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Dear Patricia,

NORWEST PRIVATE HOSPITAL PROPOSED EXPANSION – PRELIMINARY RISK SCREENING

1. INTRODUCTION

Cardno (NSW/ACT) Pty Ltd has been commissioned by JohnStaff to prepare a preliminary Risk Screening for inclusion in the Environmental Impact Statement for the Norwest Private Hospital Proposed Expansion. This risk screening has been undertaken in accordance with *State Environmental Planning Policy No. 33 – Hazardous and Offensive Development* (SEPP 33) and *Hazardous and Offensive Development Application Guidelines – Applying SEPP 33* (DOP, 2011a).

2. STATUTORY REQUIREMENTS

State Environmental Planning Policy No 33 – Hazardous and Offensive Development (SEPP 33) aims to ensure that development that is classified as potentially hazardous or offensive is identified and assessed appropriately and that conditions to reduce or minimise any adverse impact are identified.

Development which could potentially pose a significant risk to human health, life or property or the biophysical environment if not managed appropriately, is classified as development for the purposes of a 'potentially hazardous industry' under SEPP 33. In accordance with the *Applying SEPP 33 Guidelines* (DOP 2011a), a Risk Screening (refer **Section 3**) was undertaken to determine if the proposed expansion would be considered 'potentially hazardous'.

The Australian National Transport Commission (NTC, 2011) *Australian Code for the Transport of Dangerous Goods by Road and Rail (*referred to as the "Australian Dangerous Good Code"), provides detailed technical specifications, requirements and recommendations applicable to the transport of dangerous goods in Australia by road and rail. **Table 1** outlines the potentially hazardous materials as defined by the code that are likely to be stored on site.

Results of the risk screening (refer Section 3) determined that the proposed development is potentially hazardous under SEPP 33 and a Preliminary Hazard Analysis (PHA) should be undertaken in accordance with Clause 12 of SEPP 33 and the *Hazardous Industry Planning Advisory Paper No 6 – Hazard Analysis DOP* (2011b).

3. RISK SCREENING

It has been identified that consideration should be made as to whether the proposed activities are considered hazardous or potentially hazardous under SEPP 33. In accordance with the *Applying SEPP 33 Guidelines* (DOP, 2001a), a risk screening for the proposed development has been undertaken which presents the details of the determination as to the classification of the proposed activities under SEPP 33.

The *Applying SEPP 33 Guidelines* (DOP, 2001a) lists five main factors which risk typically depends on:

> The properties of the substance(s) being handled or stored;

> The conditions of storage or use;

> The quantity involved;

> The location with respect to the site boundary; and

> The surrounding land use.

Potentially hazardous materials are defined in the Australian Dangerous Goods Code (NTC, 2011), and may include storage, transport, use or production of hazardous materials associated with activities at the site.

An inventory of potentially hazardous materials proposed for use associated with the proposed activities is provided in **Table 1**. Hazardous materials have been identified based on Norwest Private Hospital's Chemical register (NPH, 2013) and additional medical gases that have been identified by Cardno (2013).

Table 1 Hazardous Materials Inventory and Risk Screening

Hazardous Material	Storage Quantity	Classification	Screening Threshold from Applying SEPP 33 Guidelines
Liquid oxygen	8,500L	Class 2.2 Non-flammable, non-toxic gases	10,000L
Tool gas	***257,000L***	***Class 2.2 Non-flammable, non-toxic gases***	***10,000L***
Carbon dioxide	***33,100L***	***Class 2.2 Non-flammable, non-toxic gases***	***10,000L***
Nitrous oxide	***249,600L***	***Class 2.2 Non-flammable, non-toxic gases Class 5.1 Oxidising substances***	***10,000L***
Cryogenic Fluids	9,900L	N/A	10,000L
10% Buffered Formalin Neutral Solution	50L	Class 9 Miscellaneous dangerous goods and articles	10,000L
Acriflavin Solution	2L	Class 8 Corrosive Substances	500L (PGI), 2,500L (PGII), or 10,000L (PGIII)

Hazardous Material	Storage Quantity	Classification	Screening Threshold from Applying SEPP 33 Guidelines
Aesculap Strilit Oil	1.2L	Class 2.1 Flammable gases	5,000L
Alcohol 70% /isopropyl	16L	N/A	N/A
Brilliant Green Crystal Violet Paint	Unknown*	Class 9 Miscellaneous dangerous goods and articles	10,000L or kg
Chlorhexidine 0.5% in Alcohol 70%	3.5L	Class 3 Flammable Liquids	500L (PGI), 2,500L (PGII), or 10,000L (PGIII)
Chlorhexidine in Alcohol 70%	1.5L	Class 3 Flammable Liquids	500L (PGI), 2,500L (PGII), or 10,000L (PGIII)
Chlorine content DPD 1	Unknown*	N/A	N/A
Dri N Shine	10L	N/A	N/A
Entonox	2400L	Class 2.2 Non-flammable, non-toxic gases	10,000L
Eucalyptus oil	0.6L	Class 3 Flammable Liquids	500L (PGI), 2,500L (PGII), or 10,000L (PGIII)
Finish Power Powder	0.5kg	N/A	N/A
Helium	Unknown*	Class 2.2 Non-flammable, non-toxic gases	10,000L
Hydrogen Peroxide 3%	0.4L	Class 5.1 Oxidising substances	500L (PGI), 2,500L (PGII), or 10,000L (PGIII)
Hydrogen Peroxide B.P.	1L	Class 5.1 Oxidising substances	500L (PGI), 2,500L (PGII), or 10,000L (PGIII)
Hydroperoxide cassette	Unknown*	Class 8 Corrosive Substances	500L (PGI), 2,500L (PGII), or 10,000L (PGIII)
Iodine solution	11L	N/A	N/A
Iodine Tincture	0.3L	N/A	N/A
Iron test solution	Unknown*	N/A	N/A
Isowipe	2kg per ward**	N/A	N/A
Lubrifluid Spraynet	1.5L	N/A	N/A
Leuko Spray Bandage	Unknown*	Class 2.1 Flammable gases	5,000L
M248 wash pack	Unknown*	N/A	N/A
Medical Nitrous Oxide, compressed	7,400L	Class 2.2 Non-flammable, non-toxic gases	10,000L
Medical oxygen, compressed	***20,000L + 2,000L per ward****	***Class 2.2 Non-flammable, non-toxic gases***	***10,000L***
Methylated spirits	0.5L	Class 3 Flammable Liquids	500L (PGI), 2,500L (PGII), or 10,000L (PGIII)
Microshield Antimicrobial Hand Gel	6kg per ward**	Class 3 Flammable Liquids	500kg (PGI), 2,500kg (PGII), or 10,000kg (PGIII)
Microshield handrub	Unknown*	Class 3	500L (PGI),

Hazardous Material	Storage Quantity	Classification	Screening Threshold from Applying SEPP 33 Guidelines
		Flammable Liquids	2,500L (PGII), or 10,000L (PGIII)
Microshield PVP Povidine-Iodine Surgical handwash	22kg	N/A	N/A
Microshield T Triclosan Skin Cleanser	10kg	N/A	N/A
Nail Polish remover	0.1kg per ward**	Class 2.2 Non-flammable, non-toxic gases	10,000L
Phenolphtalein solution	Unknown*	Class 2.1 Flammable gases	5,000L
Phisohex	1.4L	N/A	N/A
Pridet	Unknown*	Class 8 Corrosive Substances	500L (PGI), 2,500L (PGII), or 10,000L (PGIII)
Prolystica 2x concentrate Enzymatic Detergent	50L	Class 8 Corrosive Substances	500L (PGI), 2,500L (PGII), or 10,000L (PGIII)
Prolystica 2x concentrate alkaline Detergent	40L	Class 8 Corrosive Substances	500L (PGI), 2,500L (PGII), or 10,000L (PGIII)
Prowipe		N/A	N/A
Sevoflurane	6L	Class 9 Miscellaneous dangerous goods and articles	10,000L
Soda Lime	10kg	Class 8 Corrosive Substances	500kg (PGI), 2,500kg (PGII), or 10,000kg (PGIII)
Soluscope C Sodium Hypochorite	Unknown*	Class 8 Corrosive Substances	500L (PGI), 2,500L (PGII), or 10,000L (PGIII)
Soluscope D Glutaraldehyde	Unknown*	Class 8 Corrosive Substances	500L (PGI), 2,500L (PGII), or 10,000L (PGIII)
Soluscope L	Unknown*	Class 3 Flammable Liquids	500L (PGI), 2,500L (PGII), or 10,000L (PGIII)
Soluscope E Ethanediol 1:2	Unknown*	N/A	N/A
Soluscope S	Unknown*	N/A	N/A
Sterrad Cassettes	2kg	Class 8 Corrosive Substances	500kg (PGI), 2,500kg (PGII), or 10,000kg (PGIII)
Suprane	9L	Class 9 Miscellaneous dangerous goods and articles	10,000L
Tuffle 5 Wipes	4kg per ward**	N/A	N/A
Universal Indicator		Class 3 Flammable Liquids	500L (PGI), 2,500L (PGII), or 10,000L (PGIII)
Vaprox HC Hydrogen Peroxide Sterilent	6L	Class 8 Corrosive Substances	500kg (PGI), 2,500kg (PGII), or 10,000kg (PGIII)
Wash Reagent	Unknown*	N/A	N/A
Wash hardness buffer	Unknown*	Class 8	500kg (PGI),

Hazardous Material	Storage Quantity	Classification	Screening Threshold from Applying SEPP 33 Guidelines
		Corrosive Substances	2,500kg (PGII), or 10,000kg (PGIII)
Wash hardness indicator	Unknown*	Class 3 Flammable Liquids	500L (PGI), 2,500L (PGII), or 10,000L (PGIII)
Webcol Skin Prep	Unknown*	N/A	N/A
Zoff	0.2L + 0.1L per ward**	Class 3 Flammable Liquids	500L (PGI), 2,500L (PGII), or 10,000L (PGIII)

** Storage quantities have not been provided for these materials.*
***The number of wards has not been provided, therefore total quantities are not defined.*
PG – Packing Group

The proposed expansion may also be potentially hazardous if the number of generated traffic movements (for significant quantities of hazardous materials entering or leaving the site) is above the cumulative annual or peak weekly vehicle movements outlines in *Applying SEPP 33 Guidelines*. Screening thresholds for the transport of hazardous materials to the sites is provided in **Table 2**.

Table 2 Hazardous Materials Transport to the Project Site

Classification	Screening Threshold from Applying SEPP 33 Guidelines
Class 2.1 Flammable gases	>500 vehicle movements per annum (cumulative) for significant quantities (>2T per load-bulk)
Class 2.2 Non-flammable, non-toxic gases	>500 vehicle movements per annum (cumulative) for significant quantities (>2T per load-bulk)
Class 3 Flammable Liquids	>500 vehicle movements per annum (cumulative) for significant quantities (>2T per load-bulk)
Class 5.1 Oxidising substances	>500 vehicle movements per annum (cumulative) for significant quantities (>2T per load-bulk)
Class 8 Corrosive Substances	>500 vehicle movements per annum (cumulative) for significant quantities (>2T per load-bulk)
Class 9 Miscellaneous dangerous goods and articles	>1000 vehicle movements per annum (cumulative)

An assessment of the vehicle movements associated with the transport of hazardous substances to the site should be undertaken in order to identify if the screening thresholds would be exceeded. A route evaluation study does not need to be completed for the proposed development.

4. CONCLUSION

Results of the risk screening in **Table 1** identifies that the screening thresholds for the following hazardous materials would be exceeded:

> Tool gas;

> Carbon dioxide;

> Nitrous oxide; and

> Medical oxygen, compressed.

The quantities of tool gas, carbon dioxide, nitrous oxide and medical oxygen (compressed) that are proposed to be stored are above the SEPP 33 screening thresholds. As such, the proposed developed should be considered as potentially hazardous and SEPP 33 will apply and a Preliminary Hazard Analysis should be

undertaken to ensure risks are managed to protect human health, life, property and the biophysical environment.

An assessment of the number of vehicle movements associated with the transportation of the hazardous substances to the site should also be undertaken.

Yours faithfully,

Belinda Crichton
Senior Environmental Scientist
for **Cardno (NSW/ACT) Pty Ltd**

REFERENCES

Cardno (2013) Current and Additional Quantities of Medical Gases. Prepared for JohnStaff.

DOP (2011a) *Hazardous and Offensive Development Application Guidelines – Applying SEPP 33*. NSW Department of Planning, Sydney. January 2011.

DOP (2011b) *Hazardous Industry Planning Advisory Paper No 6 – Hazard Analysis*. NSW Department of Planning, Sydney. January 2011.

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