in the eye, steam burns and asthma. It may be worth reviewing the process of identifying pre-existing illnesses or physical limitations of trainees, if this is not already done. Given volunteers attend the training; there will be variability in their capacity to undertake the training.

### Water Quality

The water quality at the site is good as water is captured from storm water run-off into 2 large (Mega) tanks which are legacy structures from when the site was a water treatment plant. Water is treated by auto-dosing units and tested by ALS. Additional water is drawn from the nearby water treatment plant into a separate tank. Recent testing of this water gave high bacteriological results. Discussions with the treatment works are under way as to how Class A water had this contamination.

Water from the liquid fuel PAD passes through a triple interceptor prior to storage. The tank is also dosed to prevent bacteriological growth.

### Chemical Management

Given the site uses LNG, the risk from stored fuels is less than on other remote sites. Gaslec conducts maintenance programs on the LNG system as well as others conduct maintenance and checking across the site.

There is a bunded area that holds Aviation Gasoline, Unleaded petrol and diesel. **Refer photograph 6** There is 4000l of aviation gasoline and from a rough approximation, the bund has the capacity to hold 3500l. AS1940-2004 Handling and storage of flammable and combustible liquids recommends that the bund has the capacity to hold 110% of the largest container as well as 20mins of fire fighting water. The placement of the all the tanks do not comply with the requirements of AS 1940 as well as EPA bunding guidelines.

The total flammable liquids on the site are not at manifest levels as ULP is at 2400L which is only 100L below manifest levels form Schedule 2 in the Dangerous Goods Regulations (Storage and Handling) 2011. One thing to note is that when ULP is blended with Aviation Gas, the blend acquires the same packaging group of ULP and this could possibly exceed manifest quantities.

The site also provides diluted Bioguard, a quaternary (BENZALKONIUM CHLORIDE) compound used for disinfecting BA equipment across all CFA sites. The instruction on the wall is to dilute 1:1 with water before packing the blend into 1L bottles. The label on the original packaging indicates that it is a corrosive liquid. **Refer photograph 7** The concentration of the active compound is 230g/l. Based on information from the HSIS data base, hosted by SafeWork Australia, the dilution is insufficient to reduce the corrosive nature of the compound. The supply of this material should cease and a more diluted product of at least 1:2 product to water be made. The containers should be labelled, as a minimum, with the risk phrase of Irritating to Skin and Eyes and a Safety Phrase of Wear eye protection and suitable protective clothing.

The First Aid phrases should include as a minimum:

If contact with eyes occurs, flush eyes with water for at least 15 minutes. In the event of skin contact, wash skin immediately with water.

### Site Management

Leona Latcham, acting Business Manager is the responsible manager for the site and Bill Ellis is the PAD supervisor. They are in the process of reviewing the Field Training Ground Management Manual to identify where there have been changes in operating procedures.

## Emergency Management

The emergency management plan is undergoing review at the same time as the Field Training Ground Management Manual.

## Other

An old confined space training area is not being used.

The BA cylinder filling and storage room contains only a maximum of 400L of compressed gas. **Refer photograph 8** The placard on the door is unnecessary for this quantity.

An emergency eye wash/shower station is activated prior to exercises to eliminate the potential for heated water being used during an emergency.

Their access to the CFA IT systems is very good so incident data, MSDS's and other information is easily accessed.

It was noted that the HAZCHEM sign at the front gate was missing and should be replaced.

Vehicles are debugged for a range of scenarios. All possible parts that may explode are either removed or drilled to release stored liquids.

The first aid room contains an out of date MSDS folder dating back to 2001 as well as the inventory had not been checked for 18 months. An oxygen bottle was not adequately restrained. Defibrillators are not available at this training ground.

## 5. INTERVIEWS WITH STAFF AND RELEVANT PERSONNEL

Name	Position
Leona Latcham	Acting Business Manager
Bill Ellis	PAD Supervisor
Will Hodgson	PAD Operator and Deputy HSR

## 6. CONCLUSIONS

There are a number of areas where Bangholme is putting people at risk due to poor practices and is also not complying with legislation or Australian Standards. Non-compliance with an Australian Standard is not in itself a breach of a Regulation or Act, however, the level of risk has to be at the same level as what can be achieved by adopting the Australian Standards guidelines.

Other aspects of the training ground are well controlled given the nature of the activities conducted at the site and the water used on site is well managed.

## 7. RECOMMENDATIONS

1. Cease the distribution of the diluted Biogard as soon as possible until a safer dilution rate can be confirmed. Ensure labelling meets the OH&S Regulations 2007 or the Code of practice for the labelling of workplace hazardous substances.
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## **8. APPENDICES**

**APPENDIX 1 – PHOTOGRAPHS**



Photograph 1 Grinder and Workshop Housekeeping



Photograph 2 Faulty guarding on saw



Photograph 3 Gas store placard



Photograph 4 PAD and control booth



Photograph 5 Liquid fuel PAD



Photograph 6 Inadequate bunding



Photograph 7 Disinfectant blends



Photograph 8 Incorrect placard.