Riskcon engineering

State Environmental Planning Policy (Resilience and Hazards)

Warehouse 2, Sydney Business Park, Marsden Park NSW

Device Technologies Australia Pty Ltd
Document No. RCE-22133_DT_SEPP-RH_Final_31Aug22_Rev(3)
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State Environmental Planning Policy (Resilience and Hazards)

Warehouse 2, Sydney Business Park, Marsden Park NSW

Device Technologies Australia Pty Ltd

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Quality Management

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A	18th July 2022	Draft issued for comment	Sarah Torrington	Renton Parker
0	21st July 2022	Final issue – updated layouts		
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2	26th August 2022	Incusion of cumulatve assessment		
3	31st August 2022	Updated wording of clauses		

Executive Summary

Background

Device Technologies Australia Pty Ltd (DT) has proposed to develop a new warehouse at Warehouse 2, Sydney Business Park in Marsden Park NSW. Part of their operations involves the storage of materials classified as Dangerous Goods (DGs). As DGs are being stored, the site is subject to the Chapter 3 of the State Environmental Planning Policy - Resilience and Hazards (SEPP-RH, Ref. [1]), formerly known as the State Environmental Planning Policy No. 33 (SEPP 33, Ref. [2]) which is a threshold-based risk assessment to determine whether the facility is acceptable for the land use zone.

Sydney Business Park (SBP), on behalf of DT, has commissioned Riskcon Engineering Pty Ltd (Riskcon) to review the proposed storage and to prepare a Chapter 3 SEPP-RH assessment for submission with the development application (DA). This document provides Riskcon's assessment of the applicability of SEPP-RH to the proposed DT site at Warehouse 2, Sydney Business Park in Marsden Park NSW.

Conclusions

The proposed DT site at Warehouse 2 in Sydney Business Park, Marsden Park NSW has been assessed for the application of Chapter 3 of the State Environmental Planning Policy (Resilience and Hazards, SEPP-RH) based on the proposed storage of DGs at the facility. The analysis conducted in this study included an assessment of the proposed DG storage volumes against generic threshold storage quantities outlined in Applying SEPP 33, an assessment of transport operations involved in the storage and handling of DGs, as well as a review of the potential for cumulative impacts within the whole estate.

The results of these assessments identified that the quantities of DGs stored at the site do not exceed any Applying SEPP 33 thresholds. The transport of DGs does not exceed the threshold levels, nor do any offensive operations occur at the site which may result in environmental emissions. Furthermore, cumulative impacts of DG storage within the four warehouses in the development estate was not considered to be a credible risk. Therefore, it is concluded that the site would not be regarded as potentially hazardous under the SEPP-RH policy.

Recommendations

The following recommendations have been made:

- DT shall re-assess their site against SEPP-RH in the event that storage quantities of DGs increase.
- Documentation required by the Work Health and Safety Regulation 2017 (Ref. [3]) specific to the site classification based upon the quantity of goods stored shall be prepared for the site prior to occupation.

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Abbreviations

Abbreviation	Description
CBD	Central Business District
DA	Development Application
DGs	Dangerous Goods
DT	Device Technologies
EPA	Environmental Protection Agency
NSW	New South Wales
RDC	Retail Distribution Centre
SBP	Sydney Business Park
SEPP	State Environmental Planning Policy

1.0 Introduction

1.1 Background

Device Technologies Australia Pty Ltd (DT) has proposed to develop a new warehouse at Warehouse 2, Sydney Business Park in Marsden Park NSW. Part of their operations involves the storage of materials classified as Dangerous Goods (DGs). As DGs are being stored, the site is subject to the Chapter 3 of the State Environmental Planning Policy - Resilience and Hazards (SEPP-RH, Ref. [1]), formerly known as the State Environmental Planning Policy No. 33 (SEPP 33, Ref. [2]) which is a threshold-based risk assessment to determine whether the facility is acceptable for the land use zone.

Sydney Business Park (SBP), on behalf of DT, has commissioned Riskcon Engineering Pty Ltd (Riskcon) to review the proposed storage and to prepare a Chapter 3 SEPP-RH assessment for submission with the development application (DA). This document provides Riskcon's assessment of the applicability of SEPP-RH to the proposed DT site at Warehouse 2, Sydney Business Park in Marsden Park NSW.

1.2 Objectives

The objectives of the study are to:

- Determine whether SEPP-RH applies to the proposed DT site at Warehouse 2, Sydney Business Park in Marsden Park NSW based on the quantity of DGs being stored; and
- Report on the findings of the study in support of the DA.

1.3 Scope of Work

The scope of work is for a SEPP-RH assessment of the quantities of DGs proposed for storage within the DT warehouse at Sydney Business Park in Marsden Park NSW to determine whether the SEPP 33 policy applies to the site. Additionally, a review of the quantity of vehicle movements as a result of the DGs being stored will be assessed to determine whether additional traffic assessment is required. The scope does not include any other sites, nor the preparation of any other planning studies should they be required.

2.0 Methodology

2.1 General Methodology

The methodology used in this study is that which is recommended in Applying SEPP 33 – Hazardous and Offensive Developments (Applying SEPP 33, Ref. [2]). The methodology is summarised below:

- A review of the proposed types and quantities of DGs to be stored at the site was conducted.
- The quantities of DGs were compared to the threshold quantities listed in Applying SEPP 33 to determine whether the storage triggers the SEPP 33 policy.
- Vehicular movements as a result of DGs being stored were reviewed and compared against the applicable thresholds detailed in Applying SEPP 33.
- A cumulative assessment of DGs within the Stage 3 development site at SBP.
- The findings of the SEPP-RH assessment were documented within this report.

3.0 Site Description

3.1 Site Location and Layout

The site is located at Warehouse 2, Sydney Business Park, Marsden Park NSW which is approximately 47 km west of the Sydney Central Business District (CBD). **Figure 3-1** shows the regional location of the site in relation to the Sydney CBD. Provided in **Figure 3-3** is the layout of the site.

Figure 3-1: Site Location

3.2 Adjacent Land Uses

The site is located in an industrial estate surrounded by the following land uses:

- North – Industrial warehousing / Astoria Street
- South – Industrial warehousing (API)
- East – Industrial warehousing (Prospective)
- West – Industrial warehousing (TJX)

It is noted that the DT site has received development consent as part of the Stage 3 development of SBP, which includes Warehouses 1 – 4. Warehouse 1 has been leased by TJX, Warehouse 2 is the DT warehouse under assessment within this report, Warehouse 4 is leased by API and Warehouse 3 is still prospective. The layout of the development consent area is provided in **Figure 3-2**.

3.3 Site Description

The DT facility will comprise a warehouse area, two storey office, dock office, pump room, car parking and a number of recessed docks. The warehouse will be split into different sections, including a main racking area, temperature controlled rooms, and project/lab area.

Laboratory gases (oxygen and compressed air) will be stored outside the warehouse in dedicated gas room in G size cylinders for use in experimentation in the lab area. These cylinders will be piped directly to the lab to reduce the requirement for indoor cylinder storage. The storage of gases will be compliant with AS 4332-2004 (Ref. [4]). LPG will also be stored externally along the northern wall of the warehouse in cages for potential use in forklifts and will be designed to comply with AS/NZS 1596:2014 (Ref. [5]). An underground diesel tank will be located underneath the hardstand on the northern side of the site for use in backup generators. The tank will be designed and installed according to the requirements of AS 1940:2017 (Ref. [6]).

The warehouse will store a range of DGs in retail packages and the facility will be designed to comply with AS/NZS 3833:2007 (Ref. [7]). Specifically, the facility will comply with the Retail Distribution Centre (RDC) section of the standard which accounts for the reduced risk posed by packages stored in restricted small volumes. Flammable liquids will be stored in dedicated flammable liquids cabinets complying with AS 1940:2017 (Ref. [6]) for use in DT's technical services operations. Organic peroxides will be stored separately in temperature controlled rooms within the warehouse to minimise the potential for overheating and decomposition. This storage area will be designed to AS 2714-2008 (Ref. [8]). The layout of these storage areas is shown in **Figure 3-3.**

The warehouse will be fitted with an automatic sprinkler system complying with AS 2118.1 (Ref. [9]) to protect the commodities being stored. The sprinklers will activate upon fire detection which will suppress and control any fire that may occur. The warehouse will be ventilated for occupational purposes which will provide adequate ventilation flow for preventing accumulation of any vapours released from packages in storage as required by AS/NZS 3833:2007 (Ref. [7]).

The site will be subject to a hazardous area classification per AS/NZS 60079.10.1:2022 (Ref. [10]) and any electrical equipment within the hazardous zone will be compliant per AS/NZS 60079.14:2022 (Ref. [11]) to minimise the potential for ignition of flammable vapours which may be released during storage.

3.4 Quantities of Dangerous Goods Stored and Handled

The classes and quantities of DGs to be approved for stage at the facility are summarised **Table 3-1**. The proposed DG storage locations are shown in **Figure 3-3.**

Table 3-1: Maximum Classes and Quantities of Dangerous Goods Stored

Class (subclass)	Packing Group	Description	Quantity (L)
2.1	n/a	Liquefied Petroleum Gas (LPG, forklift cylinders)	1,000*
2.2	n/a	Compressed air (G size cylinders, 50 L water capacity)	300*
2.2 (5.1)	n/a	Oxygen (G size cylinders, 50 L water capacity)	500*
3	II & III	Flammable liquids	2,000
5.1(8)	II	Oxidising agent (hydrogen peroxide)	2,000
5.2 (8)	n/a	Organic Peroxide (35% peroxyacetic acid)	1,000

Class (subclass)	Packing Group	Description	Quantity (L)
8	II & III	Corrosive liquids (potassium hydroxide)	21,000
9	n/a	Lithium-ion batteries contained within equipment	7,000 kg
C1	n/a	Combustible liquid (diesel)	10,000

*Water capacity of the cylinders

Figure 3-2: Development Area Layout

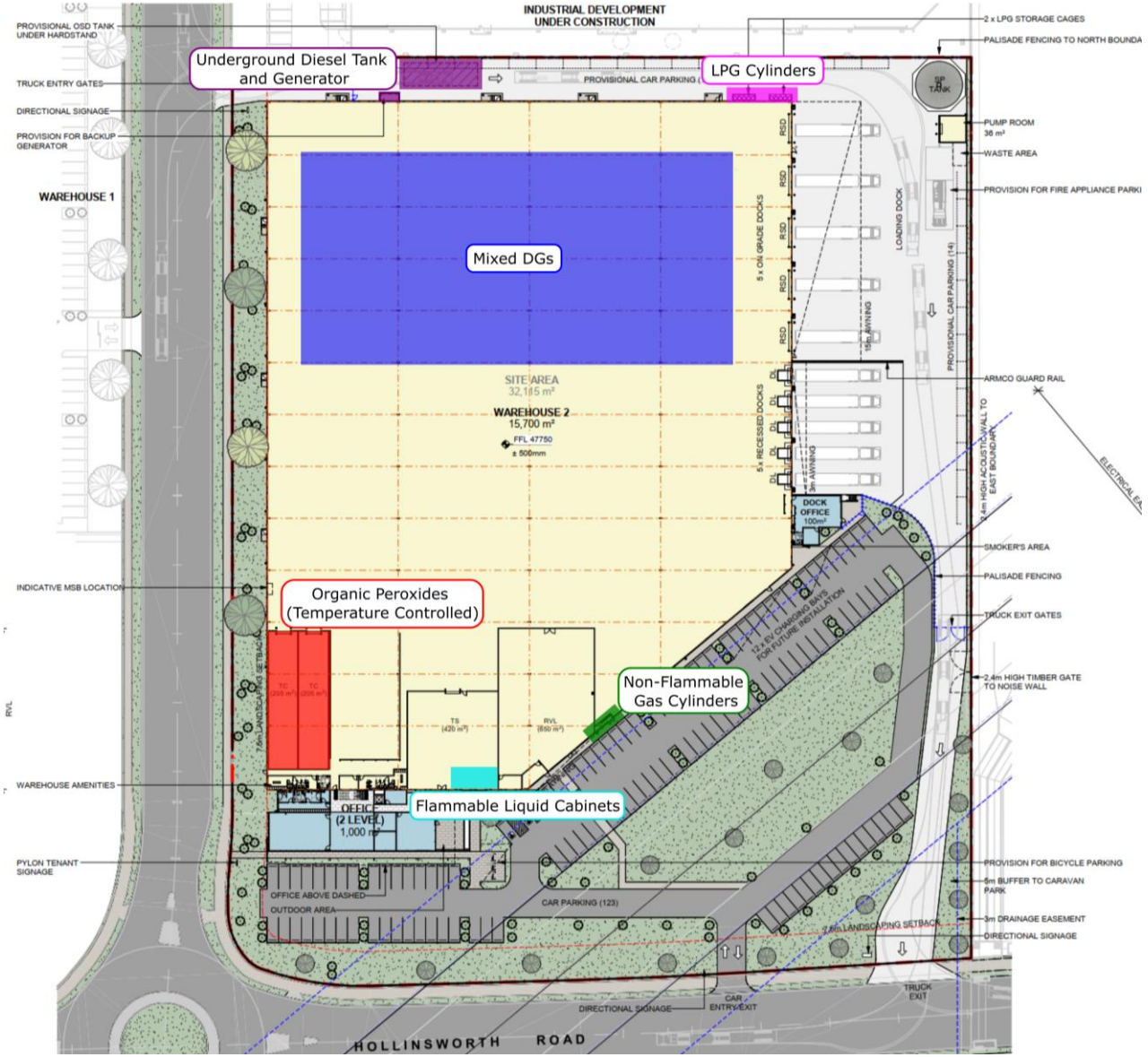

Figure 3-3: Device Technologies Site Layout

4.0 SEPP 33 Assessment

4.1 DG Storage SEPP 33 Application

The proposed DT site will store a number of DGs of varying classes. **Table 4-1** determines whether each class is assessable against Chapter 3 of SEPP-RH. **Table 4-2** lists the quantities of DGs to be stored and an assessment against their threshold quantities listed in Applying SEPP 33.

Table 4-1: DG Classes and SEPP-RH Applicability

Class	Assessable against SEPP-RH (Y or N)?
2.1	Y
2.2	N
2.2 (5.1)	Y
3	Y
5.1 (8)	Y
5.2 (8)	Y
8	Y
9	N
C1	N

The initial screening of DGs is conducted using Table 1 in Applying SEPP 33 (Ref. [2]). It is noted that DGs with a subclass, such as the organic peroxides which are Class 5.2(8) are assessable against *both* classes of DGs.

Table 1 indicates that any store of PG II flammable liquids greater than 5 tonnes is required to be assessed using Figure 9 to determine a minimum separation distance to the site boundary above which the store would not be considered to be potentially hazardous to adjacent land uses. As the proposed storage is only up to 2 tonnes, it would not require assessment against Figure 9 and thus remain below the SEPP 33 threshold.

The Class 2.1, 5.1, 5.2, and 8 DGs were assessed against threshold levels listed in Table 3, as summarised in **Table 4-2.** The assessment demonstrates that no storage quantity exceeds the SEPP 33 thresholds; therefore, the site is not regarded as being potentially hazardous to adjacent properties.

Table 4-2: SEPP 33 Assessment of DG Storage Quantities

Class	PG	Qty Stored (kg)	SEPP 33 Threshold (kg)	SEPP 33 Assessment
2.1	n/a	530	10,000	Below SEPP 33 threshold
3	II	2,000	5,000	Below SEPP 33 threshold
5.1	II	2,090	5,000	Below SEPP 33 threshold
5.2	n/a	1,000	10,000	Below SEPP 33 threshold
8	I	1,000	5,000	Below SEPP 33 threshold
	II	4,000	25,000	Below SEPP 33 threshold
	III	19,000	50,000	Below SEPP 33 threshold

4.2 DG Transport Assessment

In addition to the storage of DGs, SEPP 33 also requires a review of the transport of DGs to the site. **Table 4-3**, extracted from Applying SEPP 33 (Ref. [2]), lists the threshold levels for transport of each class of DG, noting that combustible liquids are excluded from assessment.

Table 4-3: Transportation Screening Thresholds, Extracted from Applying SEPP 33 (Ref. [1])

Class	Vehicle Movements		Minimum Quantity per Load (tonnes)*
	Cumulative Annual	Peak Weekly	
2.1	>500	>30	5
3PGII	>750	>45	10
5	>500	>30	5
8	>500	>30	5
9	>1,000	>60	No limit

*All loads will be transported as packages, not as bulk transport.

The DT site does not exceed these transport limits, as all load quantities coming to/from the site will be less than the minimum quantity per load threshold due to the low quantities of DGs within each package. Hence, the traffic movements and quantities transported to and from the site do not exceed the thresholds listed in Applying SEPP 33 (Ref. [2]) and the site is considered to be low risk.

4.3 Offensive Operations Assessment

Applying SEPP 33 (Ref. [2]) also contains a requirement for review of operations that may cause offense in the form of emissions, odour or other environmental impact. 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. A review of the DT site 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. Hence, an EPA licence would not be required for this site.

Further, there would be no unusual operations that would cause potential emissions, odours, or noise outside of normal warehouse type operations as the DGs predominantly remain in sealed packages for distribution to clients. Therefore, there is no potential for offensive operations at the site and SEPP 33 does not apply.

4.4 Cumulative Hazards within the Estate

A review of the estate indicates there are two other sites within the estate that store materials classified as DGs. These are the TJX and API warehouses, as shown in **Figure 3-2.** Warehouse 3 has also speculatively included provision for the storage of DGs in the initial development application, however these have not been confirmed as there is currently no tenant. A separate SEPP-RH assessment will be conducted for Warehouse 3 if DGs are intended to be stored on site.

All three adjacent sites store DGs at quantities less than the SEPP 33 thresholds. The Device Technologies site is separated from the other warehouses by a minimum of 30 m, and therefore in the event of any incident it would not be expected that there would be the potential for incident propagation to these other sites.

Furthermore, the initial development application for the estate included an assessment of the potential for cumulative impacts from DGs stored within each of the warehouses. This assessment is provided in **Appendix A** for review of greater detail of the proposed operations and DG storage quantities for each of the sites. Warehouse 2 (the DT warehouse) included provision for a larger aggregate storage of DGs than is proposed by DT. Hence, it is expected that the revised SEPP-RH assessment of the DT site would not significantly contribute to the site risk profile such that cumulative criteria would be exceeded. Therefore, the DG storage would be considered acceptable.

5.0 Conclusions and Recommendations

5.1 Conclusions

The proposed DT site at Warehouse 2 in Sydney Business Park, Marsden Park NSW has been assessed for the application of Chapter 3 of the State Environmental Planning Policy (Resilience and Hazards, SEPP-RH) based on the proposed storage of DGs at the facility. The analysis conducted in this study included an assessment of the proposed DG storage volumes against generic threshold storage quantities outlined in Applying SEPP 33, an assessment of transport operations involved in the storage and handling of DGs, as well as a review of the potential for cumulative impacts within the whole estate.

The results of these assessments identified that the quantities of DGs stored at the site do not exceed any Applying SEPP 33 thresholds. The transport of DGs does not exceed the threshold levels, nor do any offensive operations occur at the site which may result in environmental emissions. Furthermore, cumulative impacts of DG storage within the four warehouses in the development estate was not considered to be a credible risk. Therefore, it is concluded that the site would not be regarded as potentially hazardous under the SEPP-RH policy.

5.2 Recommendations

The following recommendations have been made:

- DT shall re-assess their site against SEPP-RH in the event that storage quantities of DGs increase.
- Documentation required by the Work Health and Safety Regulation 2017 (Ref. [3]) specific to the site classification based upon the quantity of goods stored shall be prepared for the site prior to occupation.

6.0 References

[1] NSW Department of Planning, Industry and Environment, “State Environmental Planning Policy (Resilience and Hazards) 2021,” State of New South Wales, Sydney, 2021.

[2] NSW Department of Planning and Environment, “Applying SEPP33 – Hazardous and Offensive Developments,” NSW Department of Planning and Environment, Sydney, 2011.

[3] SafeWork NSW, “Work Health and Safety Regulation,” SafeWork NSW, Lisarow, 2017.

[4] Standards Australia, “AS 4332-2004 - The Storage and Handling of Gases in Cylinders,” Standards Australia, Sydney, 2004.

[5] Standards Australia, AS/NZS 1596:2014 - The Storage and Handling of LP Gas, Sydney: Standards Australia, 2014.

[6] Standards Australia, “AS 1940:2017 - Storage and Handling of Flammable and Combustible Liquids,” Standards Australia, Sydney, 2017.

[7] Standards Australia, “AS/NZS 3833:2007 - Storage and Handling of Mixed Classes of Dangerous Goods, in Packages and Intermediate Bulk Containers,” Standards Australia, Sydney, 2007.

[8] Standards Australia, “AS 2714-2008 The storage and handling of organic peroxides,” Standards Australia, Sydney, 2008.

[9] Standards Australia, “AS 2118.1-2017 - Automatic Fire Sprinkler Systems General Systems,” Standards Australia, Sydney, 2017.

[10] Standards Australia, “AS/NZS 60079.10.1:2022 - Explosive Atmospheres Part 10.1: Classification of Areas, Explosive Gas Atmospheres,” Standards Australia, Sydney, 2022.

[11] Standards Australia, “AS/NZS 60079.14:2022 - Explosive Atmospheres Part 14: Electrical Installations, Design, Selection and Erection,” Standards Australia, Sydney, 2022.

Appendix A

Sydney Business Park Estate SEPP 33

Riskcon engineering

State Environmental Planning Policy No. 33

Sydney Business Park

Sydney Business Park Pty Ltd
Document No. RCE-20067_SBP_SEPP33_Final_4Aug20_Rev(0)
Date 4/08/2020

State Environmental Planning Policy No. 33

Sydney Business Park

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Rev	Date	Remarks	Prepared By	Reviewed By
A	10 July 2020	Draft issued for review	Jason Costa	Renton Parker
0	4 August 2020	Issued Final		

Executive Summary

Introduction

Sydney Business Park Pty Ltd (SBP) has proposed to develop four (4) new warehouses within the business park. One of the warehouses will be leased to Australian Pharmaceutical Industries (API), one by TJX and two speculative warehouses. The API and TJX warehouses will house minor quantities of materials classified as DGs while the speculative warehouses are yet to be leased to tenants.

The two leased warehouses (API & TJX) are subject to the State Environmental Planning Policy No. 33 (SEPP 33) as they store DGs and to provide flexibility in leasing options for the speculative warehouses, it has been proposed to conduct a SEPP 33 assessment for each warehouse as part of the Development Application (DA).

Sydney Business Park (SBP) has engaged Riskcon Engineering Pty Ltd (Riskcon) to prepare the SEPP 33 assessment for the site(s).

Conclusions

A review of the quantities of DGs stored at the site and the associated vehicle movements was conducted and compared to the threshold quantities outlined in Applying SEPP 33. The results of this analysis indicates the threshold quantities for the DGs to be stored and transported are not exceeded; hence, SEPP 33 does not apply to the project.

As the facility is not classified as potentially hazardous, it is not necessary to prepare a Preliminary Hazard Analysis for the facilty as SEPP 33 does not apply.

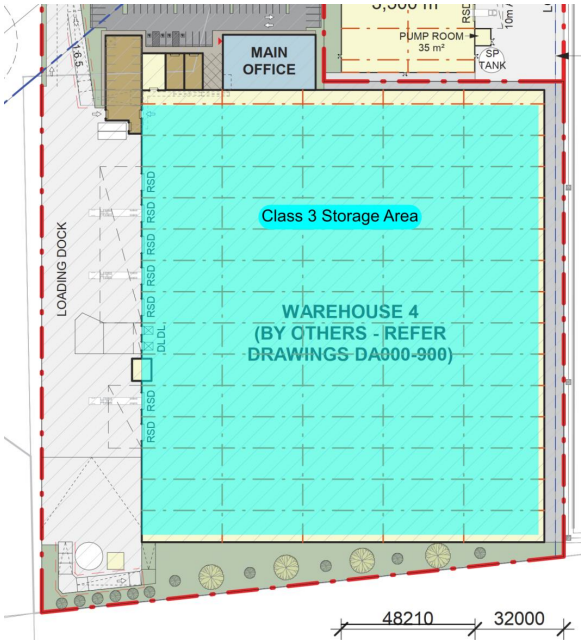
Recommendations

The following recommendations have been made generally for sites storing DGs:

- The DGs shall be stored in a manner which complies with the applicable storage standards (i.e. AS/NZS 3833:2007 or AS 1940-2017).
- The documentation required by the Work Health and Safety (WHS) Regulation 2017shall be prepared to demonstrate the risks have been assessed and minimised So Far As Is Reasonably Practicable (SFARP) as required by the WHS Regulations.
- Where flammable gases or liquids are stored, a hazardous area classification in accordance with AS/NZS 60079.10.1:2009 shall be prepared to ensure that an ignition source does not enter a hazardous atmosphere as required by the WHS Regulations.

The flammable liquids at the API site shall be stored in the area delineated in following figure. Flammable liquids may not be stored within the following sections of the warehouse:

- Within 6 m of the northern wall
- Within 1 m of the eastern wall
- Within 3 m of the southern wall


MAIN OFFICE
PUMP ROOM 35 m²
SP TANK
Class 3 Storage Area
WAREHOUSE 4
(BY OTHERS - REFER DRAWINGS DA000-900)
LOADING DOCK
RSD
DLDL
48210
32000

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1.0 Introduction

1.1 Background

Sydney Business Park Pty Ltd (SBP) has proposed to develop four (4) new warehouses within the business park. One of the warehouses will be leased to Australian Pharmaceutical Industries (API), one by TJX and two speculative warehouses. The API and TJX warehouses will house minor quantities of materials classified as DGs while the speculative warehouses are yet to be leased to tenants.

The two leased warehouses (API & TJX) are subject to the State Environmental Planning Policy No. 33 (SEPP 33) as they store DGs and to provide flexibility in leasing options for the speculative warehouses, it has been proposed to conduct a SEPP 33 assessment for each warehouse as part of the Development Application (DA).

Sydney Business Park (SBP) has engaged Riskcon Engineering Pty Ltd (Riskcon) to prepare the SEPP 33 assessment for the site(s).

1.2 Scope of Work

The scope of work is to prepare a SEPP 33 assessment for warehouse 1, 2, 3 and 4 within the Sydney Business Park. Should any additional studies be required (i.e. PHA) these are not included within the scope of works. No other sites are included within the scope of works.

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 against 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.
- 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 for each class of DG and **Figure 2-2** indicates the SEPP 33 general screening thresholds (table 3 from the document).

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

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 or16 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

	Vehicle Movements		Minimum quantity* per load (tonne)	
	Cumulative	Peak		
Class	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 SEPP 33 Review

3.1 Introduction

State Environmental Planning Policy No. 33 – Hazadous and Offensive Developments (SEPP 33) has been developed under the Environmental Planning and Assesment Act 1979 to control potentially hazardous and offensive developments and to ensure appropriate safety features are installed at a faclity 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, Industry, and Environment in the conditions of consent.

3.2 Warehouse 1 - TJX

3.2.1 Proposed Storage Details

TJX will store 40 pallets of flammable gases and liquids resulting in a total of 80 pallets. A typical pallet of retail products is approximately 500 kg; hence, this would result in a total storage of 20,000 kg of each class. Provided in **Table 3-1** is a summary of the DGs and materials proposed to be stored at the facility as part of the site operations.

Table 3-1: DG Classes or Materials Stored and Maximum Quantities at Warehouse 1 (TJX)

Class	Description	Maximum Quantity (kg)
2.1	Flammable gases (aerosols)	20,000 kg / 4,000*
3	Flammable liquids (i.e. hand sanitisers)	20,000

*Based upon 25% of the product weight being LPG

^Based upon ethanol density of 789 kg/m^3

3.2.2 Storage Assessment

Threshold limits for the application of SEPP 33 are presented in **Table 3-2** indicating the maximum quantity that can be stored on site for each class.

Table 3-2: Quantities Stored and SEPP 33 Threshold for Warehouse 1 (TJX)

Class	Description	Maximum Quantity (kg)	SEPP 33 Threshold (kg)	Does SEPP 33 Apply?
2.1	Flammable gases (aerosols)	4,000	10,000	N
3	Flammable liquids	20,000	6.5 m (see **Figure 3-1)**	N

The flammable liquids threshold is based upon a distance to the site boundary based upon the quantity. The quantity of flammable liquid stored at the site is 20,000 kg which requires a distance of 6.5 m from the storage to the site boundary. The closest site boundary is 8.5 m from the

warehouse on the southern side of the warehouse which is greater than the threshold distance. Therefore, the flammable liquid storage would not exceed the SEPP 33 threshold distance.

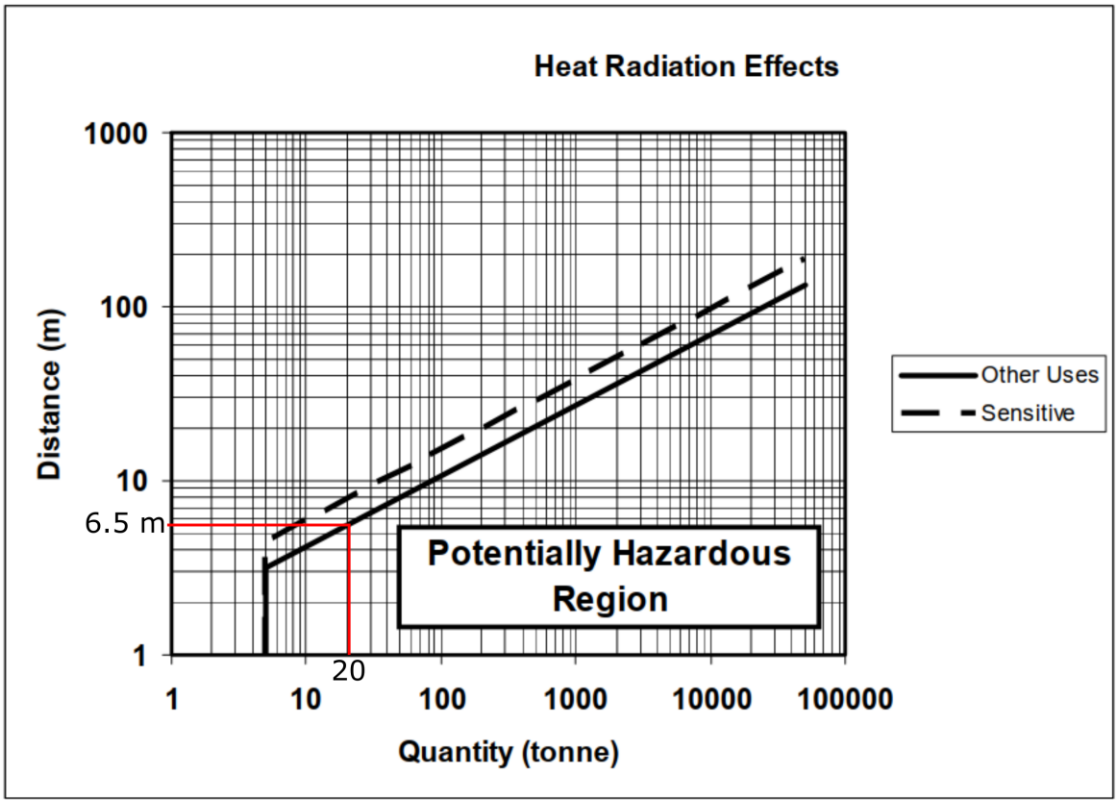


Figure 3-1: Class 3 SEPP 33 Distance – Warehouse 1 (TJX)

3.2.3 Transport

The quantities to be stored are less than SEPP 33 shown in **Figure 2-3** or not applicable; hence, a high turnover of stored product would be required to exceed the transport movements associated with the corresponding storage. This rate of turnover isn't credible; hence, it is considered that the transport screening thresholds of SEPP 33 would not be exceeded; hence, SEPP 33 would not apply.

3.3 Warehouse 2 - Speculative

3.3.1 Proposed Storage Details

Warehouse 2 has not been allocated to a tenant yet; hence, it would be a speculative development and so the storage commodities are unknown at this stage. Therefore, to provide some flexibility in terms of potential tenants, a SEPP 33 has been conducted to provide an allowance for storage of DG commodities as part of the initial Development Application (DA).

Provided in **Table 3-3** is a summary of the speculative quantities to be approved for Warehouse 2.

Table 3-3: DG Classes or Materials Stored and Maximum Quantities for Warehouse 2

Class	Description	Maximum Quantity (kg)
2.1	Flammable gases	30,000 kg / 7,500*
3	Flammable liquids	15,000

Class	Description	Maximum Quantity (kg)
8	Corrosive Substances	10,000

*Based upon 25% of the product weight being LPG

3.3.2 Storage Assessment

Threshold limits for the application of SEPP 33 are presented in **Table 3-4** indicating the maximum quantity that can be stored on site for each class.

Table 3-4: Quantities Stored and SEPP 33 Threshold for Warehouse 2 (Speculative)

Class	Description	Maximum Quantity (kg)	SEPP 33 Threshold (kg)	Does SEPP 33 Apply?
2.1	Flammable gases (aerosols)	7,500	10,000	N
3	Flammable liquids	15,000	5 m (see **Figure 3-2**)	N
8	Corrosive Substances	10,000	25,000	N

The flammable liquid threshold is based upon the separation distance from the storage to the site boundary. Based upon a storage of 15,000 kg, the separation required is 5 m as shown in **Figure 3-2**. The closest site boundary is 8.5 m; hence, the separation distance threshold is not exceeded.

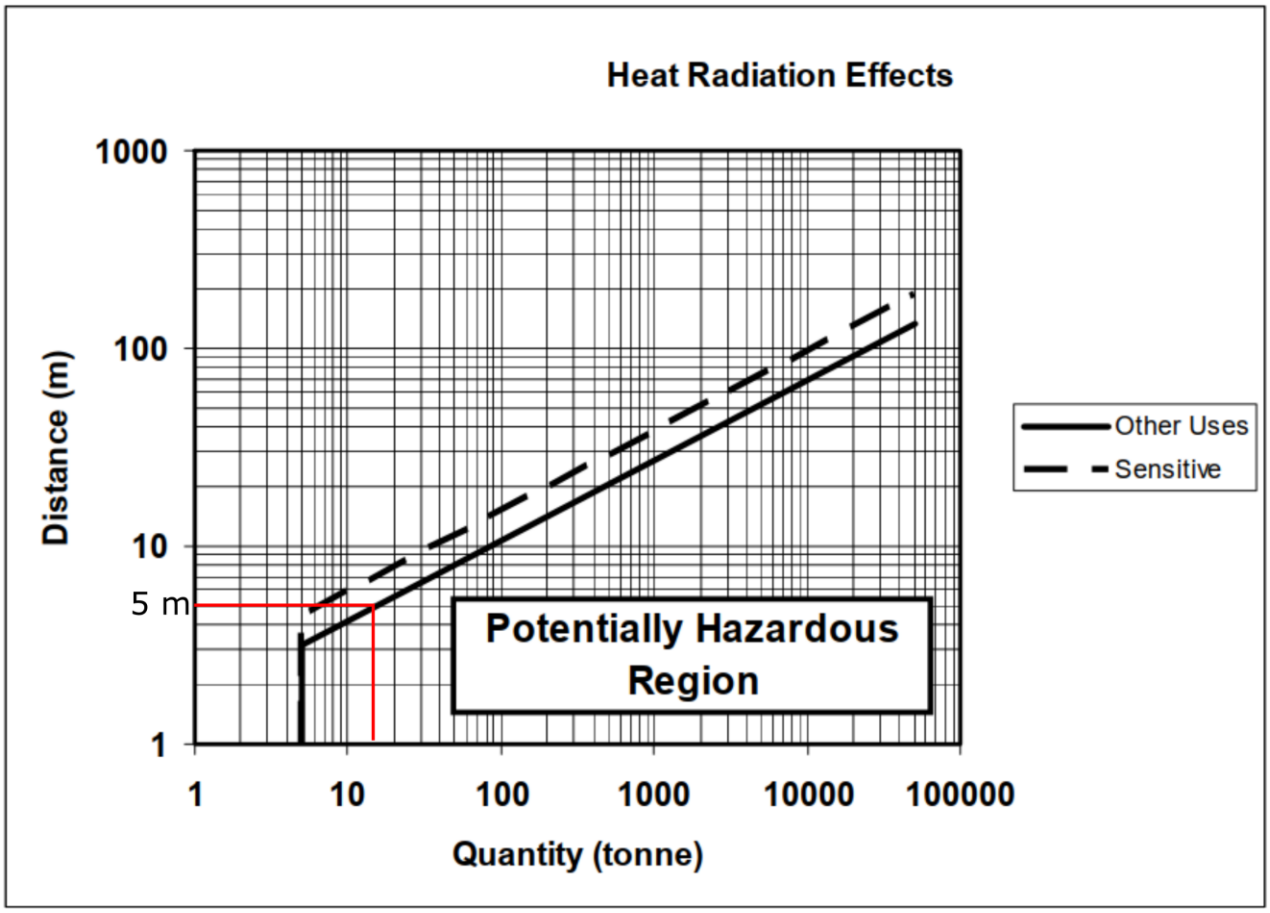


Figure 3-2: Class 3 SEPP 33 Distance – Warehouse 2 (Speculative)

3.3.3 Transport

The quantities to be stored are less than SEPP 33 shown in **Figure 2-3** or not applicable; hence, a high turnover of stored product would be required to exceed the transport movements associated with the corresponding storage. This rate of turnover isn't credible; hence, it is considered that the transport screening thresholds of SEPP 33 would not be exceeded; hence, SEPP 33 would not apply.

3.4 Warehouse 3 - Speculative

3.4.1 Proposed Storage Details

Warehouse 3 has not been allocated to a tenant yet; hence, it would be a speculative development and so the storage commodities are unknown at this stage. Therefore, to provide some flexibility in terms of potential tenants, a SEPP 33 has been conducted to provide an allowance for storage of DG commodities as part of the initial DA.

Provided in **Table 3-5** is a summary of the speculative quantities to be approved for Warehouse 3.

Table 3-5: DG Classes or Materials Stored and Maximum Quantities for Warehouse 3

Class	Description	Maximum Quantity (kg)
2.1	Flammable gases	16,000 kg / 4,000*
3	Flammable liquids	4,500
8	Corrosive Substances	5,000

*Based upon 25% of the product weight being LPG

3.4.2 Storage Assessment

Threshold limits for the application of SEPP 33 are presented in **Table 3-6** indicating the maximum quantity that can be stored on site for each class.

Table 3-6: Quantities Stored and SEPP 33 Threshold for Warehouse 3 (Speculative)

Class	Description	Maximum Quantity (kg)	SEPP 33 Threshold (kg)	Does SEPP 33 Apply?
2.1	Flammable gases (aerosols)	4,000	10,000	N
3	Flammable liquids	4,500	5,000*	N
8	Corrosive Substances	5,000	25,000	N

*Limit before assessment becomes distance based

3.4.3 Transport

The quantities to be stored are less than SEPP 33 shown in **Figure 2-3** or not applicable; hence, a high turnover of stored product would be required to exceed the transport movements associated with the corresponding storage. This rate of turnover isn't credible; hence, it is considered that the transport screening thresholds of SEPP 33 would not be exceeded; hence, SEPP 33 would not apply.

3.5 Warehouse 4 - API

3.5.1 Proposed Storage Details

Provided in **Table 3-7** is a summary of the DGs and materials proposed to be stored at the API facility as part of the site operations.

Table 3-7: DG Classes or Materials Stored and Maximum Quantities for Warehouse 4 (API)

Class	Description	Maximum Quantity (kg)
2.1	Flammable gases (aerosols)	38,000 kg / 9,500*
2.2	Non-flammable, non-toxic gases	700
3	Flammable liquids (i.e. hand sanitisers)	76,000 L / 60,000^
4.1	Flammable solids (i.e. ethanol wipes)	2,000
5.1	Oxidising substances	3500
6.1	Toxic substances	100
8	Corrosive substances	1,000
9	Miscellaneous DGs	5,000

*Based upon 25% of the product weight being LPG

^Based upon ethanol density of 789 kg/m^3

3.5.2 Storage Assessment

Threshold limits for the application of SEPP 33 are presented in **Table 3-8** indicating the maximum quantity that can be stored on site for each class.

Table 3-8: Quantities Stored and SEPP 33 Threshold for Warehouse 4 (API)

Class	Description	Maximum Quantity (kg)	SEPP 33 Threshold (kg)	Does SEPP 33 Apply?
2.1	Flammable gases (aerosols)	9,500	10,000	N
2.2	Non-flammable, non-toxic gases	700	n/a	N
3	Flammable liquids (i.e. hand sanitisers)	60,000	8.5 m (see **Figure 3-3**)	N
4.1	Flammable solids (i.e. ethanol wipes)	2,000	5,000	N
5.1	Oxidising substances	3,500	5,000	N
6.1	Toxic substances	100	2,500	N
8	Corrosive substances	1,000	25,000	N
9	Miscellaneous DGs	5,000	n/a	N

The flammable liquids are based upon a distance to the site boundary based upon the quantity. The quantity of flammable liquid stored at the site is 60 tonnes which requires a distance of 8.5 m from the storage to the site boundary.

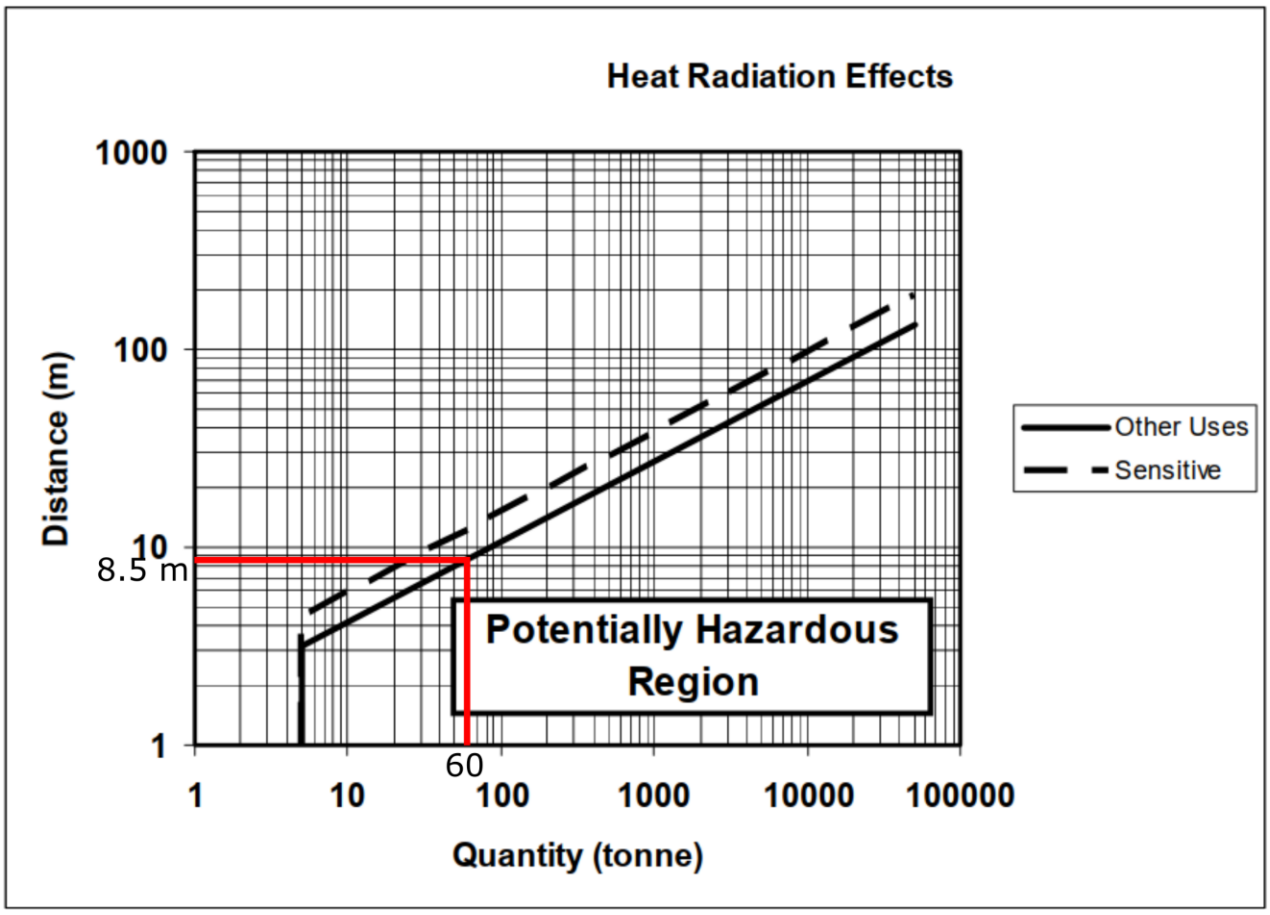


Figure 3-3: Class 3 SEPP 33 Distance - Warehouse 4 (API)

A review of the site boundary indicates that the closest boundary is 3 m on the northern side, 8 m on the eastern boundary and 6 m on the southern boundary in the worst location. Therefore, to remain below SEPP 33, the flammable liquids would need to be stored >9 m from the site boundaries, subsequently, the following recommendation has been made:

The flammable liquids shall be stored in the area delineated in **Figure 3-4**. Flammable liquids may not be stored within the following sections of the warehouse:

- Within 6 m of the northern wall
- Within 1 m of the eastern wall
- Within 3 m of the southern wall

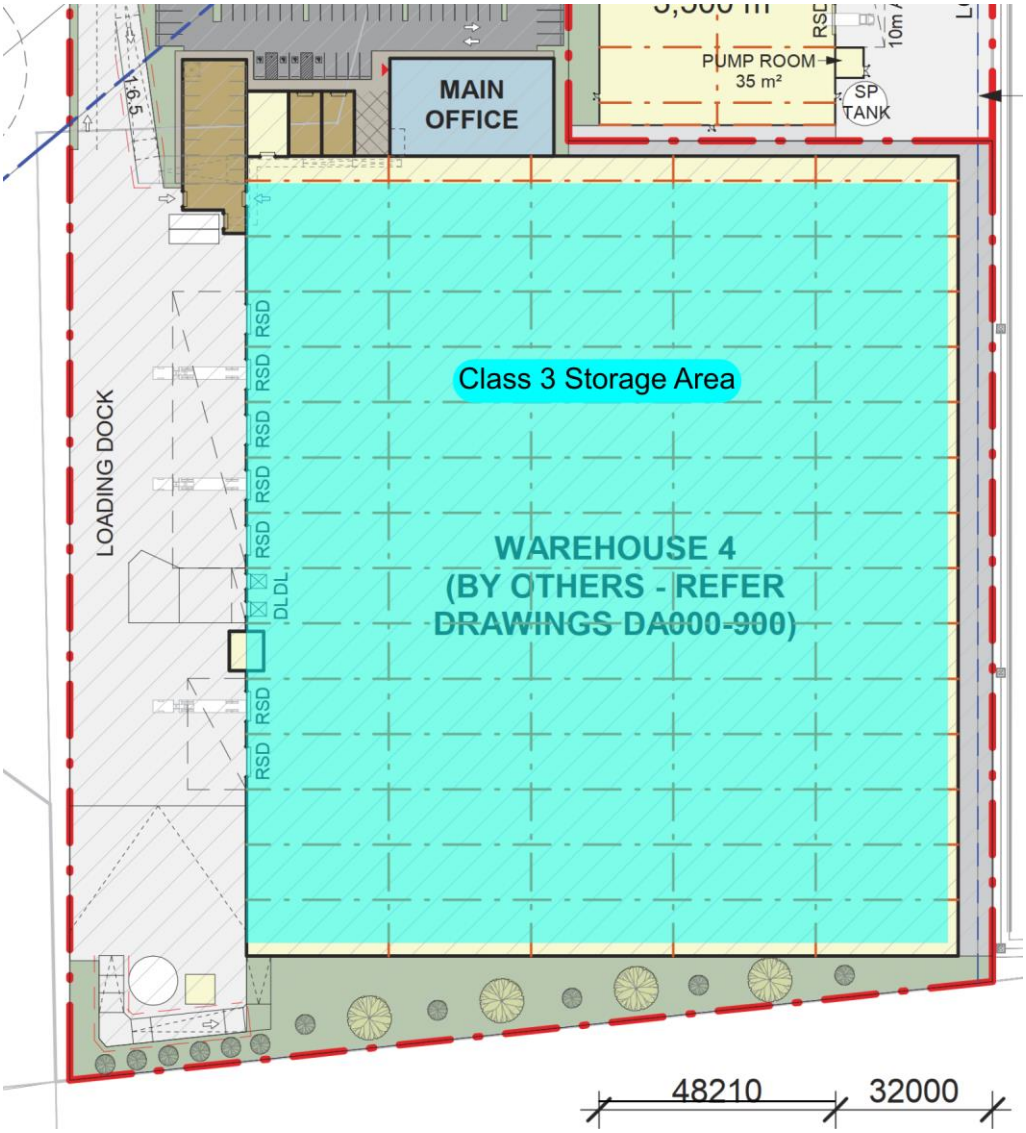


Figure 3-4: Class 3 Storage Area

3.5.3 Transport

The quantities to be stored are less than SEPP 33 shown in **Figure 2-3** or not applicable; hence, a high turnover of stored product would be required to exceed the transport movements associated with the corresponding storage. This rate of turnover isn't credible; hence, it is considered that the transport screening thresholds of SEPP 33 would not be exceeded; hence, SEPP 33 would not apply.

3.6 Cumulative Transport Assessment

A review of the three sites indicates that even if the sites were all operating with the expected limits of DG storage proposed for each site the potential to exceed the transport movements of DGs would require a substantial turnover over product which is not considered credible. Therefore, the cumulative assessment of all sites operating would not be considered to exceed the transport thresholds.

4.0 Conclusion and Recommendations

4.1 Conclusions

A review of the quantities of DGs stored at the site and the associated vehicle movements was conducted and compared to the threshold quantities outlined in Applying SEPP 33. The results of this analysis indicates the threshold quantities for the DGs to be stored and transported are not exceeded; hence, SEPP 33 does not apply to the project.

As the facility is not classified as potentially hazardous, it is not necessary to prepare a Preliminary Hazard Analysis for the facilty as SEPP 33 does not apply.

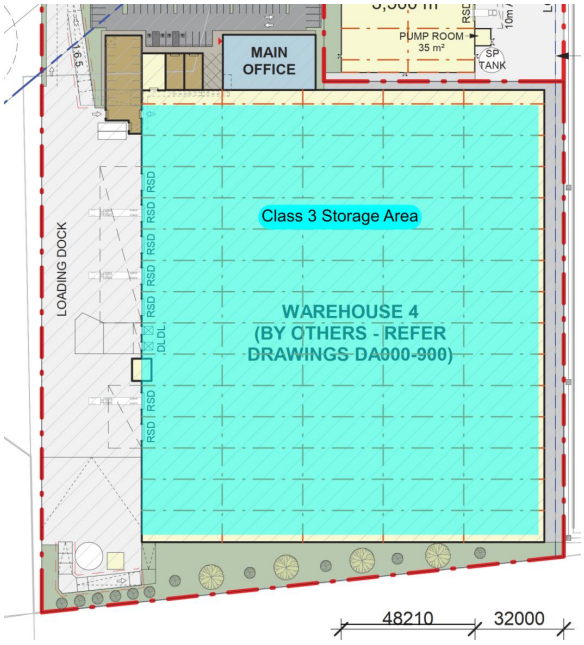
4.2 Recommendations

The following recommendations have been made generally for sites storing DGs:

- The DGs shall be stored in a manner which complies with the applicable storage standards (i.e. AS/NZS 3833:2007 or AS 1940-2017).
- The documentation required by the Work Health and Safety (WHS) Regulation 2017shall be prepared to demonstrate the risks have been assessed and minimised So Far As Is Reasonably Practicable (SFARP) as required by the WHS Regulations.
- Where flammable gases or liquids are stored, a hazardous area classification in accordance with AS/NZS 60079.10.1:2009 shall be prepared to ensure that an ignition source does not enter a hazardous atmosphere as required by the WHS Regulations.

The flammable liquids at the API site shall be stored in the area delineated in following figure. Flammable liquids may not be stored within the following sections of the warehouse:

- Within 6 m of the northern wall
- Within 1 m of the eastern wall
- Within 3 m of the southern wall



5.0 References

[1] Department of Planning, “Applying SEPP 33,” Department of Planning, Sydney, 2011.

[2] National Transport Commission (NTC), “Australian Code for the Transport of Dangerous Goods by Road & Rail, 7th Edition,” 2011.