



State Environmental Planning Policy (Resilience and Hazards)

353 Main Street, Lithgow, N SW

Main Street Cap Pty Ltd
Document No. RCE-24262[LithgowRHSEPP]-RPTFinal(Rev0-14Aug24
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353 Main Street, Lithgow, N SW

Main Street Cap Pty Ltd

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A	8 August 2024	Draft for review	Steve Sylvester	Renton Parker
0	14 August 2024	Final		

Executive Summary

Background

Main Street Cap Pty Ltd (Main Street Cap) proposes to develop a service station and take away drive through at 353 Main Street, Lithgow NSW. As part of the development the Regulator requires a Resilience and Hazards State Environmental Planning Policy (RHSEPP) assessment to be conducted to confirm whether a Preliminary Hazard Analysis is required. A review of their operations indicates materials classified as Dangerous Goods (DGs) are stored at the facility..

As DGs are stored, the site is subject to Chapter 3 of the Environmental Planning and Assessment Regulation 2021 which requires the risks associated with the operations to be assessed for impact on the adjacent land uses. In addition, the site is subject to the Work Health and Safety Regulation 2017. These regulations require studies to be prepared to demonstrate the storages are designed in a manner which reduces the risks to site personnel and to the adjacent land uses.

Conclusions

The proposed site at 353 Main Street, Lithgow, 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 site. 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 (Ref.2) and an assessment of transport operations involved in the storage and handling of DGs.

The results of these assessments identified that the quantities of DGs stored at the site do not exceed the Applying SEPP 33 threshold for Class 3 PGII DG. The assessment against Figure 9 of Applying SEPP 33 was conducted and it was found that the installation of fill points 5.5 m from the site boundary ensures the DGs are classified as only potentially hazardous to adjacent land uses and therefore the RHSEPP does not apply to the site as a result of the quantity of DGs stored. The transport thresholds were not exceeded and no offensive operations occur at the site which may result in environmental emissions.

In summary, the RH SEPP does not apply to the proposed Service Station with take away drive through at 353 Main Street, Lithgow, NSW and therefore a Preliminary Hazard Analysis is not required for the site.

Recommendations

The following recommendations have been made:

- It is recommended that documentation required by the Work Health and Safety Regulation 2017 (Ref. [1]) specific to the site classification based upon the quantity of goods stored are prepared for the site prior to occupation.

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Abbreviations

Abbreviation	Description
Main Street Cap	Main Street Cap Pty Ltd
C1	Combustible Liquid
DA	Development Application
DGs	Dangerous Goods
EPA	Environmental Protection Agency
EPL	Environmental Protection Licence
kg	kilograms
L	Litres
m	metres
m ²	square metres
m ³	cubic metres
NSW	New South Wales
PG	Package Group
SEPP	State Environmental Planning Policy
RH	Resilience and Hazards
WHS	Work Health and Safety

1.0 Introduction

1.1 Background

Main Street Cap Pty Ltd (Main Street Cap) proposes to develop a service station and take away drive through at 353 Main Street, Lithgow NSW. As part of the development the Regulator requires a Resilience and Hazards State Environmental Planning Policy (RHSEPP) assessment to be conducted to confirm whether a Preliminary Hazard Analysis is required. A review of their operations indicates materials classified as Dangerous Goods (DGs) are stored at the facility..

As DGs are stored, the site is subject to Chapter 3 of the Environmental Planning and Assessment Regulation 2021 which requires the risks associated with the operations to be assessed for impact on the adjacent land uses. In addition, the site is subject to the Work Health and Safety Regulation 2017. These regulations require studies to be prepared to demonstrate the storages are designed in a manner which reduces the risks to site personnel and to the adjacent land uses.

1.2 Objectives

The objectives of the study are to:

- Determine whether SEPP-RH applies to the proposed fuel station based on the quantity of DGs being stored; and
- Report on the findings of the study for submission with the Development Application (DA) documents.

1.3 Scope of Work

The scope of work is for a RH SEPP assessment of the quantities of DGs proposed for storage at the proposed Service Station and take away drive through, at 353 Main Street, Lithgow NSW, to determine whether the RH SEPP 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 and whether offensive operations occur at the site that many trigger the requirement for a Environmental Protection Licence (EPL). 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 RH SEPP.
- Vehicular movements as a result of DGs being stored were reviewed and compared against the applicable thresholds detailed in Applying SEPP 33.
- Review of potential offensive operations that may impact surrounding land uses (e.g. noise, odours, etc.) to confirm whether an EPA licence is required (potentially triggering the offensive component of the RH SEPP).
- A review of any potential future uses which may trigger the RH SEPP.
- The findings of the RH SEPP assessment were documented within this report.

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. [3]).

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 Site Description

3.1 Site Location

The site is located at 353 Main Street, Lithgow, NSW, approximately 1 km west of the Lithgow Town Centre. **Figure 3-1** shows the location of the site in relation to Lithgow Town Centre..



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

3.2 General Description

The site is proposed to store combustible and flammable liquids in underground tanks at the Service Station and take away drive through for the purpose of fuelling vehicles. The site is known as 353 Main Street, Lithgow, NSW. The proposed works are to be undertaken at this site which is located on the corner of Main Street and Enfield Avenue. The land has a total site area of c.2,073 m².

The site is roughly 200 m east of the Great Western Highway, along Main Street, and is located about 1km west of the Lithgow Town Centre. The site is zoned within the MU1 (Mixed Use) in the Lithgow Local Environmental Plan 2014. Surrounding the site to the south and west are residential properties, with a medium density apartment site to the west. Enfield Avenue is located immediate to the east, with residential properties located across Enfield Avenue.

The site is not identified on land identified as Heritage Conservation Area. The site is not affected by bushfire and not identified to be on flood prone land. Main Street is located immediately to the north, with the main western rail-line located within a cutting across Main Street.

3.3 Quantities of Dangerous Goods Stored and Handled

Various dangerous goods (DGs) are proposed to be stored. **Table 3-1** outlines the maximum quantities of DG storage to be approved for the facility.

Table 3-1: Quantities of DGs Stored and Handled

Class	PG	Description	Total Quantity (kg or L)
3	II	Flammable Liquids	90,000 L
C1	n/a	Combustible Liquids	80,000 L

*Note: Class 3 Flammable liquids includes fuels in the forms of ULP91, ULP95 and ULP98. All Class 3 flammable liquids stored on site are Packing Group (PG) PGII



Figure 3-2: Site Layout indicating the Location of Underground Tanks and Fill Points.

4.0 SEPP-RH Assessment

4.1 Proposed Storage Details

The maximum quantities of products and DGs that are to be stored at the facility, are shown in **Table 4-1**. Provided in **Table 4-1** is an assessment of whether the Class is assessable under the provisions of the RH SEPP.

Table 4-1: DG Classes and RH SEPP Applicability

Class	PG	Total Quantity (L)	Class Subject to SEPP-RH? (Y or N)
3	II	90,000 L	Y (Flammable Liquids subject to RH SEPP)
C1	n/a	80,000 L	N (combustible liquids not subject to RH SEPP)

It is noted that as the flammable liquids tank is located underground, the Applying SEPP33 guideline indicates that the quantity (mass) assessable is reduced by a factor of 5 and the assessment method, shown in Figure 9 of Applying SEPP33 (see **Figure 4.1**) is used to determine whether the SEPP applies. Figure 9 of Applying SEPP33 is used to determine a minimum separation distance to the site boundary above which the storages would be considered to be hazardous to adjacent land uses. Hence, based on the storage mass, it is first necessary to convert the volume storage into mass.

Equation 1 and **Equation 2** are used for the conversion of litres to tonnes for the Class 3 Flammable Liquid DG:

$$\text{volume} \times \text{density (petrol)} = \text{mass} \quad \text{Equation 1}$$

$$90,000 \text{ L} \times 749 \text{ kg} \cdot \text{m}^{-3} \times \frac{1 \text{ m}^3}{1000 \text{ L}} = 67.41 \text{ tonnes} \quad \text{Equation 2}$$

As noted above, if storage is underground, the capacity of the tank is divided by five prior to assessing it against the screening threshold. **Equation 3** and **Equation 4** are used to determine the assessable quantity of Class 3 PG II DGs.

$$\frac{\text{Quantity of DG (Class 3)}}{5} = \text{Assessible Quantity against SEPP 33 Threshold} \quad \text{Equation 3}$$

$$= \frac{67.41 \text{ tonnes}}{5} = 13.5 \text{ tonnes} \quad \text{Equation 4}$$

The proposed flammable liquid assessable quantity is 13.5 tonnes and is required to be assessed against the distance from the fill points to the site boundary (Applying SEPP33). This assessment has been completed in **Figure 4.1**. The assessment determined the required distance between the tank fill points and the site boundary, to ensure the storages are not considered hazardous to surrounding land uses, is 4.5 m.

Figure 3-2 shows the site layout and the location of the fill points for the underground tanks at the site. It can be seen from this figure that the fill points are 5.5m from the site boundary. Hence, the threshold levels required under the provisions of Applying SEPP33 are not exceeded.

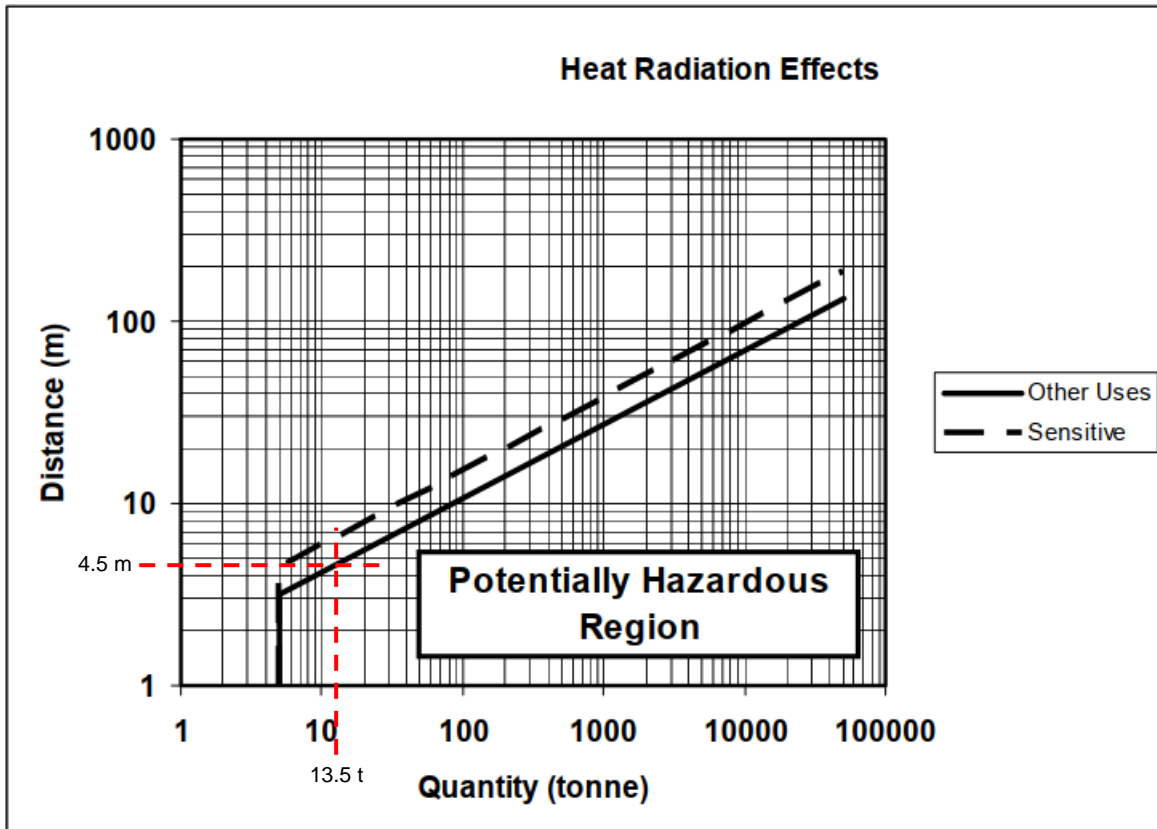


Figure 4-1: Assessment against Figure 9 from Applying SEPP 33

4.2 DG Transport Assessment

In addition to the storage of DGs, RHSEPP also requires a review of the transport of DGs to the site. **Table 4-2**, extracted from Applying SEPP 33 (Ref. [2]), lists the threshold levels for transport of each class of DGs. For Class 3 PGII materials, where the transport quantity exceeds 3 tonnes (bulk transport), shown in column 3 of the table, the maximum number of deliveries weekly is 45.

Table 4-2: Transportation Screening Thresholds, Extracted from Applying SEPP 33 (Ref. [1])

Class	Vehicle Movements		Minimum Quantity per Load (tonnes)
	Cumulative Annual	Peak Weekly	
3PGII	>750	>45	3 (bulk transport)

The site will have two 56 KL weekly deliveries of 3PGII DG. This equates to 42 tonnes per delivery (see **Equation 3** and **Equation 4** for calculations). As there are only two deliveries per week, the site does not exceed the vehicle movement transport limits and therefore does not exceed the threshold.

$$volume \times density (petrol) = mass \tag{Equation 3}$$

$$56,000 L \times 749 kg.m^{-3} \times \frac{1 m^3}{1000 L} = 42 tonnes \tag{Equation 4}$$

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 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. Therefore, there is no potential for offensive operations at the site and the RHSEPP does not apply.

5.0 Conclusions and Recommendations

5.1 Conclusions

The proposed Service Station and take away drive through at 353 Main Street, Lithgow, NSW has been assessed for the application of Chapter 3 of the State Environmental Planning Policy (Resilience and Hazards, RH SEPP) based on the proposed storage of DGs at the site. 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 (Ref.2) and an assessment of transport operations involved in the storage and handling of DGs.

The results of these assessments identified that the quantities of DGs stored at the site do not exceed the Applying SEPP 33 threshold for Class 3 PGII DG. The assessment against Figure 9 of Applying SEPP 33 was conducted and it was found that the installation of fill points 5.5 m from the site boundary ensures the DGs are classified as only potentially hazardous to adjacent land uses and therefore the RHSEPP does not apply to the site as a result of the quantity of DGs stored. The transport thresholds were not exceeded and no offensive operations occur at the site which may result in environmental emissions.

In summary, the RH SEPP does not apply to the proposed Service Station and take away drive through at 353 Main Street, Lithgow, NSW and therefore a Preliminary Hazard Analysis is not required for the site.

5.2 Recommendations

The following recommendations have been made:

- Documentation required by the Work Health and Safety (WHS) Regulation 2017 (Ref. [1]) 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] SafeWork NSW, “Work Health and Safety Regulation,” SafeWork NSW, Lisarow, 2017.
- [2] NSW Department of Planning and Environment, “Applying SEPP33 – Hazardous and Offensive Developments,” NSW Department of Planning and Environment, Sydney, 2011.
- [3] Department of Planning, “Applying SEPP 33,” Department of Planning, Sydney, 2011.
- [4] NSW Department of Planning, Industry and Environment, “State Environmental Planning Policy (Resilience and Hazards) 2021,” State of New South Wales, Sydney, 2021.
- [5] NSW Government, “State Environmental Planning Policy No. 33 - Hazardous and Offensive Developments,” Department of Planning, Sydney, 2019.