



22 January 2015
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Mr. Tino Uchino
Brookfield Multiplex
Level 22, 135 King Street,
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Dear Tino,

Regarding: SEPP 33 Application for the UNSW Biological Sciences Project, Kensington, NSW

Thank you for your query regarding the application of State Environmental Planning Policy No. 33 (SEPP 33) to the University of New South Wales (UNSW) Biological Sciences Project at Kensington, NSW. SEPP 33 has been developed by the Department of Planning to determine the hazardous and offensive nature of proposed developments and to identify whether such development can be permitted within specific zoning applications.

Attached is a completed SEPP 33 assessment of the proposed storage quantities of Dangerous Goods at the UNSW Biological Sciences Project at Kensington. The results of the review indicate that the quantities of all Classes of Dangerous Goods (DGs) proposed to be stored in the Biological Sciences Project facility at UNSW are below the threshold quantities of SEPP 33; hence, the site is not considered potentially hazardous; therefore, the provisions of SEPP 33 do not apply. Should you have any questions regarding the attached, please contact RAWRiSK on (02) 9299 6605.

Yours faithfully,

RAWRisk - Risk Engineering Solutions

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UNIVERSITY OF NSW

STATE ENVIRONMENTAL PLANNING POLICY NO 33

APPLICATION TO THE BIOLOGICAL SCIENCES PROJECT

1. INTRODUCTION

1.1. Background

UNSW propose to develop a Biological Sciences facility in Kensington, NSW which will include the storage of a range of goods, including goods that are classified as Dangerous Goods (DGs) by the Australian Dangerous Goods Code (ADG). UNSW has engaged Brookfield Multiplex to develop the Biological Sciences Project Facility in Kensington. 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. Brookfield Multiplex has engaged RAWRiSK Engineering (RAWRiSK) to determine the applicability of SEPP 33 to the proposed Biological Sciences Project Facility. This document represents RAWRiSK's assessment of SEPP 33 to the proposed facility.

1.2. Scope of Work

The scope of work is for a SEPP 33 review of the proposed Biological Sciences Project Facility only. The scope covers the State Significant Development Application (SSDA) site only 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" 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**.

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 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

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

3. SEPP 33 REVIEW

2.1 Proposed Storage Details

UNSW proposes to store a range of DGs which are to be used in the proposed Biological Sciences Project Facility (the Facility). The objective of this facility is to provide a contemporary, world class research and teaching environment as part of the Biomedical Precinct. The Biological Sciences Project facility is shown in **Figure 3-1**. **Table 3-1** shows the products, classification and quantities of the DGs proposed to be stored in the Biological Sciences Project facility (covered under the SSDA only).

Table 3-1: Products to be Stored at the UNSW Biological Sciences Project Facility

PRODUCT NAME	TYPE OF STORAGE	CLASS	LOCATION	QUANTITY	SEPP33 THRESHOLD
Class 2.1 Flammable Gas					
Methane	2 x "G" size gas cylinders	2.1	RSS Research Shared Support	13 kg	100 kg (total CI 2.1)
TOTAL Class 2.1 Storage				13 kg	100 kg (total CI 2.1)
Class 2.2 Non-Flammable/Non-Toxic Gas					
Carbon Dioxide	Tank (x1)	2.2	PML Precinct – Management Labs – Bulk Gas Store	4,500 L	Not subject to SEPP 33*
Nitrogen	Tank (3 x 3000 L)	2.2	PML Precinct – Management Labs – Bulk Gas Store	9,000 L	Not subject to SEPP 33*
Nitrogen	Dewar	2.2	RSS Research Shared Support – Tissue Culture	100 L	Not subject to SEPP 33*
Nitrogen	Dewar	2.2	RSS Research Shared Support – Neg. Press, QC2	100 L	Not subject to SEPP 33*
Nitrogen	Dewar	2.2	RSS Research Shared Support – SSBA Room	100 L	Not subject to SEPP 33*
Nitrogen	Dewar	2.2	CCA Core – Cell Analysis – Preparation Las-Specimen Lab	100 L	Not subject to SEPP 33*

PRODUCT NAME	TYPE OF STORAGE	CLASS	LOCATION	QUANTITY	SEPP33 THRESHOLD
Nitrogen	Dewars	2.2	Gas Room (Lower Ground Floor)	500 L	Not subject to SEPP 33*
Argon	Gas Cylinder (2 x "G" size)	2.2	CCA 04 Lab	100 L [#]	Not subject to SEPP 33*
Argon	Gas Cylinder (2 x "G" size)	2.2	CCA 08 Lab	100 L [#]	Not subject to SEPP 33*
Argon	Gas Cylinder (2 x "G" size)	2.2	CCA 02 Lab	100 L [#]	Not subject to SEPP 33*
Helium	Gas Cylinder (2 x "G" size)	2.2	CPT 02 Lab	100 L [#]	Not subject to SEPP 33*
Oxygen (Medical)	Gas Cylinder (2 x "G" size)	2.2	CCA 07 Lab	100 L [#]	Not subject to SEPP 33*
Oxygen (Medical)	Gas Cylinder (2 x "G" size)	2.2	CCA 08 Lab	100 L [#]	Not subject to SEPP 33*
TOTAL Class 2.2 Storage				24,000 L	Not subject to SEPP 33*

#Water capacity of G size cylinders is 50 L

Class 3 Flammable Liquids (assumed PG II)

Class 3 Flammable Liquid	DG Cabinet (30L)	3	RSS Research Shared Support – Tissue Culture	25 kg	5,000 kg (total Cl 3)
Class 3 Flammable Liquid	DG Cabinet (250L)	3	RSS Research Shared Support - Negative Pressure-Ionising Radiation	200 kg	5,000 kg (total Cl 3)
Class 3 Flammable Liquid	DG Cabinet (250L)	3	RSS Research Shared Support – SSBA Room	200 kg	5,000 kg (total Cl 3)
Class 3 Flammable Liquid	DG Cabinet (250L)	3	RSS Research Shared Support – Negative Pressure-Chemistry	200 kg	5,000 kg (total Cl 3)

PRODUCT NAME	TYPE OF STORAGE	CLASS	LOCATION	QUANTITY	SEPP33 THRESHOLD
Class 3 Flammable Liquid	DG Cabinet (250L)	3	RSS Research Shared Support – Equipment Room-Clean/ Instruments-Large	200 kg	5,000 kg (total Cl 3)
Class 3 Flammable Liquid	DG Cabinet (250L)	3	RSS Research Shared Support – Equipment Room-Clean/ Instruments-Large	200 kg	5,000 kg (total Cl 3)
Class 3 Flammable Liquid	DG Cabinet (30L)	3	CCA Core – Cell Analysis – Preparation Las-Specimen Lab	25 kg	5,000 kg (total Cl 3)
Class 3 Flammable Liquid	DG Cabinet (30L)	3	CGE Core – Genomics – Pre-Prep Amplification	25 kg	5,000 kg (total Cl 3)
Class 3 Flammable Liquid	DG Cabinet (30L)	3	CGE Core – Genomics – Prep-Post Amplification	25 kg	5,000 kg (total Cl 3)
Class 3 Flammable Liquid	DG Cabinet (30L)	3	CPT Core – Proteomics – Preparation & Biophysical Analysis Lab	25 kg	5,000 kg (total Cl 3)
Class 3 Flammable Liquid	DG Cabinet (100L)	3	CFS Core – FieldWork Support – Field gear Store	80 kg	5,000 kg (total Cl 3)
Class 3 Flammable Liquid	DG Cabinet (100L)	3	CSH Core – Sample Handling – Palaeontological Prep – Sample Sorting/Prep	80 kg	5,000 kg (total Cl 3)
Class 3 Flammable	DG Cabinet (30L)	3	TAL Teaching & Learning – WET Teaching Prep	25 kg	5,000 kg (total Cl 3)

PRODUCT NAME	TYPE OF STORAGE	CLASS	LOCATION	QUANTITY	SEPP33 THRESHOLD
Liquid			02		
Class 3 Flammable Liquid	DG Cabinet (30L)	3	TAL Teaching & Learning – WET Teaching Prep 01	25 kg	5,000 kg (total CI 3)
TOTAL Class 3 Storage				1,335 kg	5,000 kg (total CI 3)
Class 6.2 Infectious Substances					
Class 6.2 Infectious Substance	Biohazard Cabinet (100 kg)	6.2	RSS Research Shared Support - Negative Pressure_QC2	100 kg	500 kg (total CI 6.2)
Class 6.2 Infectious Substance	Biohazard Cabinet (100 kg)	6.2	RSS Research Shared Support – SSBA Room	100 kg	500 kg (total CI 6.2)
TOTAL Class 6.2 Storage				200 kg	500 kg (total CI 6.2)
Class 8 Corrosive Substances					
Class 8 Corrosive (PGII)	DG Cabinet (250L)	8	RSS Research Shared Support – Tissue Culture	50 kg	25,000kg (total CI 8)
Class 8 Corrosive (PGII)	DG Cabinet (250L)	8	RSS Research Shared Support - Negative Pressure-Ionising Radiation	400 kg	25,000 kg (total CI 8)
Class 8 Corrosive (PGII)	DG Cabinet (250L)	8	RSS Research Shared Support – SSBA Room	400 kg	25,000 kg (total CI 8)
Class 8 Corrosive (PGII)	DG Cabinet (250L)	8	RSS Research Shared Support – Negative Pressure-Chemistry	400 kg	25,000 kg (total CI 8)
Class 8 Corrosive (PGII)	DG Cabinet (250L)	8	RSS Research Shared Support – Equipment Room-Clean/	400 kg	25,000 kg (total CI 8)

PRODUCT NAME	TYPE OF STORAGE	CLASS	LOCATION	QUANTITY	SEPP33 THRESHOLD
			Instruments-Large		
Class 8 Corrosive (PGII)	DG Cabinet (250L)	8	RSS Research Shared Support – Equipment Room-Clean/ Instruments-Large	400 kg	25,000 kg (total CI 8)
Class 8 Corrosive (PGII)	DG Cabinet (120L)	8	PML Precinct – Management Labs – Main Stores	180 kg	25,000 kg (total CI 8)
Class 8 Corrosive (PGII)	DG Cabinet (120L)	8	PML Precinct – Management Labs – Main Stores	180 kg	25,000 kg (total CI 8)
Class 8 Corrosive (PGII)	DG Cabinet (120L)	8	PML Precinct – Management Labs – Main Stores	180 kg	25,000 kg (total CI 8)
Class 8 Corrosive (PGII)	DG Cabinet (30L)	8	CCA Core – Cell Analysis – Preparation Las-Specimen Lab	45 kg	25,000 kg (total CI 8)
Class 8 Corrosive (PGII)	DG Cabinet (30L)	8	CGE Core – Genomics – Pre-Prep Amplification	45 kg	25,000 kg (total CI 8)
Class 8 Corrosive (PGII)	DG Cabinet (30L)	8	CGE Core – Genomics – Prep-Post Amplification	45 kg	25,000 kg (total CI 8)
Class 8 Corrosive (PGII)	DG Cabinet (120L)	8	CSH Core – Sample Handling – Petrological Prep Laboratory	180 kg	25,000 kg (total CI 8)
Class 8 Corrosive (PGII)	Tank	8	CSH Core – Sample Handling – Palaeontological Prep – Acid Baths	2,400 kg	25,000 kg (total CI 8)

PRODUCT NAME	TYPE OF STORAGE	CLASS	LOCATION	QUANTITY	SEPP33 THRESHOLD
Class 8 Corrosive (PGII)	Tank	8	CSH Core – Sample Handling – Palaeontological Prep – Acid Baths	1350 kg	25,000 kg (total CI 8)
Class 8 Corrosive (PGII)	DG Cabinet (100L)	8	CSH Core – Sample Handling – Palaeontological Prep – Sample Sorting/Prep	150 kg	25,000 kg (total CI 8)
Class 8 Corrosive (PGII)	DG Cabinet (30L)	8	TAL Teaching & Learning – WET Teaching Prep 02	45 kg	25,000 kg (total CI 8)
Class 8 Corrosive (PGII)	DG Cabinet (30L)	8	TAL Teaching & Learning – WET Teaching Prep 01	45 kg	25,000 kg (total CI 8)
TOTAL Class 8 Storage				7,255 kg	25,000 kg (total CI 8)
Class 9 Miscellaneous Dangerous Substances					
Lithium Batteries	Battery Charge Area	9	CFS Core – FieldWork Support – Field gear Store	20 kg	Not subject to SEPP 33*
TOTAL Class 9 Storage				20 kg	Not subject to SEPP 33*

* 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.

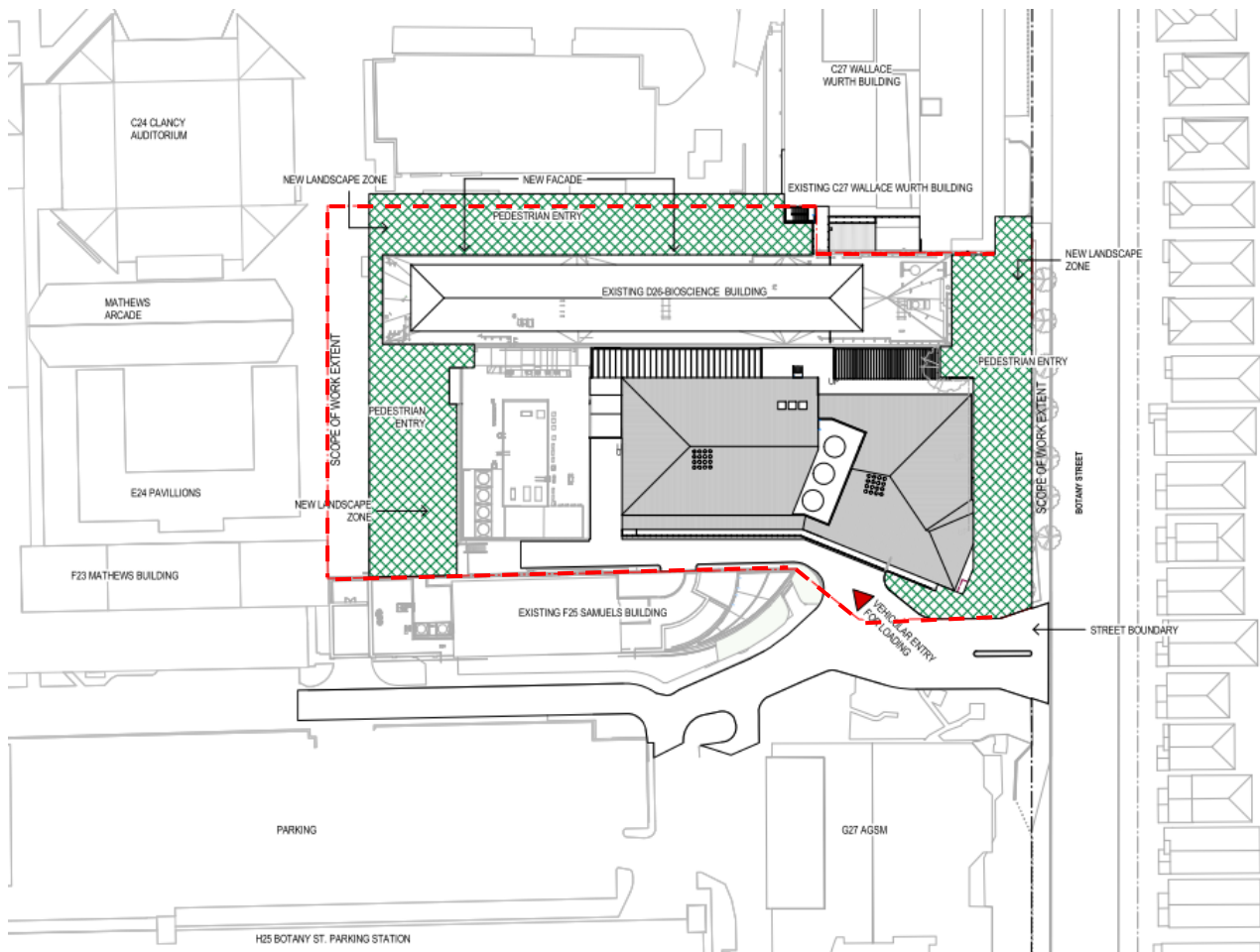


Figure 3-1: The Biological Sciences Project facility

2.2 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 at the Facility are classified as DGs by the ADG; hence, it is subject to the assessment requirements of SEPP 33.

2.3 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 Development Application Guidelines” 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 DPI in the conditions of consent.

Threshold limits for the application of SEPP 33 are presented in **Figure 2-1**. Only 13 kg of Class 2.1 DGs will be stored at the facility which is far less than the 100 kg threshold for SEPP 33 application. A total of 1,335 kg of Class 3 DGs will be stored, which is also less than the 5,000 kg threshold for PG II. 200 kg of Class 6.2, and 7,255 kg of Class 8 DGs will also be stored which is less than their respective thresholds of 500 kg and 25,000 kg. Finally, for Class 2.2 and Class 9 DGs, SEPP 33 does not apply. Hence, SEPP 33 does not apply to the Biological Sciences Project, as all DGs are under the screening threshold, or do not apply.

4. CONCLUSION

A review of the quantities of DGs stored at the proposed UNSW Biological Sciences Project Facility was conducted and compared to the threshold quantities outlined in Applying SEPP 33. The results of this analysis 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.