



State Environmental Planning Policy (Resilience and Hazards)

221 – 227 Luddenham Road, Orchard Hills

Cope Sensitive Freight
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Cope Sensitive Freight

Prepared by

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Quality Management

Rev	Date	Remarks	Prepared By	Reviewed By
A	12 October 2023	Draft issue for comment	Renton Parker	Jason Costa
0	30 November 2023	Issued final		
1	28 March 2024	Updated layout		

Executive Summary

Background

The COPE Sensitive Freight development application is seeking approval to construct a warehouse and distribution building on 221-227 Luddenham Road, Orchard Hills (the site), situated within the Alspeck Industrial Business Park (AIBP) at 221-235 Luddenham Road, Orchard Hills.

The AIBP Planning Proposal was lodged to Penrith City Council (PCC) in December 2022 and expected to be finalised in February 2024. The AIBP Planning Proposal amended the Penrith Local Environmental Plan (LEP) 2010 through rezoning the central and eastern portions of the AIBP site to E4 General Industrial which permits the development and operation of warehouse and distribution uses.

The COPE project area is situated within the western portion of the AIBP site and has a direct interface with an electrical easement to the north-west, and two future basins along the northern and western boundaries of the site. The proposed development has a direct interface with the north-south internal local road, which provides access to Patons Lane and Luddenham Road.

The State Environmental Planning Policy – Resilience & Hazards assessment prepared by Riskcon Engineering for the AIBP Planning Proposal identified that the facility would be unlikely to result in any significant offsite risks as a result of storing materials classified as Dangerous Goods which supported the rezoning of AIBP and the development of the COPE proposal.

Conclusions

A review of the quantities of DGs stored at the proposed facility and the associated vehicle movements was conducted and compared to the threshold quantities outlined in Chapter 3 of SEPP (Resilience and Hazards). The results of this analysis indicates the threshold quantities for the DGs to be stored and transported are not exceeded; hence, the Chapter 3 of SEPP (Resilience and Hazards) does not apply to the project. Furthermore, a review of the potential to cause offense was conducted which indicated the site operations would be unlikely to result in noise or odour to occur at levels which would cause offense.

As the facility is not classified as potentially hazardous or offensive, it is not necessary to prepare a Preliminary Hazard Analysis for the facility as Chapter 3 of SEPP (Resilience and Hazards) does not apply.

Recommendations

Notwithstanding the conclusions drawn, the following recommendations have been made:

- The DG storages shall be subject to assessment against the standards that apply to the classes of DGs that are stored and handled at the site.
- The documentation required under the Work Health and Safety Regulation 2017 shall be prepared for the site.

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Abbreviations

Abbreviation	Description
ADG	Australian Dangerous Goods Code
DA	Development Application
CSF	Cope Sensitive Freight
DGs	Dangerous Goods
DPE	Department of Planning and Environment
LPG	Liquefied Petroleum Gas
RH	Resilience and Hazards
SEPP	State Environmental Planning Policy

1.0 Introduction

1.1 Background

Cope Sensitive Freight (CSF) has proposed to lease warehouse space within the 221 – 227 Luddenham Road, Orchard Hills. CSF will store materials classified as Dangerous Goods (DGs); hence, the site is subject to Chapter 3 of the State Environmental Planning Policy – Resilience and Hazards (SEPP-RH, Ref. [1]) which is to be submitted in support of the Development Application (DA).

CSF has commissioned Riskcon Engineering Pty Ltd (Riskcon) to prepare the Chapter 3 assessment for the facility to determine whether the risk profile is acceptable for the location. This document represents the SEPP-RH assessment for 221 – 227 Luddenham Road, Orchard Hills.

1.2 Scope of Services

The scope of work is to prepare a SEPP-RH assessment for the facility located at 221 – 227 Luddenham Road, Orchard Hills. The assessment does not include any other sites or the preparation of any additional planning studies should they be required.

1.3 Qualifications of the Assessor

The assessment will be performed by Renton Parker who is a Director at Riskcon Engineering Pty Ltd. Renton is a chartered chemical engineer with 11 years of experience working in the field of risk engineering dealing specifically with Dangerous Goods consulting. He is a full member of the Australasian Institute of Dangerous Goods Consultants (AIDGC) in addition he has held roles as President, Vice President and Board Member of the AIDGC. He is a listed hazards and risk consultant under the Three Ports SEPP. Renton has performed numerous risk, DG, and fire assessments for industrial facilities storing DGs and other materials with unique hazards ranging from minor storage below SEPP 33 up to Major Hazard Facilities.

2.0 Methodology

2.1 General Methodology

The methodology used in this assessment is as follows:

- Review the types and proposed quantities of DGs to be stored at the site.
- Compare the quantities of DGs the threshold quantities listed in “Applying SEPP 33 – Hazardous and Offensive Development” (Ref. [1]) to identify whether the storage location or quantity triggers SEPP 33.
- Review the likely vehicular movements involving DGs and compare against the applicable thresholds detailed in Applying SEPP 33 (Ref. [1]).
- Report on the findings of the SEPP 33 assessment.

2.2 Data taken from “Applying SEPP 33”

Figure 2-1, extracted from “Applying SEPP 33” provides details on the application of Figures or Tables from the same document to determine the applied screening Threshold (Ref. [1]).

Class	Method to Use/Minimum Quantity
1.1	Use graph at Figure 5 if greater than 100 kg
1.2-1.3	Table 3
2.1 — pressurised (excluding LPG)	Figure 6 graph if greater than 100 kg
2.1 — liquefied (pressure) (excluding LPG)	Figure 7 graph if greater than 500 kg
LPG (above ground)	table 3
LPG (underground)	table 3
2.3	table 3
3PGI	Figure 8 graph if greater than 2 tonne
3PGII	Figure 9 graph if greater than 5 tonne
3PGIII	Figure 9 graph if greater than 5 tonne
4	table 3
5	table 3
6	table 3
7	table 3
8	table 3

Figure 2-1: Screening Method to be Used

Table 3 from “Applying SEPP 33” has been extracted and is shown in **Figure 2-2**.

Class	Screening Threshold	Description
1.2	5 tonne	or are located within 100 m of a residential area
1.3	10 tonne	or are located within 100 m of a residential area
2.1	(LPG only — not including automotive retail outlets ¹)	
	10 tonne or 16 m ³	if stored above ground
	40 tonne or 64 m ³	if stored underground or mounded
2.3	5 tonne	anhydrous ammonia, kept in the same manner as for liquefied flammable gases and not kept for sale
	1 tonne	chlorine and sulfur dioxide stored as liquefied gas in containers <100 kg
	2.5 tonne	chlorine and sulphur dioxide stored as liquefied gas in containers >100 kg
	100 kg	liquefied gas kept in or on premises
	100 kg	other poisonous gases
4.1	5 tonne	
4.2	1 tonne	
4.3	1 tonne	
5.1	25 tonne	ammonium nitrate — high density fertiliser grade, kept on land zoned rural where rural industry is carried out, if the depot is at least 50 metres from the site boundary
	5 tonne	ammonium nitrate — elsewhere
	2.5 tonne	dry pool chlorine — if at a dedicated pool supply shop, in containers <30 kg
	1 tonne	dry pool chlorine — if at a dedicated pool supply shop, in containers >30 kg
	5 tonne	any other class 5.1
5.2	10 tonne	
6.1	0.5 tonne	packing group I
	2.5 tonne	packing groups II and III
6.2	0.5 tonne	includes clinical waste
7	all	should demonstrate compliance with Australian codes
8	5 tonne	packing group I
	25 tonne	packing group II
	50 tonne	packing group III

Figure 2-2: General Screening Threshold Quantities

Transportation screen thresholds have been provided in **Figure 2-3**.

Class	Vehicle Movements		Minimum quantity*	
	Cumulative	Peak	per load (tonne)	
	Annual	or Weekly	Bulk	Packages
1	see note	see note	see note	
2.1	>500	>30	2	5
2.3	>100	>6	1	2
3PGI	>500	>30	1	1
3PGII	>750	>45	3	10
3PGIII	>1000	>60	10	no limit
4.1	>200	>12	1	2
4.2	>100	>3	2	5
4.3	>200	>12	5	10
5	>500	>30	2	5
6.1	all	all	1	3
6.2	see note	see note	see note	
7	see note	see note	see note	
8	>500	>30	2	5
9	>1000	>60	no limit	

Figure 2-3: Transportation Screening Thresholds

3.0 Project Description

3.1 Site Location and Layout

The proposed facility is located at 221 – 227 Luddenham Road, Orchard Hills which is located 47 km west of the Sydney Central Business District (CBD). **Figure 3-1** shows the regional location of the site in relation to Sydney.

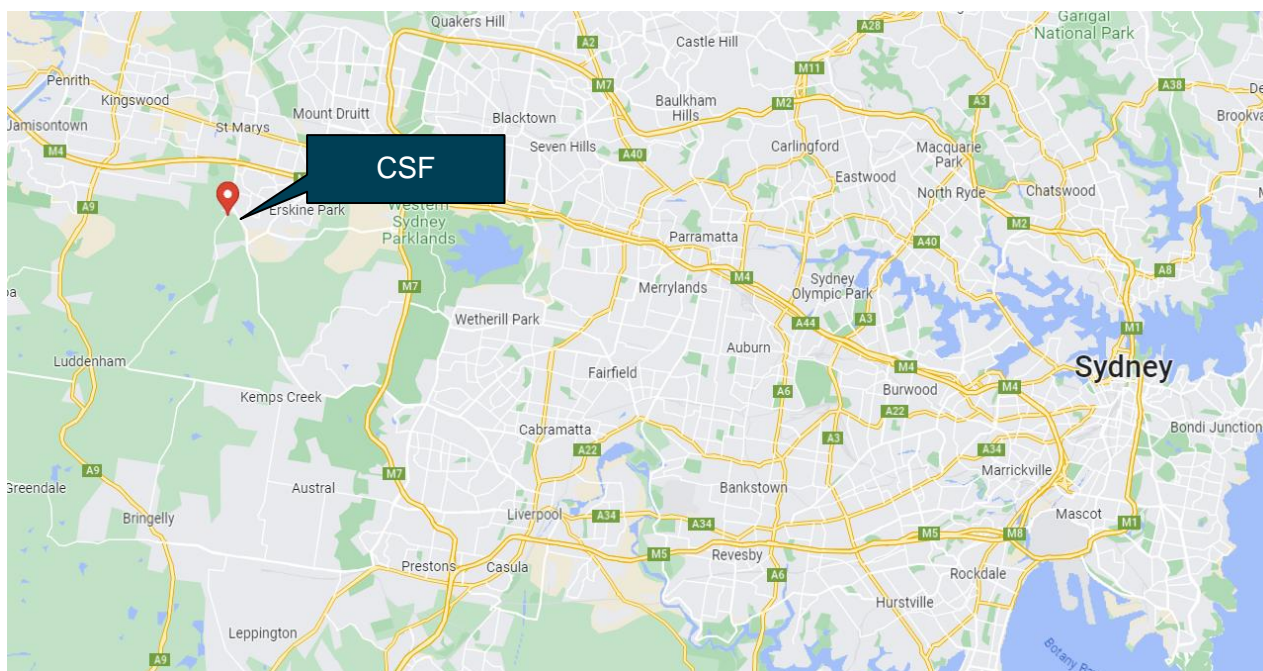


Figure 3-1: Site Location (source Google Maps)

3.2 General Description

The DGs that will be stored at the site revolve around the sensitive equipment that is stored at the site which involve Magnetic Resonance Imaging (MRI) machines. The helium is used to provide cooling to the magnets in the machine lowering the resistance and enabling the machines to work. Each MRI unit contains approximately 2,000 L of helium. Dewars of helium are also stored at the site with volumes ranging from 250 L – 500 L. Compressed oxygen cylinders are stored at the site in addition to LPG cylinders to power onsite forklifts. The site will also have a diesel storage tank with a volume of 55,000 L with an accompanying AdBlue tank with a volume of 7,000 L.

The site will operate as a standard logistics facility receiving goods which are temporarily stored before dispatch to the intended user. The warehouse will compose the warehouse with loading docks, office space, amenities, car park and hardstand areas.

3.3 Quantities of Dangerous Goods

The quantities of DGs proposed to be stored at the site have been provided in **Table 3-1**. The location of the DG storages is provided in **Figure 3-2**.

Table 3-1: Classes and Quantities of DGs Stored and Handled

Class	Description	PG	Quantity
2.1	LPG Cylinders (6 cylinders)	n/a	132 kg

Class	Description	PG	Quantity
2.2	Helium (4 dewars)	n/a	Up to 2,000 L
2.2	Helium MRI (20 machines)	n/a	40,000 L
2.2(5.1)	Oxygen cylinders (150 cylinders)	n/a	1,800 kg*
C1	Diesel	n/a	55,000
NDG	AdBlue	n/a	7,000

*Based on a G-sized cylinder containing 12 kg of oxygen

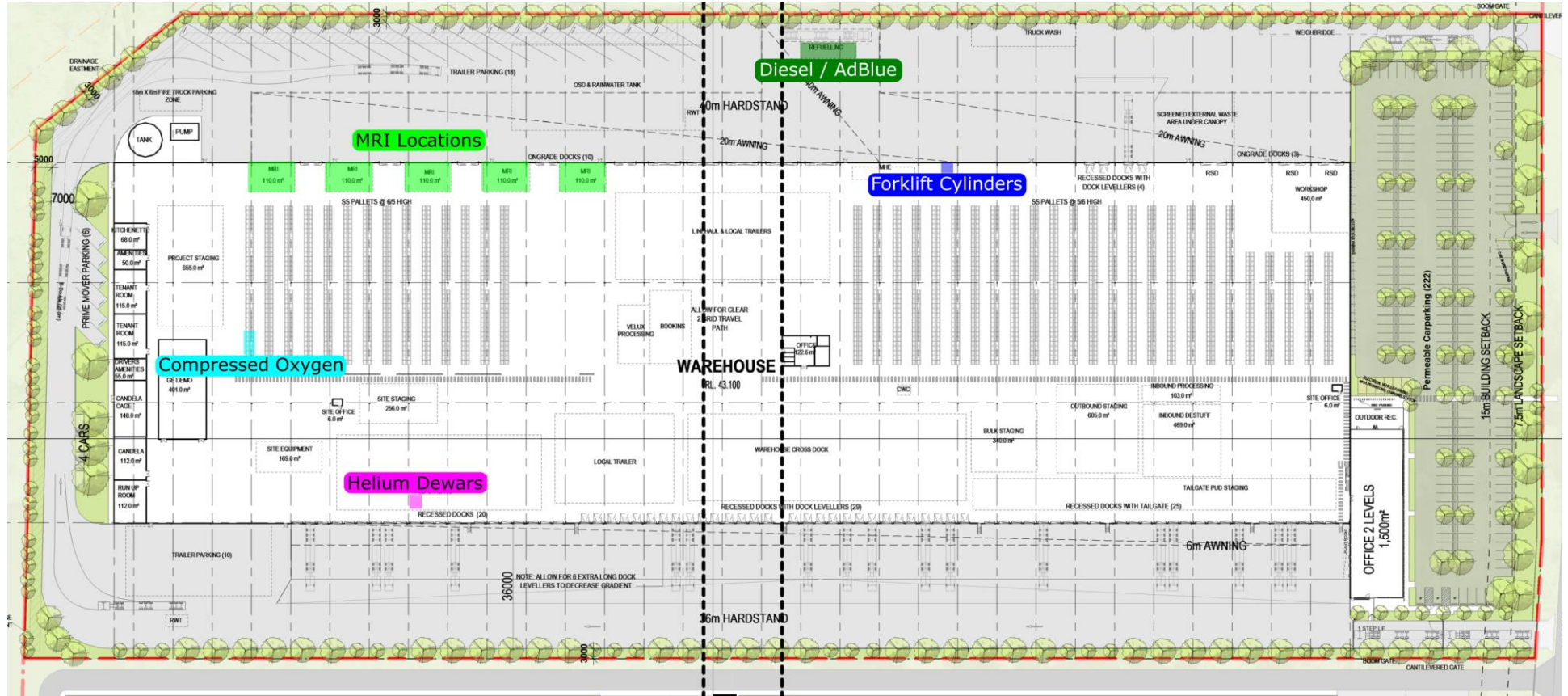


Figure 3-2: Site Layout

4.0 SEPP Review

4.1 Proposed Storage Details

The maximum quantity of goods stored have been provided in **Table 4-1** which also includes an assessment of whether the Class is subject to SEPP-RH.

Table 4-1: DG Classes or Materials Stored and Maximum Quantities

Class	Description	PG	Quantity (kg)	Class Subject to SEPP 33 (Y/N)
2.1	LPG Cylinders (6 cylinders)	n/a	132 kg	Y
2.2	Helium (4 dewars)	n/a	2,000*	N
2.2	Helium MRI (20 machines)	n/a	40,000*	N
2.2(5.1)	Oxygen cylinders (150 cylinders)	n/a	1,800	Y
C1	Diesel	n/a	55,000	N
NDG	AdBlue	n/a	7,000	N

*Conservatively assumed density of 1,000 kg/m³

4.2 Application of State Environmental Planning Policy No.33 – Hazardous and Offensive Developments

State Environmental Planning Policy No. 33 – Hazardous and Offensive Developments (SEPP 33) has been developed under the Planning and Assessment Act 1979 to control potentially hazardous and offensive developments and to ensure appropriate safety features are installed at a facility to ensure the risks to surrounding land uses is minimised.

The policy includes a guideline that assists government and industry alike in determining whether SEPP 33 applies to a specific development. The guideline, “Applying SEPP 33 - Hazardous and Offensive Developments” (Ref. [1]) provides a list of threshold levels, for the storage of DGs, above which the regulator considers the DG storage to be potentially hazardous. In the event the threshold levels are exceeded, SEPP 33 applies and a Preliminary Hazard Analysis (PHA) is required, followed by a series of hazard analysis studies stipulated by the Department of Planning and Environment in the conditions of consent.

4.3 Assessment of Hazards

4.3.1 Storage

Threshold limits for the application of SEPP-RH are presented in **Table 3-2** along with maximum DG quantities that will be stored. The results summarised in the table indicates the SEPP-RH thresholds are not exceeded; hence, no further assessment is required.

Table 4-2: Quantities Stored and SEPP 33 Threshold

Class	Description	PG	Quantity (kg)		Does SEPP 33 (Y/N)
			Stored	SEPP Threshold	
2.1	LPG Cylinders	n/a	132 kg	10,000	N

Class	Description	PG	Quantity (kg)		Does SEPP 33 (Y/N)
			Stored	SEPP Threshold	
2.2(5.1)	Oxygen	n/a	1,800	5,000	N

4.3.2 Transport

The only DGs stored that are transferred to the site that have a transport threshold are the Class 2.1 LPG cylinders and Class 2.2(5.1) oxygen cylinders. The storage vessels for these products would be considered packages and so the threshold required to be achieved before the transport movement is considered is 5 tonnes. This exceeds the maximum quantity that is stored at the site; hence, it can be concluded that the transport thresholds would not be exceeded based on the quantity stored at the site.

Therefore, the transport limits within SEPP 33 would not be exceeded; hence, with respect to transport, SEPP-RH does not apply.

4.4 Assessment of Offense

SEPP 33 also contains a requirement for review of operations that may cause offense in the form of odour, environmental impact, nuisance (noise), etc. An indication of whether “offensiveness” may occur at the facility is whether an Environmental Protection Authority (EPA) licence is required for specific operations at the site (Ref. [2] and [3]).

A review of the facilities operations indicates that there are no processes that would result in the manufacture, production, or transfer of materials in a form that may result in the release of bulk materials at the site or that could result in odour generation or excessive noise. An EPA licence would not be required for this site.

Further, there would be no unusual operations that would cause potential odours, or excessive noise at the closest residential areas. Therefore, it is considered that noise generated from the site operations would not exceed the background noise already exposed at residential areas.

In summary, there is no potential for “offensive” operations at the site or noise that has been assessed as part of the estate DA and therefore Chapter 3 of the SEPP-RH does not apply in this case.

5.0 Conclusion and Recommendations

5.1 Conclusions

A review of the quantities of DGs stored at the proposed facility and the associated vehicle movements was conducted and compared to the threshold quantities outlined in Chapter 3 of SEPP (Resilience and Hazards). The results of this analysis indicates the threshold quantities for the DGs to be stored and transported are not exceeded; hence, the Chapter 3 of SEPP (Resilience and Hazards) does not apply to the project. Furthermore, a review of the potential to cause offense was conducted which indicated the site operations would be unlikely to result in noise or odour to occur at levels which would cause offense.

As the facility is not classified as potentially hazardous or offensive, it is not necessary to prepare a Preliminary Hazard Analysis for the facility as Chapter 3 of SEPP (Resilience and Hazards) does not apply.

5.2 Recommendations

Notwithstanding the conclusions drawn, the following recommendations have been made:

- The DG storages shall be subject to assessment against the standards that apply to the classes of DGs that are stored and handled at the site.
- The documentation required under the Work Health and Safety Regulation 2017 shall be prepared for the site.

6.0 References

- [1] Department of Planning, "Applying SEPP 33," Department of Planning, Sydney, 2011.
- [2] "Protection of the Environment Operations (General) Regulation," 2009.
- [3] "Protection of the Environment Operations Act," 1997.