CCA NORTHMEAD

NORTHMEAD REDEVELOPMENT PROJECT

HAZARD ASSESSMENT

PREPARED IN SUPPORT OF PROJECT APPLICATION

URS

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CCA Northmead **Northmead Redevelopment Project** **Hazard Assessment** **Prepared in Support of Project Application**	S CHIA **Date: 18 August 2006**

CONTENTS

TABLES

FIGURES

ABBREVIATIONS

AS	Australian Standard
BCA	Building Code of Australia
CCA	Coca-Cola Amatil
DG	Dangerous Good(s)
DGR	Director General's Requirements
DoP	Department of Planning
EA	Environmental Assessment
EPA	Environmental Protection Agency
HIPAP	Hazardous Industry Planning Advisory Paper
MPa	Mega Pascals
SEPP	State Environmental Planning Policy

HOLDS

There are no holds in this document.

1. EXECUTIVE SUMMARY

1.1. Background

Coca-Cola Amatil (CCA) is proposing to undertake a project to redevelop their existing facilities at Briens Road, Northmead. Central to the project is the construction of a new high-bay warehouse. In order to construct the new warehouse some existing buildings will need to be demolished and staff relocated. In addition existing warehouse space will be converted into production lines to increase plant throughput and efficiency.

CCA are taking the opportunity to improve traffic flow and to generally improve the operability of the site. Key to this is the segregation of day to day truck movements from car and staff movements.

The project will result in a modern warehouse facility that is fully compliant with the most recent codes and standards, including fire detection and protection systems.

This report is a preliminary hazard assessment of the project. The purpose of the report is to document the operational hazards associated with the project in the context of land use planning safety.

The report has been developed in line with the "Multi-Level Risk Assessment" guidance supplied by the NSW Department of Planning with reference to the State Environmental Planning Policy No 33 (SEPP 33) covering "potentially hazardous" and "potentially offensive" facilities.

1.2. Findings

The key findings of the study are:

- Hazards associated with the proposed project have been identified and appropriate control measures provided.
- The risk of offsite impact associated with the proposed project can be managed to an acceptable level through the design process.
- The risk of escalation from hazards associated with the proposed project to existing hazardous materials on site can be managed to an acceptable level through the design process.
- CCA are taking the opportunity to upgrade systems and redesign the site to reduce existing hazards.

1.3. Recommendations

The following recommendations are made as a result of this study:

- The design process should include verification that codes and standards have been applied as appropriate.

- During detailed design the project should ensure the risks associated with the storage of compressed natural gas for forklift truck fuel supply are managed to an acceptable level by reviewing:
    - The required stored inventory of compressed natural gas based on reduced forklift truck operations
    - The location of the storage areas in terms of its proximity to the site boundary
    - The safeguards in place to manage the risks associated with the storage of compressed natural gas
    - The safeguards in place to manage the risk of incidents associated with the project escalating to the compressed natural gas storage location
- The project should undertake a construction safety study in line with HIPAP No. 7. The construction safety study should assess risks due to demolition, construction, simultaneous operations. The potential for incidents to impact on the existing hazardous materials and underground utility lines should also be included. Specific issues associated with asbestos are further discussed in the Draft Waste Management Plan for CCA Northmead (ref 1).
- The project should undertake a Fire Safety Study in line with HIPAP No. 2, the FSS should include assessment of both offsite impact and escalation of incidents to existing hazardous materials.

2. INTRODUCTION

2.1. Background

Coca-Cola Amatil (CCA) is proposing to construct a new high-bay warehouse at their existing facility at Briens Road, Northmead. In order to construct the new warehouse some existing buildings will need to be demolished and staff relocated. In addition existing warehouse space will be converted into product lines to increase plant throughput and efficiency.

As part of the project CCA are taking the opportunity to improve traffic flow at the site and to generally improve the operability of the site. Key to this is the segregation of day to day truck movements from car and staff movements.

The project will result in a modern warehouse facility that is fully compliant with the most recent codes and standards, including fire detection and protection systems.

CCA has received a letter setting out the Director Generals Requirements (DGRs) (ref 2) relating to the submission of an Environmental Assessment (EA) as part of the approvals process.

CCA have retained URS to undertake the EA for the project. URS have subsequently retained Sherpa Consulting Pty Ltd (Sherpa) to assess the specific requirement to address the key issue of "Hazards" associated with the project.

2.2. Purpose

The purpose of this report is to document an assessment of the hazards associated with the project in a form that is suitable to support the EA submission. This document has been prepared to the Department of Planning (DoP) requirements for a hazard analysis.

2.3. Methodology

The risk assessment has been developed in accordance with the following standards and guidance documents:

TABLE 1 STANDARDS AND GUIDANCE DOCUMENTS

Document	Comment
AS4360:2004 Risk Assessment (Ref 3)	The risk assessment process described in this document follows the principles set out in AS4360:2004
Applying State Environmental Planning Policy No. 33 (Ref 4)	The identification of hazards and level of risk assessment has been developed in line with guidance provided by the Department of Planning in State Environmental Planning Policy No. 33 and associated documents.
Multi-Level Risk Assessment (Ref 5)	
Hazardous Industry Planning Advisory Paper (HIPAP 6) (ref 6)	This document includes a hazard analysis in line with the requirements of NSW DoP HIPAP 6.

2.4. Scope

The scope of this document is based on the requirement to assess the hazards associated with the proposed project. NSW has a well established process for assessing the hazards associated with developments. The process is referred to as the 7 stage planning process and is shown in Figure 1.

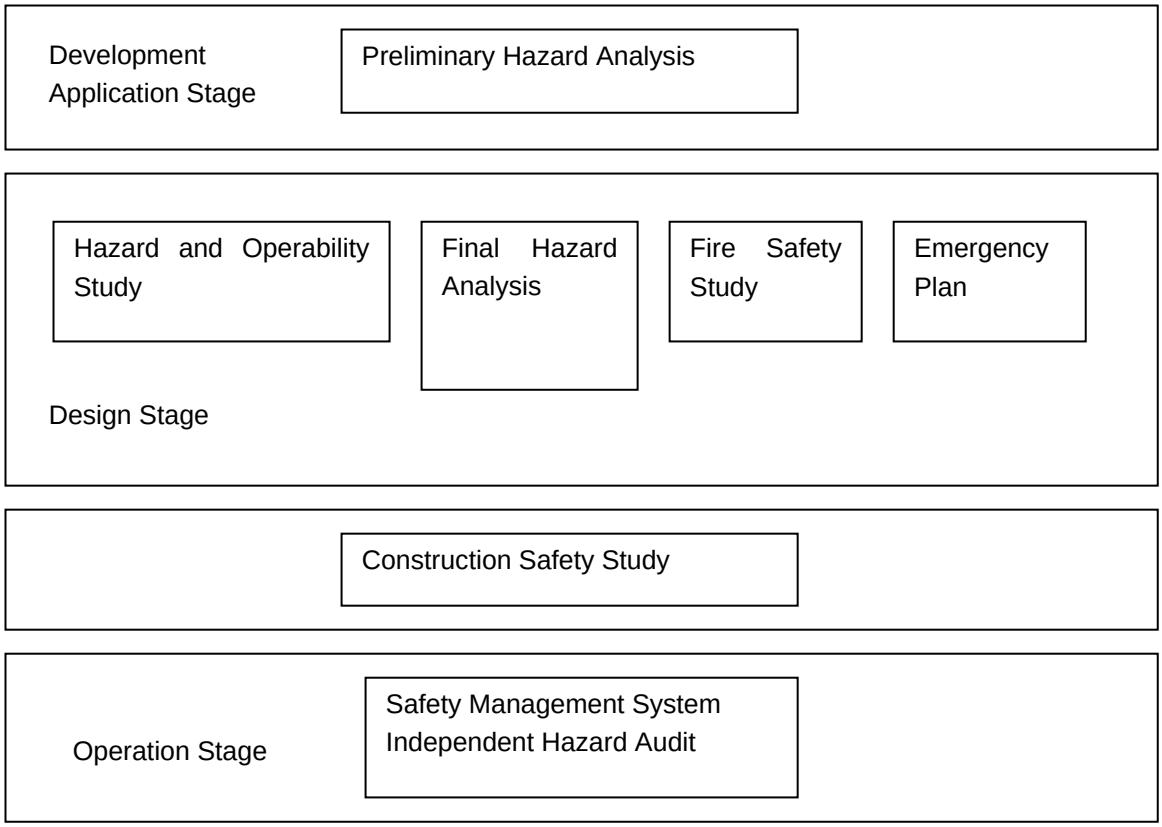

FIGURE 1 THE SEVEN STAGE PLANNING PROCESS

The seven stage planning process is a generic process that is intended to cover a range of developments. The documents referenced in Table 1 provide guidance on the level and depth of assessment required for specific development.

Two key objectives are emphasised in the guidance documents:

Objective 1 relates to the application of a systematic process to ensure hazards are identified and understood from design, operational and organisational viewpoints to provide an opportunity to focus safety management and control, irrespective of the quantification of risk. This is complementary to the application of codes and standards

Objective 2 relates to the requirement to identify where quantification of risk to people, the biophysical environment and other land users is required and to assess such risk against acceptance criteria.

This is the preliminary hazard analysis. The purpose of the study is to demonstrate that the risk posed by the project to the surrounding land users can be managed to an acceptable level.

2.5. Objectives

The high level objectives of the study are to:

- identify the level of risk assessment required for the project
- identify all hazards associated with the proposed project when it is operation
- identify the level of risk assessment required for the proposed project
- where appropriate make recommendations to ensure hazards are managed

2.6. Limitations

It should be noted that this study is a preliminary hazard analysis of the hazards associated with the proposed project. The intention is to demonstrate that the risks associated with the project have the potential to be managed to an acceptable level.

There is an ongoing requirement to demonstrate that risks are being managed on an ongoing basis. In particular this study does not address:

- Hazards associated with the existing operations and storage of dangerous goods. It is assumed that the hazards are being managed to the appropriate codes and standards.
- Hazards during demolition and construction – these will be identified and managed through the construction safety study. This is best undertaken when specific activities relating to the constructing program are well understood.
- Fire Safety Study – this is a stand alone study that is required to comply with HIPAP 2. The fire safety study is conducted when the design of the fire fighting systems is understood.

2.7. Summary

The hazards associated with the proposed project have been identified and an initial screening undertaken using the guidance provided in Applying SEPP33.

SEPP33 requires that the existing inventories of dangerous goods are included when screening a site to determine if a project is potentially hazardous. On the basis of the screening criteria provided in SEPP33; the inventory and storage location, in terms of distance to site boundary, for the compressed natural gas supply associated with the two forklift truck refuelling stations would result in the site being classified as “potentially hazardous”.

There are two forklift truck refuelling stations at the site. They are both located adjacent to the southern site boundary. Each refuelling station draws gas from the site

natural gas ring main and compresses the gas to between 22MPa and 25 MPa. The compressed gas is stored in banks of cylinders which are used to refuel the site forklift trucks.

The refuelling facilities were designed and installed by Agility and are maintained by Agility on an ongoing basis.

Whilst the separation distance to the site boundary is below the SEPP33 screening criteria the following are noted:

- the land to the south of the site is open land connecting to a creek, with no industrial or residential developments within the screening distance, hence the potential for the existing facilities to impact on adjacent land users is limited to the open recreational area.
- the proposed project will require the refuelling stations and associated compressed natural gas storage tanks to be relocated.

Recommendations are made in this hazard assessment to ensure changes as a result of the project do not increase the potential for incidents to impact on the existing dangerous goods stores.

The key findings of the study are:

- Hazards associated with the proposed project have been identified and appropriate control measures provided.
- The risk of offsite impact associated with the proposed project can be managed to an acceptable level through the design process.
- The risk of escalation from hazards associated with the proposed project to existing hazardous materials on site can be managed to an acceptable level through the design process.
- CCA are taking the opportunity to upgrade systems and redesign the site to reduce existing hazards.

2.8. Recommendations

The following recommendations are made as a result of this study:

- The design process should include verification that codes and standards have been applied as appropriate.
- During detailed design the project should ensure the risks associated with the storage of compressed natural gas are managed to an acceptable level by reviewing:
    - The required stored inventory of compressed natural gas based on reduced forklift truck operations
    - The location of the storage area in terms of its proximity to the site boundary

  - The safeguards in place to manage the risks associated with the storage of compressed natural gas
  - The safeguards in place to manage the risk of incidents associated with the project escalating to the compressed natural gas storage location

- The project should undertake a construction safety study in line with HIPAP No. 7. The construction safety study should assess risks due to demolition, construction, simultaneous operations. The potential for incidents to impact on the existing hazardous materials and underground utility lines should also be included. Specific issues associated with asbestos are further discussed in the Draft Waste Management Plan for CCA Northmead (ref 7).

- The project should undertake a Fire Safety Study in line with HIPAP No. 2, the FSS should include assessment of both offsite impact and escalation of incidents to existing hazardous materials.

3. PROJECT DESCRIPTION

3.1. Introduction

CCA are proposing to construct a new high-bay warehouse at their existing facility at Briens Road, Northmead. In order to construct the new warehouse some existing buildings will need to be demolished and staff relocated. In addition existing warehouse space will be converted into production lines to increase plant throughput and efficiency.

CCA are taking the opportunity to improve traffic flow at the site and to generally improve the operability of the site. Key to this is the segregation of day to day truck movements from car and staff movements.

The project will result in a modern warehouse facility that is fully compliant with the most recent codes and standards, including fire detection and protection systems.

A summary of the key elements of the project are provided here. Detailed project documentation is available for review.

3.2. Key Elements

The Northmead redevelopment project will consist of the following elements:

- Site preparation works.
- Construction and use of a new 32 metre high and 128 metre long automated high-bay warehouse.
- Adaptation of an existing warehouse to accommodate three new production lines and manufacturing services including boiler, refrigeration plant and compressor;
- Construction and use of a new building to house a canteen, offices and training facilities;
- Construction of a new gatehouse and driver amenities;
- Upgrading of the on-site storm-water drainage system;
- Implementation of access and traffic circulation improvements, including parking and new entrances; and
- Site landscaping.

The project will be undertaken on an operational site. To minimise disruption to production CCA propose to complete the activities in 5 stages:

Stage 1: New production line (1 off) installed in part of existing warehouse.

Stage 2: High Bay warehouse, Staging area, driveways and 102 Briens road car park entrance.

Stage 3: Production office and amenities

Stage 4: New car park, entry and exits

Stage 5: New production lines (2 off), syrup room, waste treatment plant, water treatment and packaging store

A single Project Application will be lodged by CCA to cover all the above activities.

4. HAZARD IDENTIFICATION

4.1. Introduction

A hazard identification (HAZID) workshop was held at the CCA Northmead site. Attendees are shown in Table 2.

HAZID used a guideword approach to identify hazardous materials and potential hazardous scenarios. The guidewords and a full set of minutes are included as appendix A. The hazard identification is presented as a word picture in line with the guidance in HIPAP 6.

The objective of the workshop was to systematically assess the operations associated with the proposed facility and identify hazards that had the potential to lead to serious incidents on site (potential fatalities) or have potential offsite impact.

Incidents of an occupational health and safety nature were not assessed in this study. Such activities will be covered by CCA's standard operating procedures.

TABLE 2 HAZID WORKSHOP ATTENDEES

Name	Company	Position
Giles Peach	Sherpa Consulting	Facilitator
Arthur Kollaras	URS	Senior Resource Recovery Engineer
Michael Bower	Holmes Fire and Safety	Site Safety Engineer
Geoff Kennedy	CCA Northmead	Maintenance Manager
Margot Akeroyd	CCA NSW	OHS Manager

4.2. HAZID Findings

The key findings of the HAZID are summarised in Table 3. The table is based on the HAZID minutes in Appendix 1 and shows hazards that are either new or have changed as a result of the proposed Project.

TABLE 3 KEY FINDINGS OF HAZID

Ref	Material	Hazard	New / Changed
1	Natural Gas	Leak and fire at forklift truck refuelling station or natural gas storage area	Locations will change, usage will reduce
2	Combustible material (packaging and labels)	Fire in warehouse	Location will change
3	Empty wooden pallets	Pallet fire	Location will change
4	Hydraulic oil	Hydraulic oil spray fire in new warehouse	New hazard
5	Electricity	HV power cables and transformers	Increase in hazard
6	Natural Event	Wind, rain, flooding, lightning	Existing hazard applies to new building
7	Security	Third party interference	Existing hazard, change to safeguards
8	Falling objects	Falling objects in high-bay warehouse	Hazard potential decreases due to design of racking and de-manning of warehouse.
9	Asbestos	Human health	During demolition

In addition to the new hazards the workshop also identified existing hazardous materials. The potential for the new or changed hazards to escalate to the existing hazardous materials is included in the assessment.

It should be noted that the risks associated with the existing hazardous materials has not been assessed on a stand alone basis. CCA has managed the existing hazardous materials under the old Dangerous Goods Legislation and is now managing them under the Occupational Health and Safety Amendment (Dangerous Goods) Regulation 2005, made under the Occupational Health and Safety Act 2000.

In line with the DoP requirements for a risk assessment the focus of this study is on hazards with the potential for an acute effect. The hazards associated with asbestos will be limited to the demolition phase of the project. Reference is made to the Draft Waste Management Plan for CCA (Ref 7).

5. LEVEL OF ASSESSMENT

5.1. Introduction

The hazardous materials identified in the HAZID were assessed using the screening process set out in Applying SEPP33 guideline (ref 4).

The SEPP33 screens against two outcomes:

- Potentially Hazardous – based on the inventory and location of hazardous material
- Potentially Offensive –based on the requirement for the facility to be licensed by the EPA.

5.2. Findings

It is noted that where a proposal is an extension to an existing site there is a requirement to "include those inventories on the existing site that are adjacent to the proposed project". As a conservative approach the quantity of each material has been summed, regardless of location.

TABLE 4 DANGEROUS GOODS STORED ON SITE

Material	Quantity	SEPP 33 Threshold	Below Threshold
LPG	<2m3	16m3	Yes
Chlorine	980kg	1000kg	Yes
Ammonia	1500kg	5000kg	Yes
Class 2.1 (not LPG)	<450m3	Requires 40m separation distance to site boundary	Based on location
Class 3	Approx 4500L kept in a number of stores	Requires 7m to site boundary	Based on location
Class 5.1	<2000 kg	5000kg	Yes
Class 8 PG II	4 m3	25m3	Yes
Class 8 PG III	29 m3	50m3	Yes

With the exception of the storage of Class 2.1 (non-LPG) material all quantities of hazardous material on site are below the criteria set in SEPP33.

The Class 2.1 (non-LPG) material is compressed natural gas stored for refuelling forklift trucks. There are two forklift truck refuelling stations at the site. They are both located adjacent to the southern site boundary but are separated by 144m. Each refuelling station draws gas from the site natural gas ring main and compresses the gas to between 22MPa and 25 MPa. The compressed gas is stored in banks of cylinders which are used to refuel the site forklift trucks.

The refuelling facilities were designed and installed by Agility and are maintained by Agility on an ongoing basis.

On the basis of the screening criteria provided in SEPP33; the inventory and storage location, in terms of distance to site boundary, for the compressed natural gas supply would result in the site being classified as “potentially hazardous”. Whilst the separation distance to the site boundary is below the SEPP33 screening criteria it is noted that the land to the south of the site is open connecting to a creek, with no industrial or residential developments within the screening distance. Hence the potential for offsite impact onto land users is limited.

In addition the project requires the natural gas storage tanks to be relocated. During the design process the project team should consider the required separation distances and location of the tanks.

In order to demonstrate that hazards are being managed the remaining sections of this report contain a description of the proposed safeguards and a qualitative assessment of the risk associated with the Hazards.

The premises and activities on site after the development will not require licensing by the EPA and hence the facility is not potentially offensive under SEPP33.

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6. CODES AND STANDARDS

6.1. Introduction

This section details the proposed codes and standards for the project.

6.2. Codes and Standards

Table 5 details the codes and standards that have been identified for the project, additional codes and standards may be used as required.

TABLE 5 CODES AND STANDARDS

Reference	Title / Description
AS 4024-1 – 1996	Safeguarding of machinery
AS/NZS 1891 – 1997	Industrial Fall Arrest
AS/NZS 4600 – 1996	Cold Formed Steel Structures
AS 1538 – 1988	SAA Cold Formed Steel Structures
AS 1170.4 – 1993	Minimum design loads on structures – Earthquake loads
AS 1170.2 – 2002	Structural design actions – Wind actions
AS 4100 – 1990	SAA Steel Structures Code
AS 3990 – 1991	Formerly AS 1250 – Steel Structures Code Steel Work for Engineering Applications
AS 1657 – 1992	SAA Fixed Platforms, Walkways, Stairways and Ladders
SEMA - 1980 (UK)	Storage Equipment Manufacturers Association for the Design of Static Racking
RMI - 1997 (USA)	Rack Manufacturers Institute Specification for the Design, Testing and Utilisation of Industrial Steel Racks
AS 4084 – 1993	Steel Storage Racking
FEM 10.2.02 – 1998	Recommendations for the Design of Steel Static Pallet Racking and Shelving
FEM 9.831 – Class 200 D	Calculation Principles of Storage Retrieval machines. Tolerances, deformations and clearances in the high bay warehouse.
Earthquake Zone	1
OH&S Act – 2000	Occupational Health & Safety Act 2000
AS 2327.1 – 2003	Composite Structures Part 1: Simply Supported Beams
AS/NZS 1170.0 – 2002	Structural Design Actions - General Principles
AS/NZS 1170.1 – 2002	Structural Design Actions - Permanent, Imposed and Other Actions
AS 2159 – 1995	Piling - Design and Installation
AS 3600 – 2001	Concrete Structures
AS 3700 – 2001	Masonry Structures
BCA 2006	Building Code of Australia

7. RISK ASSESSMENT

7.1. Introduction

The hazards associated with the operation of the proposed project in terms of land use planning have been identified and the proposed codes and standards that will be applied to the Project have been identified.

The list of new or potentially increased hazards associated with the proposed project is repeated in Table 6.

TABLE 6 HAZARDS CARRIED FORWARD FOR ASSESSMENT

Ref	Material	Hazard
1	Natural Gas	Leak and fire at forklift truck refuelling station
2	Combustible material (packaging and labels)	Fire in warehouse
3	Wooden Pallets	Pallet fire
4	Hydraulic oil	Hydraulic oil spray fire in new warehouse
5	Electricity	HV power cables and transformers
6	Natural Event	Wind, rain, flooding, lightning
7	Security	Third party interference

7.2. Forklift truck filling station

There are two forklift truck filling stations on site. Each station consists of a reciprocating compressor, a bank of cylinders to store compressed gas and a forklift truck refuelling connection. The two stations have different storage capacity, one consisting of 12 cylinders each with 12m^3 (at standard conditions) storage volume to give a total of 144m^3 of gas and the other with 22 cylinders to give a total of 264m^3 of gas.

Each compressor draws gas from the natural gas ring main and compresses it to between 22MPa and 25MPa for storage. The existing storage locations will be relocated as part of the project.

The risk of a fire during forklift truck refuelling has the potential to result in an incident that impacts offsite. The hazard is managed through the following process:

Elimination	The new warehouse will result in fewer forklift truck operations and hence a reduced need to fill forklifts The new location of the storage tanks will be further from the site boundary
Prevention	The station and storage tanks will be designed to appropriate codes and standards and operators will be trained in the filling of forklifts
Detection and Control	The site is manned and the filling stations are in an area where personnel will be present.
Mitigation	It is recommended the fire safety study includes an incident at the filling station The land to the south of the site is open parkland, there are no occupied premises in the area

It is concluded that the existing risk associated with the forklift refuelling stations will reduce as a result of the project.

During detailed design the project should ensure the risks associated with the storage of compressed natural gas are managed to an acceptable level by reviewing:

- The required stored inventory of compressed natural gas based on reduced forklift truck operations
- The proposed location of the storage area in terms of its proximity to the site boundary
- The safeguards in place to manage the risks associated with the storage of compressed natural gas
- The safeguards in place to manage the risk of incidents associated with the project escalating to the compressed natural gas storage location

7.3. Combustible Packaging Material or Pallet Store Area Fire

The potential for a fire involving combustible material can never be completely discounted. The following safeguards are provided to specifically address the hazard of a fire associated with combustible packing material.

- CCA standard operating procedures, including housekeeping and control of activities are designed to minimise the potential for a fire to be initiated in the area. The design should include sufficient segregation and separation between combustible and flammable materials.

- Should an incident occur fire systems are proposed to detect and sound an alarm to ensure personnel are protected. The system will be designed to meet the relevant BCA requirements.
- Building design should be reviewed to ensure escalation to existing hazardous materials is addressed.
- Fire fighting systems will be designed based on the calculated fire loads. CCA have retained Holmes Fire and Safety to design a fully compliant system of detection and fire protection
- Provision of hydrants, safe approach and stand off distances for the NSW Fire brigade will be assessed in the fire safety study
- Fire water containment will be assessed in the fire safety study

7.4. Hydraulic spray fire in the new high bay warehouse

The potential exists for a hydraulic leak and spray / mist formation in the high bay warehouse. Whist the hydraulic oil is a combustible liquid in storage and transport, spray releases of hydraulic oil may act as flammable materials and be readily ignited.

The potential for a hydraulic fire to escalate in the high bay warehouse is limited by the material of construction of the warehouse and the nature of the material stored. Any release of product is likely to extinguish a fire.

There is limited potential for a fire to result in offsite impact.

Risks will be managed through process of designing the system to applicable codes and standards and providing detection and mitigation systems.

7.5. Electricity

Hazards associated with power cables and transformers include arcing and transformer fires. The hazards will be managed through the application of codes and standards in the design, installation and maintenance of the systems.

7.6. Natural events

Potential natural events include

- High wind
- Earthquake
- Lightning
- Flood

The buildings will be designed to the appropriate code to manage the risk associated with such incidents. Relevant sections of the building design should be verified by a BCA certified practitioner.

7.7. Security

Unauthorised entry and deliberate acts cannot be discounted. The exiting site has a process for managing security on site; this will be extended to include any new facilities. Details of security provisions are not repeated in this document, further information can be obtained from CCA.

7.8. Conclusion

Based upon the identified hazards and proposed control measures, there is very limited potential for offsite impact from the proposed operation of the warehouse provided applicable codes and standards are applied to the design.

Recommendations to manage the residual risks are provided in section 2.8.

APPENDIX 1. HAZARD ID MINUTES

ID	Hazardous Material	Use on Site	Potential Scenario	Change as a result of the project?	Safeguards
1	Natural Gas	Fork lift truck refueling	Natural gas fire	Use of natural gas is likely to reduce as there will be less forklifts truck movement	Trained and competent operators
				The forklift truck refueling stations and gas storage facilities are to be relocated.	Systems designed, installed and inspected to relevant standards
				Automated materials handling will reduce the use of forklift trucks and hence the frequency of filling operations	No additional safeguards
2	lubricants/greases	General maintenance activities	Lube oil fire in the engineering workshop	A small quantity of grease and oils would be stored close to the new line in an appropriately designed combustible goods cabinet.	No additional safeguards
			Grease fire at the services platform, grease locker	There will be no changes to the quantity or store location	Storage is in open air
3	Ammonia	Refrigerant circuits	Ammonia is both flammable and toxic	No change	Proposal would be to run a chilled water line to any new areas
				No new hazards	New warehouse will have 3 phase electric power a/c type systems
4	Glycol	Prop-Glyol used as refrigerant in PET & syrup run	Glycol fire	New can line proposed, may change configuration. But not inventory	No additional safeguards
5	Carbon dioxide	Carbonation25 & 50 tonne vessels stored next to trade waste plant - 50-70m away	Asphyxiant	No change	No additional safeguards

ID	Hazardous Material	Use on Site	Potential Scenario	Change as a result of the project?	Safeguards
6	Chlorine	70kg x ~12 bottles onsite stored in water treatment area, water used to pre-rinse containers	Toxic release	No change as a result of the DA	System designed, maintained and operated to appropriate standards
7	Combustible material	packaging/labels/cartons - generates dusts	fire in warehouse	Change to storage locations	fire detection and mitigation design, FSS
		(tonnes stored & palletized - capacity for 500,000 cartons per wk)		1,00 pallet maximum	fire detection and mitigation design, FSS, revised fire services access
		PET - empty storage area		Change to storage locations	Empty PET bottles will not be stored in new packaging store. Only WIP bottles on site (Just in Time from bottle manufacturer)
8	Pallets	pallet store area standard chep pallets - 30high x 6-8stacks	pallet fire	Possible change to storage locations	fire detection and mitigation design, FSS, revised fire services access
9	Sugar	Sugar crystal - generates dusts	Dust explosion	No change	Designed to appropriate codes and standards
10	Mixed products	mixing of products (cleaning chemicals)	Reactions	Existing DG separation distances and segregation will be complied with	Existing DG segregation
11	Acids and Bases	acids/bases - separate/external bunded areas; trade waste plant	burns, fumes	No change	Existing DG segregation
		HCL (35%) -neutralising trade waste			Existing handling and storage procedures

ID	Hazardous Material	Use on Site	Potential Scenario	Change as a result of the project?	Safeguards
12	Hydraulic oils	hydraulics (forklifts, balers, production line)	High pressure oil spray fire	New hydraulic systems in warehouse	Designed to appropriate codes and standards
13	Electricity	4-5 oil filled transformers onsite	Transformer fire	Unknown	Existing facilitates serviced by Integral Energy
15	Industrial gases	industrial gases - acetylene (3 bottles), oxygen (3 bottles), argon	Fire	No change to storage location. Increase in storage of one bottle each of oxygen and acetylene.	Existing DG management of DGs
16	Natural event (wind, high temperatures etc)		movement / collapse of new building	new building	Applicable codes and standards
17	Lightning		lightning strick on Highbay (32m high structure)	new building	Applicable codes and standards
18	Bush / vegetation		Bushfire	None	Existing vegetation clearing policy
19	Stacked pallets	in Warehouse	stacked pallets, collapses due to leaks/moisture	Higher stacks Goods in racks rather than stacked	Finished goods and raw materials will now be stored in racking. Finished goods will be in an unmanned rack area with no exposure of personnel to risk of goods falling from racks
20	Third part interference		Security breach, potential fire	Site access will change	Existing security policy, 24/7 operations
21	Asbestos		Human health during demolition	Covered in Construction Safety Study and Waste management plan	

APPENDIX 2. REFERENCES

1 Draft Waste Management Plan for CCA Northmead, URS, 20060804.doc

2 "Director General's Requirements Coca-Cola Amatil Facility, Northmead", Letter, Ref. 9041116

3 AS4360:2004. Risk Management

4 "Applying SEPP 33" Hazardous and Offensive Development Application Guidelines, Published by the Department of Urban Affairs and Planning, copyright 1994.

5 "Multi-level Risk Assessment" Revised Edition, published by the Department of Urban Affairs and Planning, July 1999.

6 "Guidelines for Hazard Analysis", Hazardous Industry Planning Advisory Paper No. 6, published by the Department of Urban Affairs and Planning, August 1997

7 Draft Waste Management Plan for CCA Northmead, URS, 20060804.doc