Memorandum

ARUP

To	Shane McLoughlin	Date	22 February 2021
Copies	Mairead Hogan Michael D'Souza Amber Greenhalgh	Reference number	278548
From	Nigel Cann	File reference	
Subject	UNSW HTH Dangerous Goods SEPP 33 rev 03		

1 Introduction and Description of Proposed Development

This report supports a State Significant Development Application (SSDA) for the proposed UNSW Health Translation Hub (UNSW HTH) at the Randwick Hospitals Campus (RHC), which is submitted to the Department of Planning, Industry and Environment (DPIE) pursuant to Part 4 of the *Environmental Planning and Assessment Act 1979* (the Act). Health Infrastructure on behalf of Health Administration Corporation (HAC) is the applicant for the UNSW HTH, which will be delivered with the University of New South Wales (UNSW).

The UNSW HTH forms an extension of the existing and proposed hospital facilities at the RHC, providing a specialist health-related research and education facility on the Campus.

1.1 Description of Proposed Development

The SSDA seeks approval for:

- Relevant site preparation, excavation and enabling works.
- Construction and use of a new, 15-storey (RL 124.80) building and link bridge accommodating research and education uses, comprising:
  - One basement level; and
  - A total GFA of 35,600 square metres (sqm), including health-related research, education and administrative floor space.
  - Pedestrian link bridges connecting the UNSW Kensington campus to the Randwick Hospitals Campus, via the Wallace Wurth building to the UNSW HTH and through to the Sydney Children's Hospital and Children's Comprehensive Cancer Centre (SCH Stage 1 and CCCC)

- Landscaping and public domain works, including the creation of over 2,500 sqm of new publicly accessible open space within the eastern portion of the site, sitting between the UNSW HTH and the SCH Stage 1 and CCCC redevelopment.
- Services and utilities augmentation as required.

1.2 Operation and Function of the UNSW HTH

The UNSW HTH will be an expansion of the RHC to accommodate new health related education, research, and administrative facilities. It will include:

- Purpose-built spaces for health educators and researchers to work alongside clinicians.
- Floor plates for health translation research focused work with physical connections to the SCH Stage1 and the CCCC and wider Randwick Hospitals Campus.
- Dedicated facilities for the CCCC directly linking the UNSW HTH with the SCH Stage 1 and the CCCC.
- An education hub, including education and training rooms allowing hospital staff to educate and train UNSW medical students.
- Facilities for education, training, research, seminars and industry events.
- Clinical schools for the Women's and Children's Health, Psychiatry and Prince of Wales Hospital.
- Ambulatory care clinics including in neurosciences, public and population health.
- Supporting facilities including retail premises.

2 Site Description and Location

The site is located approximately 6 kilometres (km) from the Sydney Central Business District (CBD), within the Randwick Local Government Area (LGA). It is located approximately 4km from Sydney Airport. Figure 1 provides a regional context map of the site showing its location in relation to the Sydney CBD and surrounding centres.

This block sits in between the existing Randwick Hospitals Campus and the UNSW Kensington Campus, and directly adjacent to the CBD and South East Light Rail service which runs along High Street (Figure 2). The site of the proposed UNSW HTH has an area of 8,897 sqm.

The UNSW HTH site has been cleared and is devoid of any development or vegetation. It has been subject to some site preparation and early works associated with the broader development of the block. Adjacent to the site, along the High Street and Botany Road frontages, runs a 6-metre (m) wide stormwater and sewage easement.

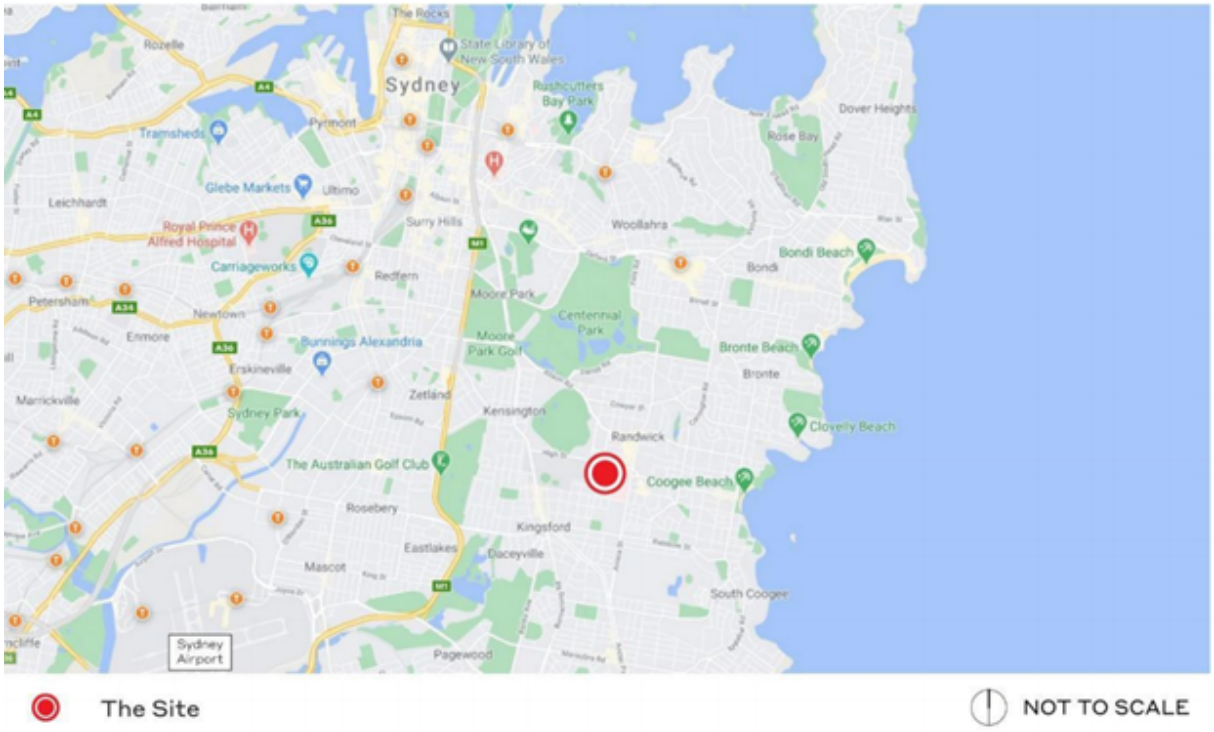

Figure 1 Site context
Source: Google maps and Ethos Urban

Figure 2 Site aerial
Source: Nearmaps and Ethos Urban

3 Secretary's Environmental Assessment Requirements

DPIE has issued Secretary's Environmental Assessment Requirements (SEARs) for the proposed development. This report has been prepared having regard to the relevant SEARs as follows:

SEAR	Comment / Reference

• Provide:
  • a preliminary risk screening regarding all dangerous goods and hazardous materials associated with the development
  • a preliminary hazard analysis, if required.
	Sections 4, 5 and 6 of this memorandum contain information on the SEPP 33 assessment and the maximum allowable quantities of Dangerous Goods. The full SEPP 33 screening assessment has not been considered necessary for the UNSW HTH.

4 SEPP 33

State Environmental Planning Policy No. 33 Hazardous and Offensive Development (SEPP 33) is used in New South Wales to regulate the planning approval process for developments in hazardous and offensive industries, and potentially hazardous and potentially offensive industries. The SEPP 33 process is shown in Figure 3.

A key part of the SEPP 33 process is the preliminary hazard analysis (PHA). If the development application includes dangerous goods (DGs) with quantities or transport frequencies above defined thresholds, a PHA must be performed as part of the SEPP 33 process.

This report assesses the maximum allowable quantities of different classes of DGs for the UNSW HTH under the SEPP 33 guidelines to remain below the threshold of requiring a PHA.

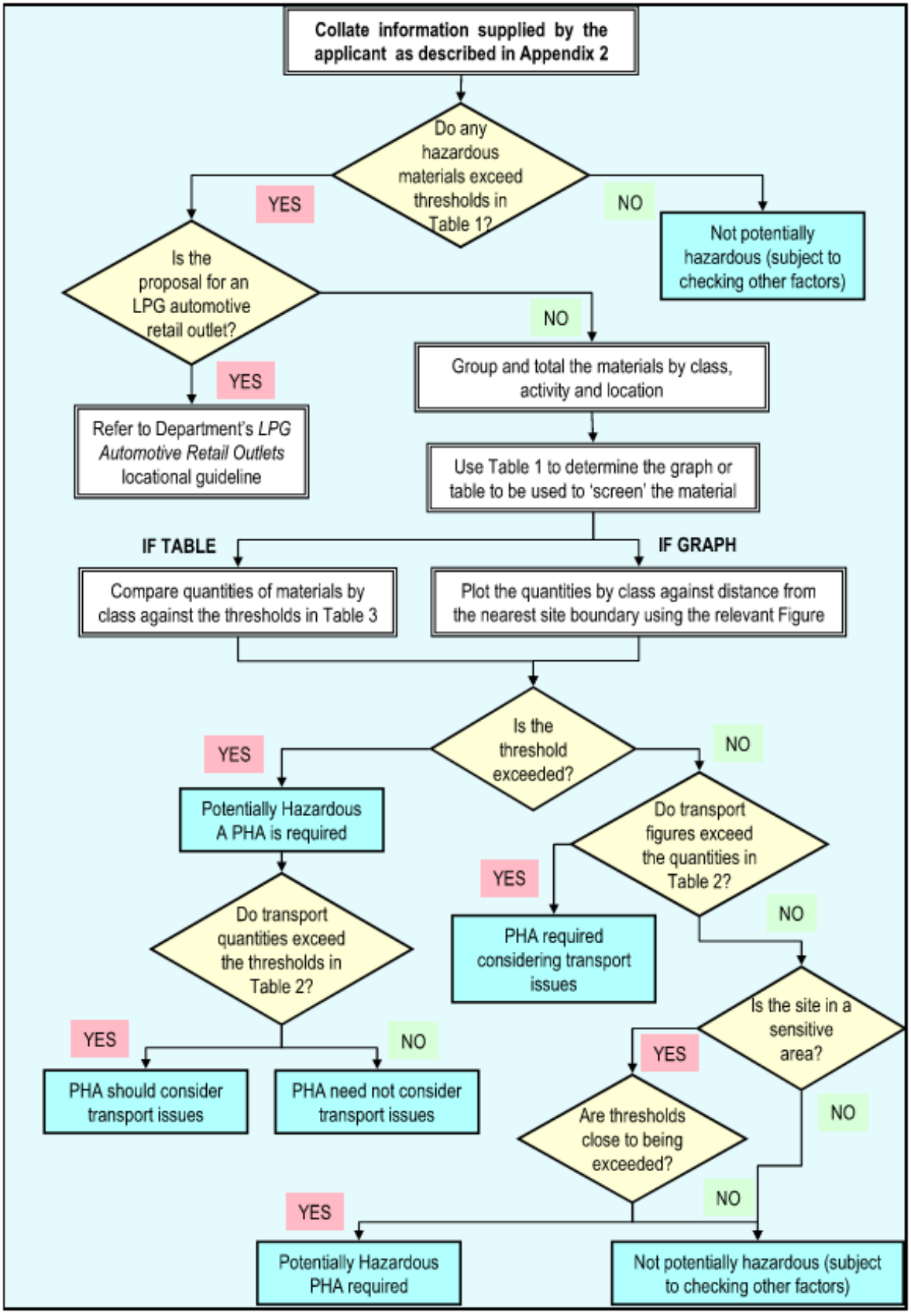

Figure 3 SEPP 33 Screening Procedure

5 Maximum Allowable Quantities

The following table gives the maximum allowable quantity for different DG classes under the SEPP 33 guidelines to remain below the threshold of requiring a PHA, and some examples of substances that are classified under each class.

Table 1 SEPP 33 limits for DG classes

DG Class	Classification	Example Substances	Maximum Quantity
1.2	Explosives	Explosives	5 t
1.3			10 t
2.1	Flammable gases	LPG	10 t – stored above ground
			40 t – stored underground or mounded
2.3	Toxic gases	Chlorine	5 t – anhydrous ammonia
			1 t – chlorine and sulfur dioxide stored as liquefied gas in containers <100 kg
			2.5 t – chlorine and sulfur dioxide stored as liquefied gas in containers >100 kg
			100 kg – liquefied gas kept in or on premises and other poisonous gases
4.1	Flammable solids	Sulfur	5 t
4.2	Substances liable to spontaneous combustion	Activated carbon	1 t
4.3	Substances which in contact with water emit flammable gases	Sodium	1 t
5.1	Oxidising substances	Potassium Nitrate	5 t unless dry pool chlorine
5.2	Organic peroxides	Organic peroxide	10 t
6.1	Toxic substances	Arsenic	0.5 t – packing group I
			2.5 t – packing groups II and III
6.2	Infectious substances	Clinical waste	0.5 t
7	Radioactive material	Radioactive material	All
8	Corrosive substances	Hydrochloric acid	5 t – packing group I
			25 t – packing group II
			50 t – packing group III

It should be noted that Class 2.1 DGs excluding LPG and Class 3 DGs (flammable liquids) are not included in this screening, but maximum allowable quantities are instead determined by the distance to the site boundary. The figures below show the relation between maximum allowable quantities and distances to the site boundary for these excluded classes.

Further, it should be noted that a subsidiary class may also be assigned to various dangerous goods and these also need to be considered. In the context of the UNSW HTH, the most significant items to consider are oxygen and nitrous oxide, both which are class 2.2 with a class 5.1 subsidiary risk.

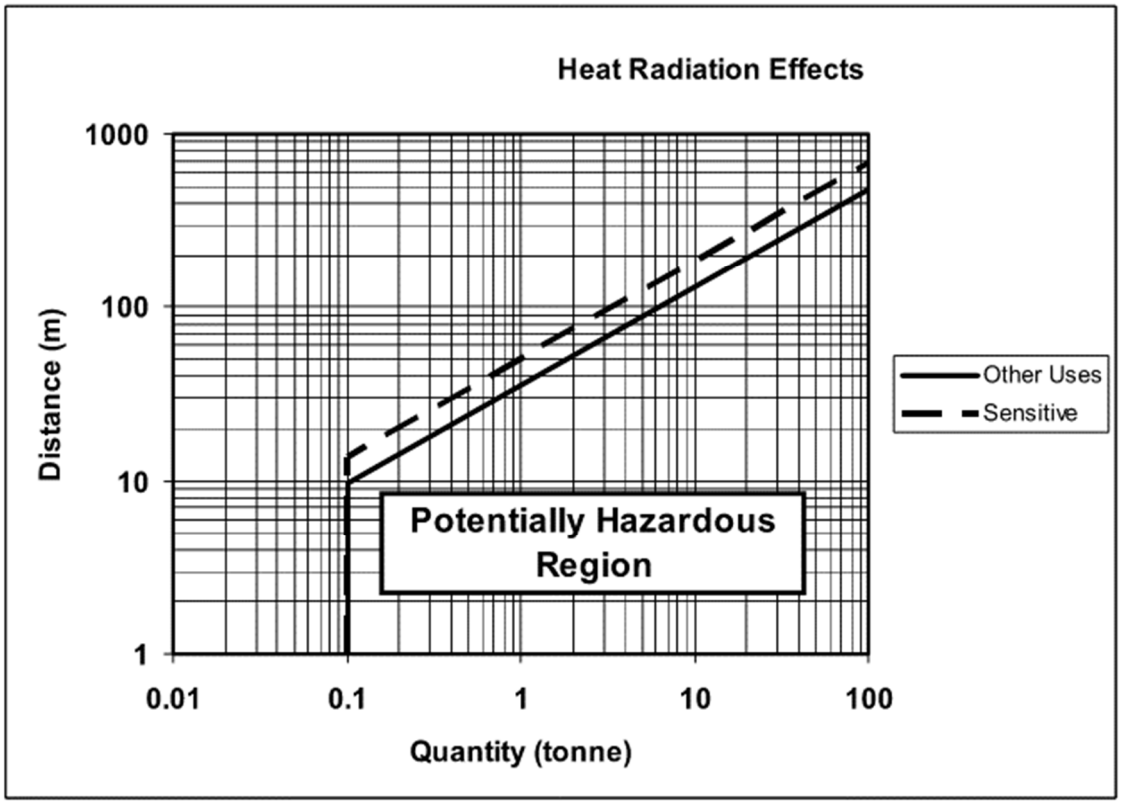

Figure 4 Class 2.1 Flammable Gases Pressurised (Excluding LPG)

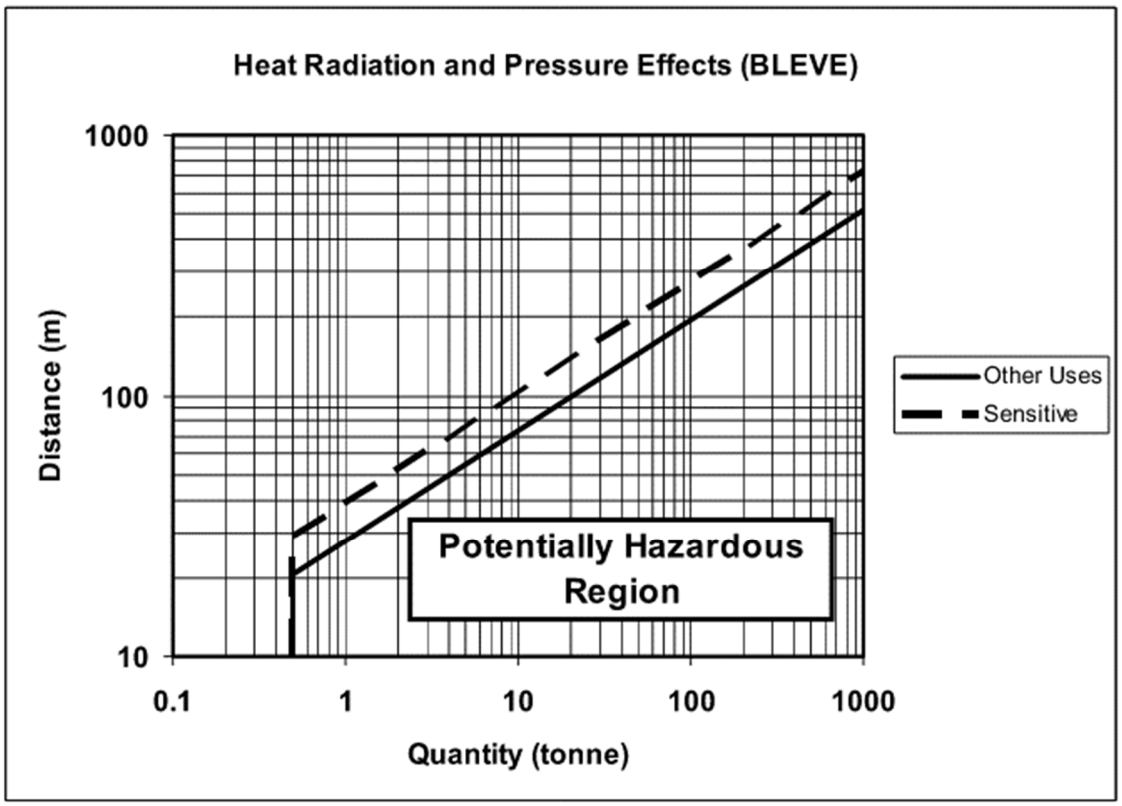

Figure 5 Class 2.1 Flammable Gases Liquefied Under Pressure (Excluding LPG)

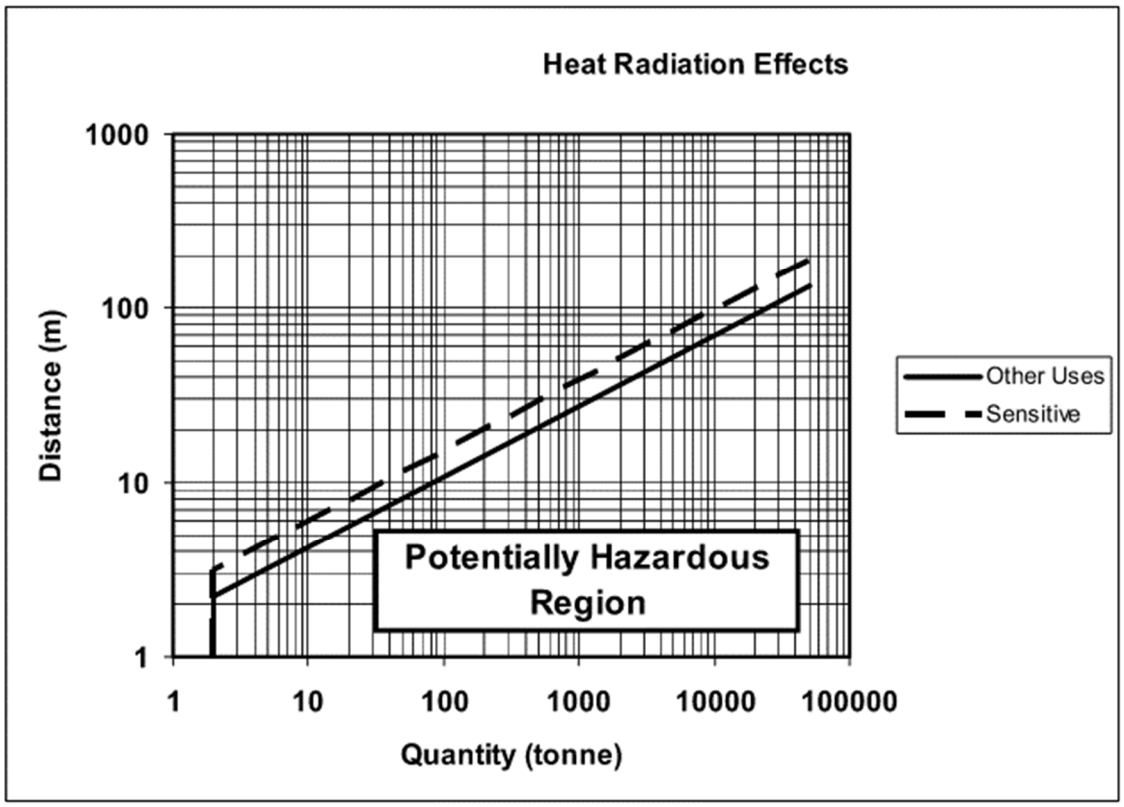

Figure 6 Class 3 Packing Group I Flammable Liquids

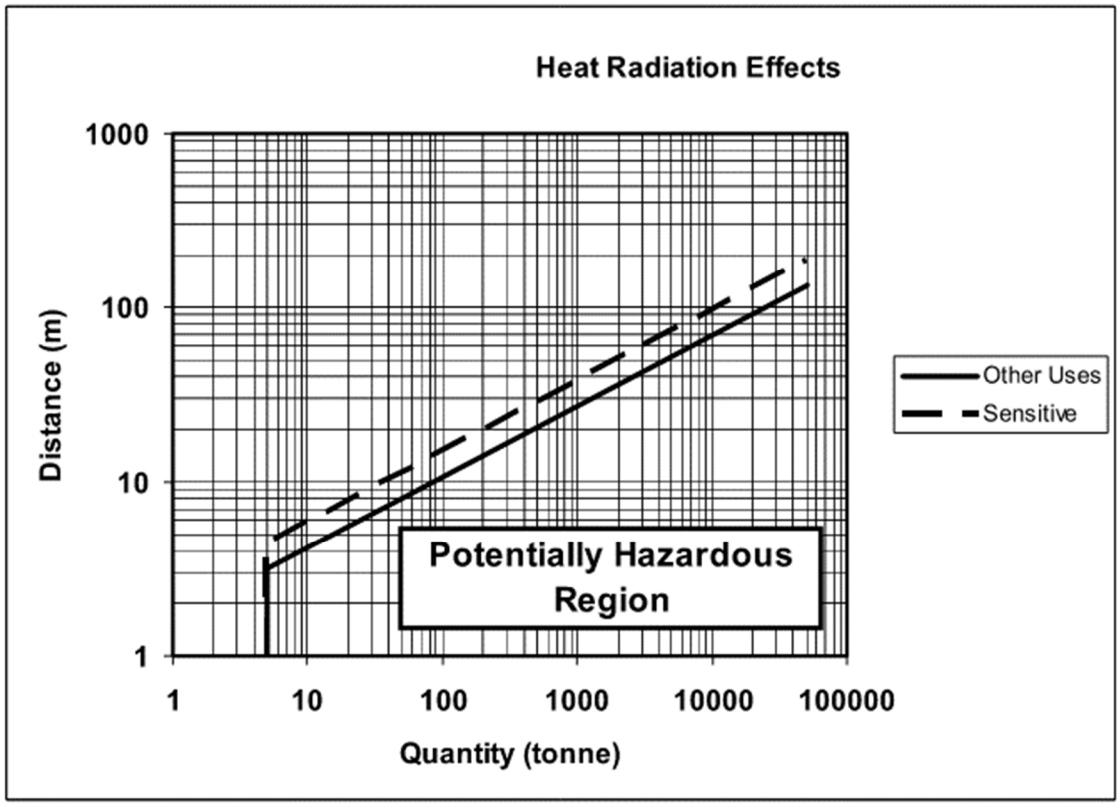

Figure 7 Class 3 Packing Group II and III Flammable Liquids

6 Conclusion

The quantities of DGs stored in the UNSW HTH are expected to be far below the quantities stated above as thresholds under SEPP 33. Therefore SEPP 33 does not apply, and a Preliminary Hazard Analysis is not required. If the quantities of DGs stored at the UNSW HTH start to approach the limits in Table 1 and Figure 4-Figure 7, the SEPP 33 screening process described in Figure 3 should be carried out.