



Core Engineering Group • Fire • Risk • Emergency Management

8th August, 2017
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Our Reference: R200581

Mr. Richard Seddon
Goodman
Level 17, 60 Castlereagh Street
Sydney NSW 2000

Dear Paul,

Regarding: SEPP33 Application for the Costco Warehouse, Oakdale Industrial Estate

Thank you for your query regarding the application of SEPP33 to the proposed Costco warehouse located at the Oakdale Industrial Estate, Horsley Park, NSW.

Attached is a completed SEPP33 assessment of the warehouse based on maximum allowable quantities of Dangerous Goods to be stored as part of the operations. The results of the analysis indicate the maximum quantities stored, and the location of the storage, do not result in the facility being classified as a potentially hazardous development; hence, SEPP33 does not apply to the proposed facility and no additional planning risk studies are required for the development. The transport of DGs does not result in excessive risk; hence, no further incident assessment would be required as this is covered by the Australian Dangerous Goods Code.

Should you have any questions regarding the attached, please contact either myself (0438 749 181).

Yours faithfully,

CORE - Risk Engineering Solutions

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1. INTRODUCTION

1.1. Background & Objectives

Goodman is in the process of designing a warehouse to be occupied by Costco at its Oakdale Industrial Estate in Horsley Park, NSW. The operations that will occur at the site will be the storage of retail products prior to distribution to Costco retail outlets. A minority of the products stored may be classified as Dangerous Goods (i.e. aerosols, cleaning products, etc.). As DGs may be stored, it is necessary to assess the potentially hazardous nature of the facility by performing a State Environmental Planning Policy No. 33 (SEPP 33). The aim of the study is to determine whether SEPP33 applies to the proposed warehouse storage and to determine the development requirements based on the study outcome.

Goodman has commissioned Core Engineering (CORE) to conduct the SEPP 33 assessment for the facility. This document represents CORE's assessment of SEPP 33 to the proposed facility.

1.2. Scope of Work

The scope of work is for a SEPP 33 assessment of the proposed quantities of DGs proposed for storage in nominated locations within the facility at the Oakdale Industrial Estate, to determine whether the SEPP 33 policy applies to the facility. In addition, 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 assessment does not include any other sites or the preparation of any other planning studies should they be required.

2. 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 as a result of DGs being stored and compared against the applicable thresholds detailed in Applying SEPP 33 (Ref. [1]); and
- Report on the findings of the SEPP 33 assessment.

3. SEPP33 REVIEW

3.1 Data taken from “Applying SEPP 33”

Figure 3-1, extracted from “Applying SEPP 33” provides details on the application of Figures or Tables from the same document to determine the applied screening Threshold. It shows that:

- for LPG, Table 3 shall be used;
- for Class 3 PG II and III, Figure 9 shall be used (note: Class 3 PHI materials will not be stored at the facility);
- for Class 4, Class 5, Class 6, and Class 8, Table 3 shall be used;
- Class 9 is not subject to SEPP33; and
- For transport, Table 2.

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 3-1: Screening Method to be Used

Figure 9 and Table 3 from “Applying SEPP 33” have been extracted and are shown in **Figure 3-2**, and **Figure 3-3** respectively.

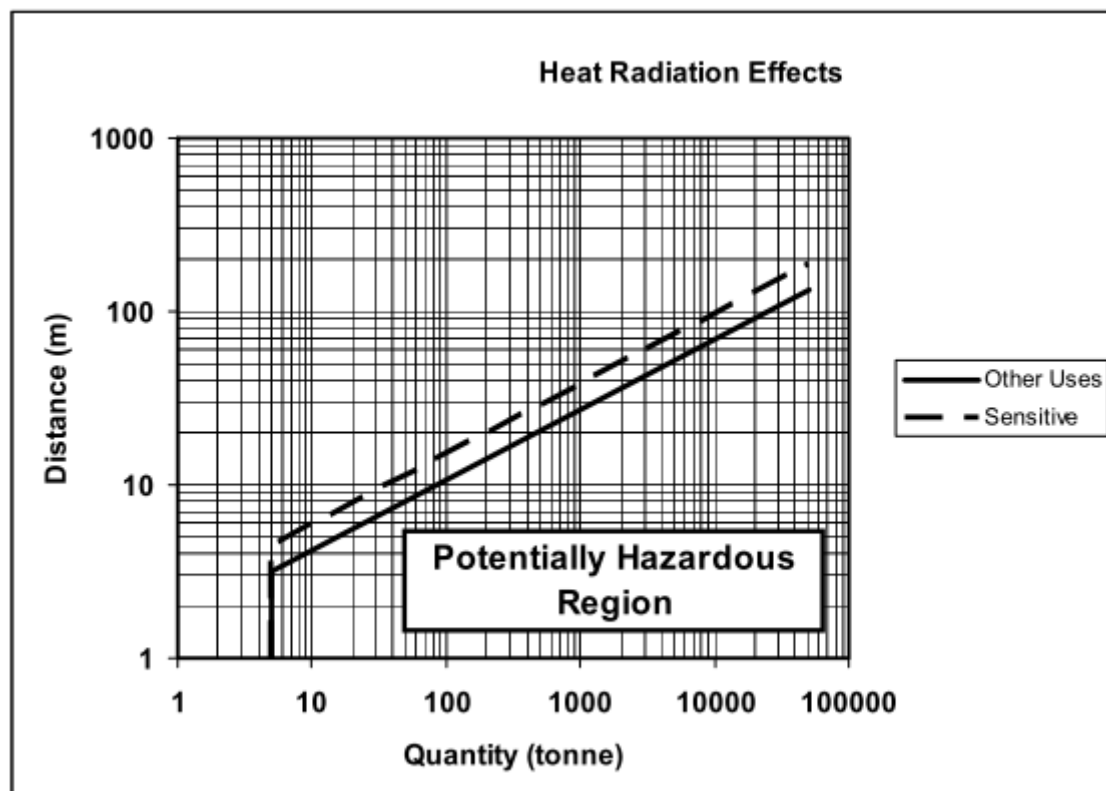


Figure 3-2: Class 3 PGII and PGIII Flammable Liquids

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')	
	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

Note: The classes used are those referred to in the Australian Dangerous Goods Code and are explained in Appendix 7.

Figure 3-3: General Screening Threshold Quantities

Product will be transported to and from the warehouses; hence, it is necessary to review the implications the transport of DGs will have on the surrounding arterial roads. Table 2 from “Applying SEPP 33” has been extracted and is shown in **Figure 3-4**.

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 3-4: SEPP33 Transport Thresholds

*If quantities are below this level, the potential risk is unlikely to be significant unless the number of traffic movements is high.

3.2 Proposed Storage Details

The maximum quantities of differing classes of DGs that are to be stored in the Costco Warehouse, are shown in **Table 3-1**. The closest property boundary from the main warehouse structure is 25 m from the property to the south.

Table 3-1: DG Classes and Maximum Quantities Stored

CLASS	DESCRIPTION	PG	QUANTITY
2.1	Aerosols	-	< 9,000 kg (LPG)
	Cylinders	-	< 500 kg (LPG)
2.3	Anhydrous Ammonia	-	2,000 kg
3	Flammable Liquids	I	<100,000
		II & III	< 500,000 kg
4.1	Flammable Solids	II & III	< 4,500 kg
4.2	Spontaneously Combustible	II & III	< 900 kg

CLASS	DESCRIPTION	PG	QUANTITY
4.3	Dangerous when Wet	II & III	< 900 kg
5.1	Oxidising Substances	II & III	< 4,500 kg
6.1	Toxic Substances	II & III	< 2,000 kg
8	Corrosives	I	< 3,000 kg
		II	< 20,000 kg
		III	< 45,000 kg
9	Miscellaneous	III	Not subject to SEPP 33 (unlimited)

3.2.1 Classification of Stored Products

The ADG provides a list of materials which are classified as DGs under the requirements of the code. The goods to be stored are classified as DGs by the ADG; hence, it is subject to the assessment requirements of SEPP 33.

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

State Environmental Planning Policy No.33 – Hazardous and Offensive Developments (SEPP33) 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.

Threshold limits for the application of SEPP 33 are presented in **Table 3-2** along with maximum DG quantities that will be stored at the Horsley Park facility. The Table shows that threshold quantities are not exceeded within the Costco Warehouse; hence, SEPP 33 does not apply, as all DGs are under the screening threshold.

Table 3-2: Quantities Stored and SEPP33 Threshold

CLASS	DESCRIPTION	PG	QUANTITY	SEPP 33 THRESHOLD	DOES SEPP 33 APPLY?
2.1	Aerosols	-	< 9,000 kg (LPG)	10,000 kg	No
	Cylinders	-	< 500 kg (LPG)		
2.3	Anhydrous Ammonia	-	2,000 kg	5,000 kg	No
3	Flammable Liquids	I	<100,000	600,000 kg	No
		II & III	< 500,000 kg	600,000 kg	No

CLASS	DESCRIPTION	PG	QUANTITY	SEPP 33 THRESHOLD	DOES SEPP 33 APPLY?
4.1	Flammable Solids	II & III	< 4,500 kg	5,000 kg	No
4.2	Spontaneously Combustible	II & III	< 900 kg	1,000 kg	No
4.3	Dangerous when Wet	II & III	< 900 kg	1,000 kg	No
5.1	Oxidising Substances	II & III	< 4,500 kg	5,000 kg	No
6.1	Toxic Substances	II & III	< 2,000 kg	2,500 kg	No
8	Corrosives	I	< 3,000 kg	5,000 kg	No
		II	< 20,000 kg	25,000 kg	No
		III	< 45,000 kg	50,000 kg	No
9	Miscellaneous	III	Not subject to SEPP 33 (unlimited)	n/a	n/a

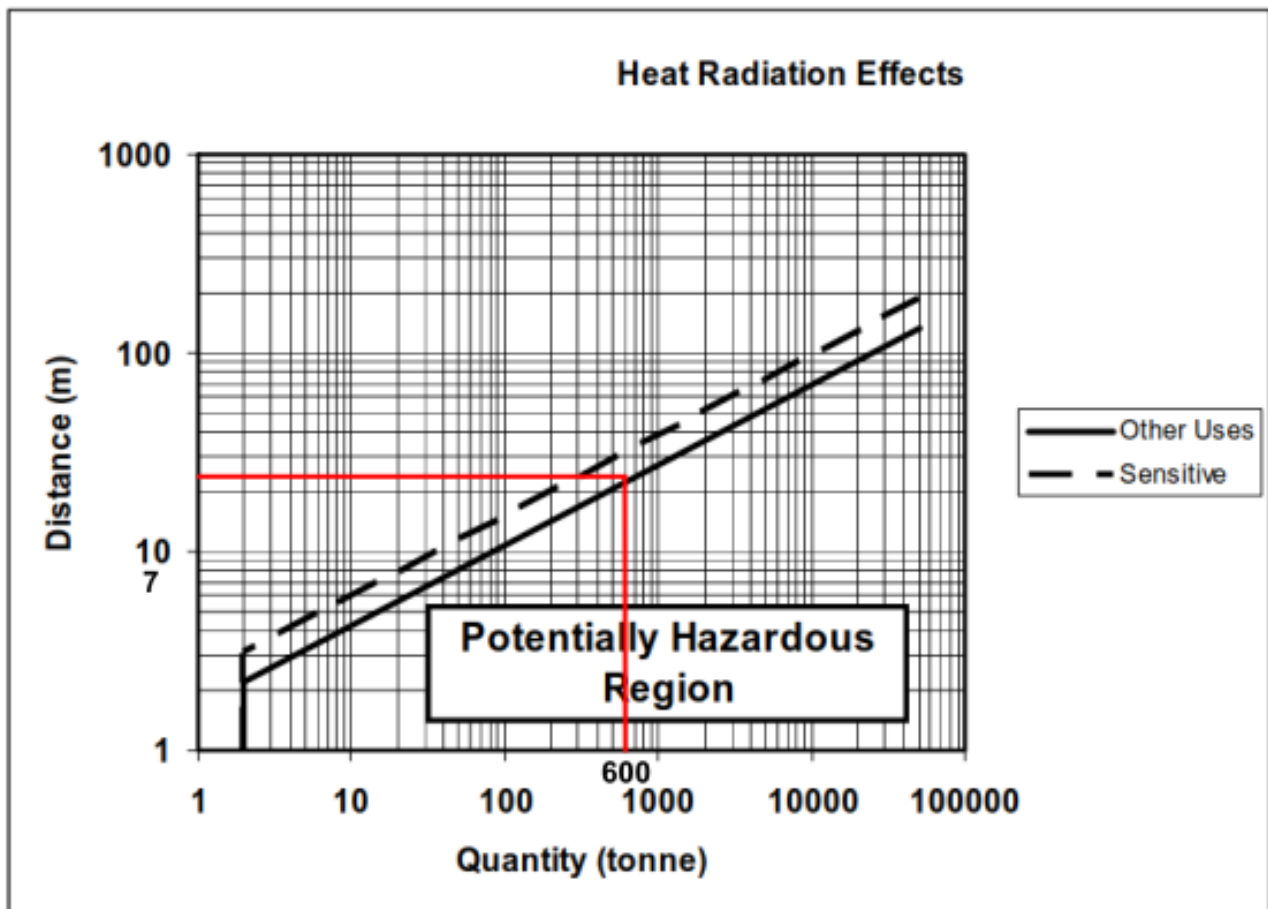


Figure 3-5: Class 3 PGI Flammable Liquids Storage

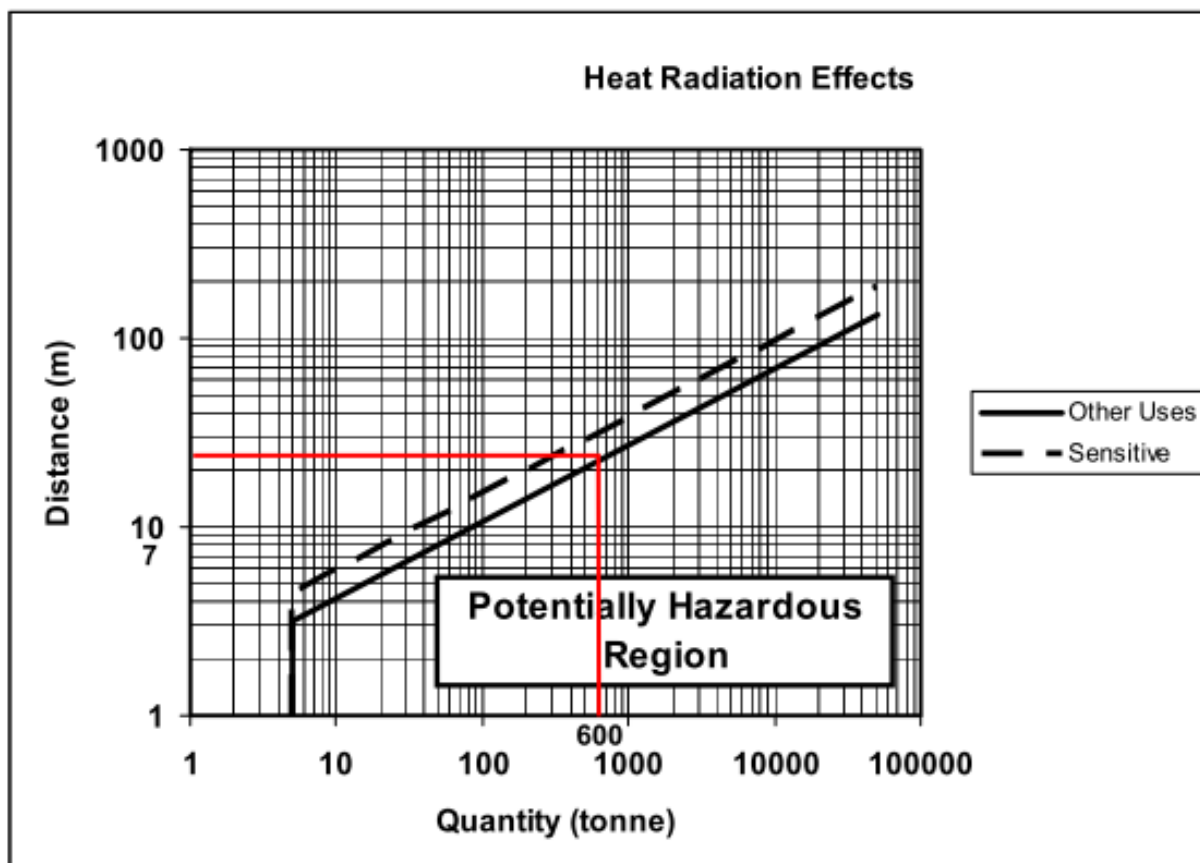


Figure 3-6: Class 3 PGII and PGIII Flammable Liquids Storage

3.2.3 Transport

It is necessary to assess the impact of transporting DGs on the surrounding arterial roads to and from the facility. As the quantities to be stored are below SEPP 33, it can be assumed that the frequency of movements would be low. Therefore, it is considered prudent to review the transport SEPP 33 criteria on the basis of minimum transport load. **Table 3-3** has been developed based on the minimum load of goods to compare the maximum storage quantity within the warehouse to conceptualise whether the loads would be likely to be exceeded based on the maximum storage quantities.

Table 3-3: SEPP33 Transport Quantity vs Warehouse Storage Limits

CLASS	MINIMUM LOAD QUANTITY (T)	MAXIMUM STORAGE WITHIN WAREHOUSE (T)
2.1	5	10
3 (I)	1	100
3 (II)	10	500
3 (III)	No limit	
4.1	2	4.5
4.2	5	0.9
4.3	10	0.9
5.1	5	4.5

CLASS	MINIMUM LOAD QUANTITY (T)	MAXIMUM STORAGE WITHIN WAREHOUSE (T)
6.1	3	2
8	5	80
9	No limit	No limit

Based on the maximum quantity to be stored in the warehouse and the SEPP 33 load limits the quantities are unlikely to be exceeded as that would indicate very high turnover of product which would be unlikely to be achieved considering that vehicle movements will be predominantly small courier vehicles collecting smaller parcels for delivery in the greater NSW area.

Therefore, it is considered that the SEPP 33 limits for transport would not be exceeded; hence, additional traffic management plans would not be required. It is noted, that the transport of DGs is covered by the Australian Dangerous Goods Code (ADG, Ref. [2]). Therefore, incident response will be covered by the transport of DGs via the ADG as appropriate with the loads being carried.

Additional Notes to transport

PG I: The Costco operations are not expected to store PG I materials as these are not readily available within the retail market. Subsequently, transport movements will be less than a peak of 30 movements per week. Inclusion of PG I materials has been to allow future flexibility.

PG II: PGII materials may be stored, but again, these would be relatively minor for Costco due to the retail nature of their products. A maximum of 500,000 kg has been selected; hence, to achieve peak weekly movements >30 movements per week would require turnover of greater than 50% of the product within the warehouse which is incredibly unlikely. It is considered that the movements of DGs would be less than the transport requirements; hence, it would not be considered a Potentially Hazardous facility.

4. CONCLUSION

A review of the quantities of DGs stored at the proposed Costco Warehouse was conducted and compared to the threshold quantities outlined in Applying SEPP 33. The results of this analysis indicates that the threshold quantities for the DGs to be stored 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 PHA study to fully assess the potentially hazardous nature of the facility as a result of it not being SEPP 33 applicable.

Furthermore, the impact of transporting DGs as a result of DG storage was reviewed with reference to the SEPP 33 thresholds for transport. The review indicated that the quantities being transported would be below the minimum transport loads as this would indicate extremely high turnover of product within the warehouse. Therefore, it was concluded that the transport limits were not exceeded and that no further transport incident management would be required. It is further noted that the appropriate incident response would be managed by the transporter as required by the ADG Code.

5. REFERENCES

- [1] Department of Planning, “Applying SEPP 33,” Department of Planning, Sydney, 2011.
- [2] Road Safety Council, The Australian Code for the Transport of Dangerous Goods by Road and Rail Edition 7.4, Canberra: Road Safety Council, 2016.
- [1] Department of Planning, “Applying SEPP 33,” Department of Planning, Sydney, 2011.
- [2] Road Safety Council, The Australian Code for the Transport of Dangerous Goods by Road and Rail Edition 7.4, Canberra: Road Safety Council, 2016.