



CONSULTANTS ADVICE NOTICE

Project:	Stage 2 Biosciences Project	Ref No.:	R200441
From:	Steve Sylvester	Date:	24 October 2016
		Issue:	Revision 0

	Attention	Company	Email/Fax
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RE: SEPP 33 ANALYSIS – BIOLOGICAL SCIENCES STAGE 2

1. INTRODUCTION

1.1. Background

UNSW propose to develop Stage 2 of the Biological Sciences project in Kensington, NSW which includes the refurbishment of Building D26. On completion of the project, the building will be designed to store and handle a range of goods, including goods that are classified as Dangerous Goods (DGs) by the Australian Dangerous Goods Code (ADG). As DGs are stored, it is necessary to conduct a State Environmental Planning Policy No. 33 (SEPP 33) assessment to determine whether the policy applies to the facility. UNSW has engaged Multiplex to develop Stage 2 of the Biological Sciences Project and Multiplex has engaged Core Engineering Group (Core) to determine the applicability of SEPP 33 to the proposed Stage 2 Biological Sciences Project. This document represents Core's assessment of SEPP 33 to the proposed facility.

1.2. Scope

The scope of work is for a SEPP 33 review of the proposed Stage 2 Biological Sciences Project only. The scope covers Building D26 and does not include any other buildings and structures at the University of NSW Kensington Campus or the preparation of a Preliminary Hazard Analysis (PHA) study should SEPP 33 be found to apply to the site.

2. METHODOLOGY

The methodology used in this assessment is as follows;

- review the list of proposed DG quantities to be stored at the site;
- compare the quantities of DGs to the threshold limits for each DG in the document "Applying SEPP 33 – Hazardous and Offensive Development" (Ref.1) to identify whether any of the DGs exceed the maximum permissible threshold levels; and
- report on the findings of the SEPP 33 assessment.

The threshold limits to be used in the assessment are shown in Figure 2-1.

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Table 3: General Screening Threshold Quantities

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 2-1: SEPP 33 Threshold Limits (Ref.1)



3. SEPP33 REVIEW

3.1. Proposed Storage Details

UNSW proposes to store a range of DGs which are to be used in Building D26. The objective of the facility is to provide a contemporary, world class research and teaching environment as part of the Biomedical Precinct. **Tables 3-1** and **3-2** shows the Dangerous Good type, classification and quantities of the DGs proposed to be stored in the facilities (covered under the Stage 2 Biological Sciences Project only). The DG quantities were provided by the UNSW Biological Sciences project in an audit document (Ref.). This document was used to develop the proposed DG storage quantities at the facility.

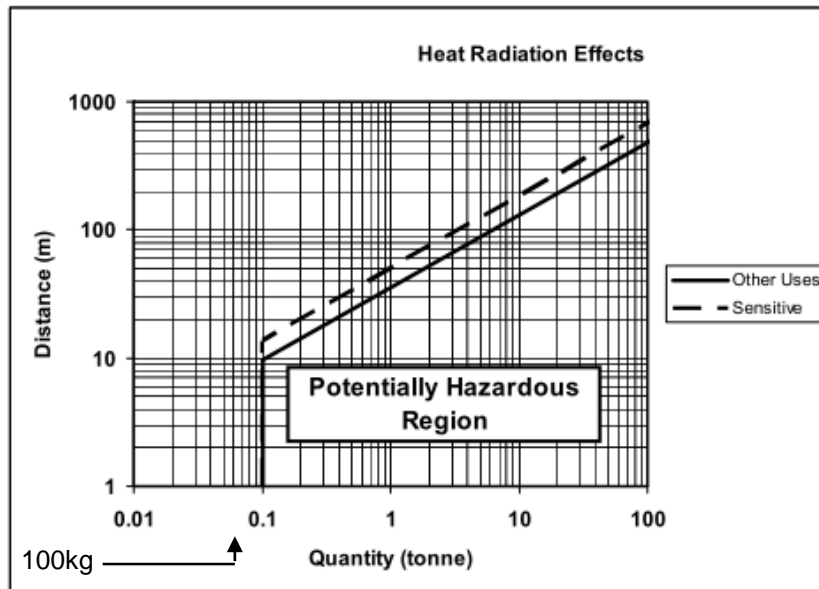
Table 3-1: Dangerous Goods to be Stored at the UNSW Stage 2 Biological Sciences Project

DG Type	Class	Packaging Group	Quantity	SEPP33 Threshold
BUILDING D26				
Flammable Gas	2.1	N/A	30 kg	100 kg ²
Non-Flammable Non-Toxic Gas	2.2	N/A	30,000 L	Not subject to SEPP33 ¹
Flammable Liquids	3	PGII & III	1.7 tonnes	5 tonnes ³
Flammable Solids	4.1	PGII	0.031 tones	5 tonnes
Flammable Solid (self-reactive)	4.2	PGII	0.002 tonnes	1 tonne
Flammable Solid (Reacts with Water)	4.3	PGII	0.001 tonnes	1 tonne
Oxidising Agents	5.1	PGII	0.029 tonnes	5 tonnes
Toxic Substances	6.1	PG II & III	0.06 tonnes	2.5 tonnes
Corrosive Substances	8	PG II	0.46 tonnes	25 tonnes
Environmentally Hazardous Substance	9	PGIII	0.07 tonnes	Not subject to SEPP33 ¹

Notes:

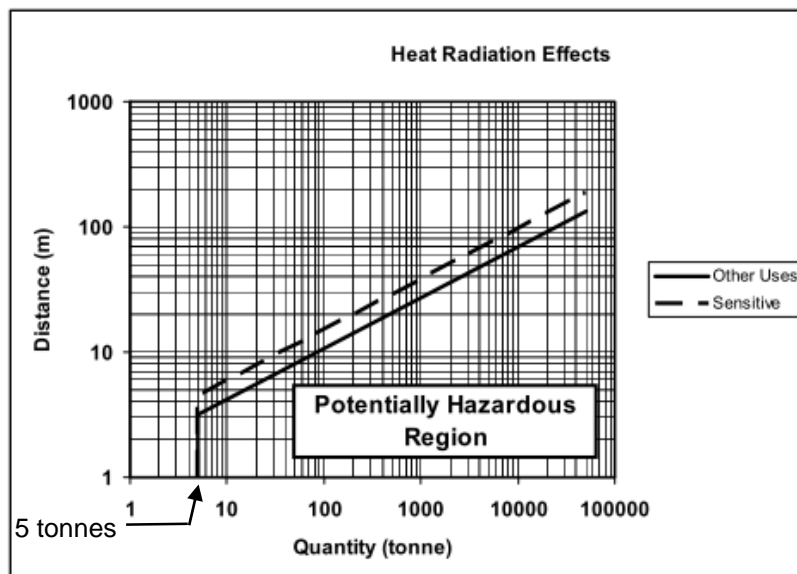
- SEPP 33 does not apply to Class 2.2 and Class 9 DGs. Class 2.2 DGs are non-flammable, non-toxic gases and are not considered to be potentially hazardous with respect to off-site risk. Class 9 DGs are miscellaneous dangerous goods, which pose little threat to people or property. They may be substances which pose an environmental hazard, and the consent authority should consider whether or not a potential for environmental harm exists (Ref.1).
- “Applying SEPP33” (Ref.1) provides threshold levels for Class 2.1 flammable gases (under pressure) in the form of a graph based on quantity stored vs separation distance from the site boundary. An extract of the graph from “Applying SEPP33” (Ref.1) has been provided below. It can be seen from this graph that the threshold quantity of gas under the provisions of SEPP33 is 100kg.

Figure 6: Class 2.1 Flammable Gases Pressurised (Excluding LPG)



3. “Applying SEPP33” (Ref.1) provides threshold levels for Class 3 flammable liquids in the form of a graph based on quantity stored vs separation distance from the site boundary. An extract of the graph from “Applying SEPP33” (Ref.1) has been provided below. It can be seen from this graph that the minimum quantity of flammable liquids permissible under SEPP33 is 5 tonnes.

Figure 9: Class 3PGII and 3PGIII Flammable Liquids



4. CONCLUSIONS

A review of the quantities of DGs stored at the proposed UNSW Stage 2 Biological Sciences Project was conducted and compared to the threshold quantities outlined in “Applying SEPP 33”. The results of this analysis, shown in **Table 3-1**, indicates that the threshold quantity for all Classes of DG are not exceeded, or applicable; 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.



5. REFERENCES

1. “Applying SEPP33 – Hazardous and Offensive Developments”, NSW Department of Planning and Environment, Sydney (2011).
2. GREENCAP-NAA Pty Ltd, Hazardous Chemicals Register and Risk Assessment (Doc.No. J141534), UNSW – Building D26, Feb 2016.

For and on behalf of Core Engineering Group,

A handwritten signature in black ink, appearing to read 'Steve Sylvester', written in a cursive style.

Steve Sylvester

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