Prince of Wales Hospital (NCCC & AATC) – Stage 2

PRELIMINARY HAZARD ANALYSIS

- 11th October, 2013

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1. Introduction

1.1. Background

Health Infrastructure NSW (HI NSW) propose a new Australian Cancer Centre and Advanced Treatment Centre within the precinct of the Prince of Wales Hospital.

The new facility known as the 'Nelune Comprehensive Cancer Centre and Australian Advanced Treatment Centre – Stage 2 ' (Hereafter, known as the NCCC & AATC) will provide a contemporary and flexible setting for the delivery of tertiary level ambulatory cancer care and blood disorders services. Paediatric patients will attend the Centre for radiotherapy as part of their treatment, and will be seen in clinic as new patients and as follow ups.

The new NCCC & AATC will proceed in two stages.

Stage 1 - involves the establishment of a new Radiotherapy / Oncology department on Level 0 and associated links to existing buildings. The below grade Level 0 accommodation (linked to existing Building 3) includes four (4) bunkers along the north eastern site line (Avoca St frontage). Three bunkers will be fitted out with linear accelerator (Linac) machines (2 new and 1 existing). The fourth bunker will house a research Linac machine, this machine will provide for machine replacements over time and capacity for new technologies to be introduced easily in the future.

Stage 2 involves the demolition, excavation and construction of the remainder of Level 0, and the construction of a nine (9) storey building plus roof plant level above.

In order to assess the implications of the storage and handling of dangerous goods and hazardous substances the NSW DoPI, as part of the Director Generals requirements for the Prince of Wales NCCC Stage 2, require that a Preliminary Hazard Analysis (PHA) be prepared as part of the overall environmental assessment for the proposal.

Thinc Health on behalf of Health Infrastructure has commissioned Sinclair knight Merz (SKM) to prepare and document the PHA. The PHA was prepared in accordance with SEPP 33 and Hazardous Industry Planning Advisory Paper (HIPAP) No. 6 - Hazard Analysis Guidelines (Reference 1).

This PHA report details the objectives, scope of work, methodology and project management for the preliminary risk assessment for NCCC & AATC Stage 2 works only. A separate PHA was provided for the Stage 1 works in March, 2012 (Reference 12)

1.2. Objectives

To prepare a PHA study of the proposed NCCC & AATC Stage 2, in accordance with the requirements of SEPP 33 and (HIPAP) No.6.

The objectives of the study are to:

- Assess the risks associated with the expansion of the POWH in respect of dangerous goods and hazardous materials storage and handling
- Determine whether the risks exceed the accepted risk criteria; and
- Report on the findings of the study in respect of any land use safety implications.

1.3. Scope of Work

The scope of work for the PHA report covers those issues raised in DGR 12, specifically;

- An assessment against SEPP 33- Hazardous and Offensive Development;
- A description of the proposed storage, use and management of any hazardous material and measures to be implemented to manage hazards and risks associated with the storage;
- Implementation of safety precautions for the storage of equipment and associated radiation hazards related to medical imaging, including x-rays, nuclear scans and radiation oncology.
- A Waste and Hazardous Materials Management Plan (this report can incorporate DGR 10 as appropriate / relevant.)
- Hospital current procedure on Hazardous Materials;
- SEPP 33 must be addressed to see if it is relevant in relation to the storage or use of hazardous materials (chemical and biological hazards). SEPP 33 requires the process of screening methods, based on the quantities of dangerous goods on site. If there is no impact / increase use or storage of hazardous materials, the report must conclude this.

This PHA report covers the risk implications of the storage and handling of dangerous goods, cytotoxic wastes, and radioactive materials used or generated by Stage 2 only.

Stage 1 covered the establishment of a new Radiotherapy / Oncology department on Level 0 and associated links to existing buildings.

Stage 2 works covers building works the NCCC & AATC Stage 2, and comprises an extension Stage 1 Radiology Oncology at L0, new office accommodation at L1 new accommodation on L2 Meet+ Greet and Consulting Suite, L3 Consulting Suite, L4 Ambulatory Care, L5 AATC Outpatients, L6 AATC Inpatients, L7-L9 Shelled space and Roof Plant Room. Courtyards are provided at Level 0 and Level 2 for the amenity of patients and staff. The entry to the facility incorporates an integrated landscaped forecourt including patient drop off area.

2. Project Description

2.1. Site Description

The NCCC & AATC facility Stage 2 will be located within the hospital precinct, and adjacent to the existing Radiation oncology building at the corner of High and Avoca Streets, Randwick, as shown in Figure 1.

The surrounding area is characterised by commercial facilities and residential as follows:

- **West** and **South** – POWH precinct;
- **East** – parkland and commercial development across Avoca Street; **and**
- **North** – primarily commercial and residential development across High St

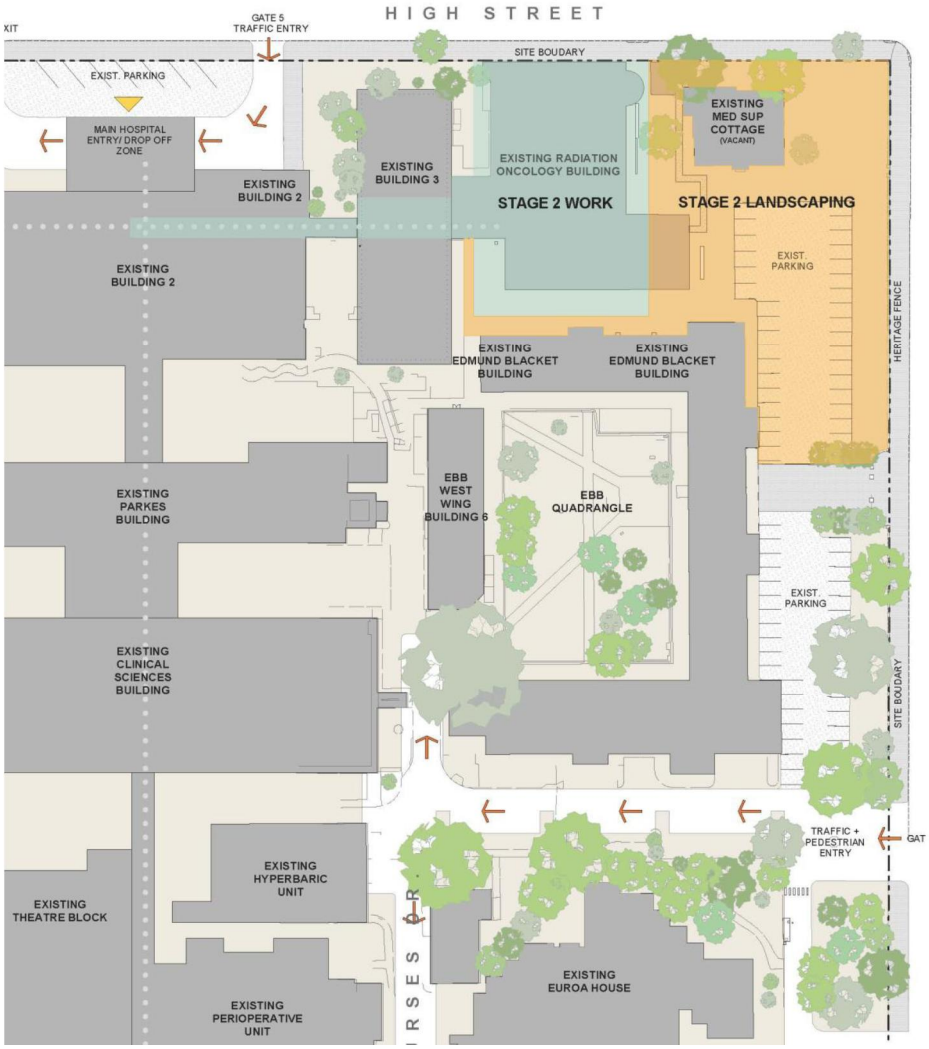

Figure 1 – Site Layout – NCCC & AATC - Stage 2

2.2. Schedule of Works – Stage 2

Stage 1 works involves the establishment of a new Radiotherapy / Oncology department (on a like for like basis, i.e. the proposed development replaces the existing oncology radiotherapy operations) on level 0 and links to existing buildings. It is intended to complete stage 1 works prior to commencing stage 2. These works were covered by a separate PHA (Reference 12).

Stage 2 Works include the balance of the project to provide a 9 storey facility to accommodate the briefed functional clusters i.e. Radiation Oncology (extension of Stage 1), Offices, Entry/Meet + Greet, Consulting Suites, Ambulatory Care, and AATC.

The Stage 2 works comprise;

- Level 0 extensions to Radiology Oncology (but not including additional Linear Accelerator Machines (LAM's) – this are covered in Stage 1. Note: Stage 1 covers radioactive sources and wastes),
- Level 1 Offices accommodation,
- Level 2 Main Entry/Meet+ Greet and Consulting Suite,
- Level 3 Consulting Suites,
- Level 4 Ambulatory Care,
- Level 5 AATC Outpatients and
- Level 6 AATC Inpatients,

Levels 7-9 contain the shell & core (shelled space) and Roof Plant Rooms.

Courtyards are provided at Levels 0 and 2 for patients and staff. The roof of Stage 1 will be developed as the forecourt plaza to the facility, featuring soft and hard landscaping , including a vehicular arrival point (drop off and pick up) for the new facility which will re-establish limited on-grade hospital parking accessed via the existing Gate 6 (Avoca Street entry).

These works are depicted in isometric view, refer Figure 2.

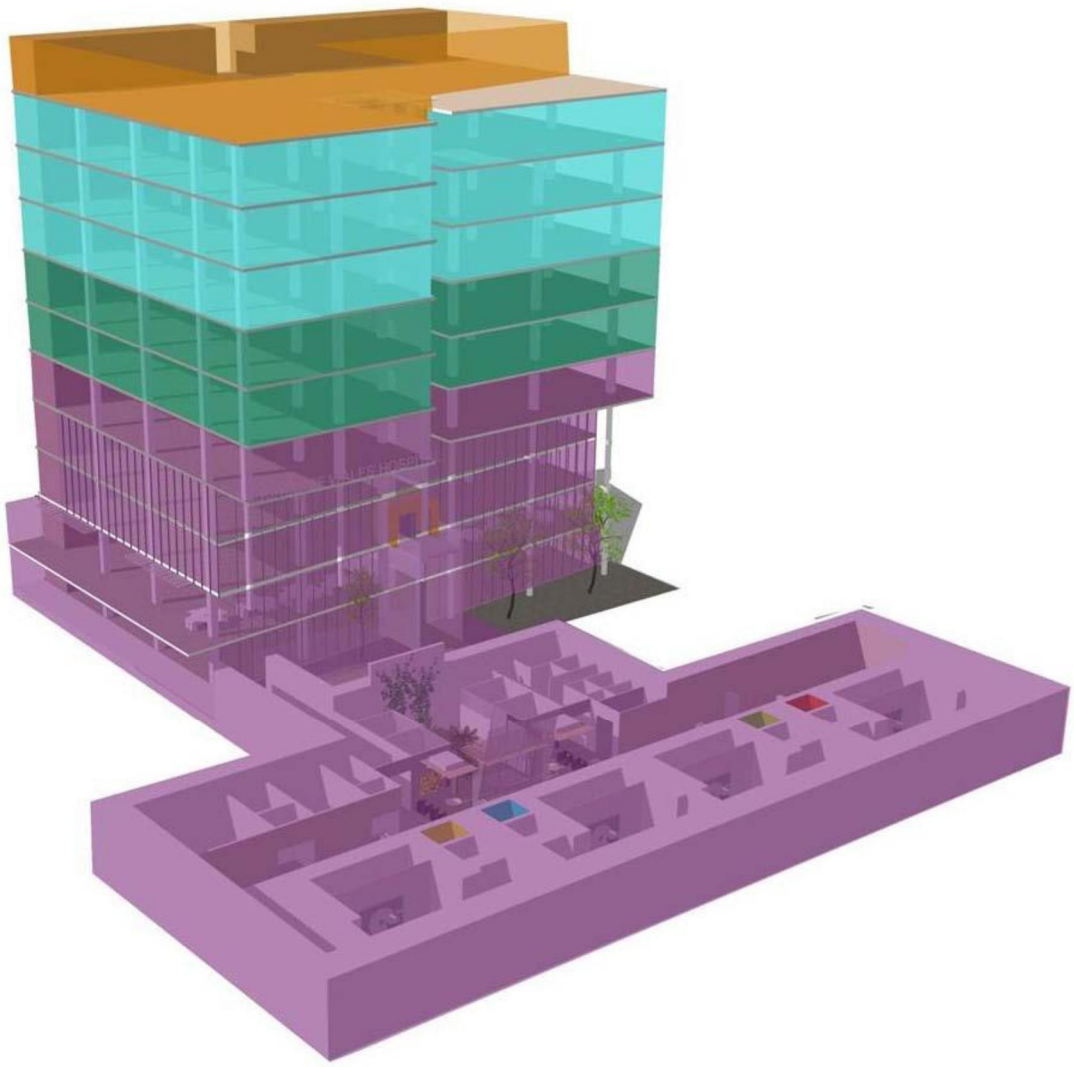

Figure 2 – Isometric View; POWH – NCCC & AATC - Stage 2

2.3. Description of Clinical Waste arrangements at the new NCCC & AATC

The following waste streams will be generated and waste receptacles accommodated together with Service agreements for waste disposal in accordance with environmental and safety standards:

- General waste – Paper, plastics. Small at bench/ basin receptacles and larger general waste bin (240L SULO required), and will include recycling capabilities (paper, plastic etc.) as well as secure destruction.
- Clinical waste – Small Clinical waste bins will be located in all dirty utilities throughout the building (overall dimensions: 41 x 37 x 84cm high).
- Linen skip – Linen skips will be required on every level of the building except level 1. Examples of requirements are;
    - entry/exit to lab for used Lab gowns (AATC),
    - consulting rooms post-patient biopsies (level 3 and level 0),
    - incontinence /post vomit event (level 4).

    Note: Linen skips will also be located in the inpatient area near bathrooms (AATC).

- Chemical waste – liquids to be collected and stored in containers for collection
- Cytotoxic waste – stored and disposed of appropriately
- Sharps waste – proprietary sharps bins (cytotoxic and non-cytotoxic)
- Biopsies – refer Clinical waste
- Radioactive waste

General waste will be bagged in accordance with Infection Control Universal Precautions and held in green 240 L SULO bins in Disposal rooms awaiting collection by POWH & AATC Clinical staff.

Clinical Waste includes;

- Sharps
- Human tissue waste
- Bulk body fluids and blood
- Disposable material and equipment heavily soiled with or containing blood
- Laboratory specimens and cultures.

Clinical waste will be bagged and sharps contained, clearly identified by yellow colour coding in accordance with POWH precautions and the Australia Health Facilities Guidelines (AHFG) and Infection Control Universal Precautions, and held in a secure area (disposal room) until collected by POWH & AATC staff.

Cytotoxic waste will be bagged and cytotoxic sharps contained in a mobile waste bin clearly identified by purple colour coding in accordance with POWH and WorkCover guidelines for the management of Cytotoxic substances. Cytotoxic waste will be transported via purple mobile waste

bins and held in a secure area awaiting collection by POWH & AATC staff and off-site disposal, further any cytotoxic wastes will be managed in accordance with:

- POWH Cytotoxic Medication Administration and Handling Business Rules.
- Workcover NSW, Cytotoxic Drugs and related waste risk management guide 2008.
- Randwick Hospitals Campus - Critical Operations Standing Operating Procedures (COSOPs).

The frequency of waste collection by POWH & AATC cleaning staff will be reviewed regularly. The waste arrangements will extend to the Lab and IP suite areas.

2.4. Dangerous Goods Storage and Transport Arrangements

In relation to the SEPP 33 Storage and Transportation Threshold Assessment, the following information has been provided by the POWH, AATC/ UNSW and Thinc Health.

2.4.1. Proposed Dangerous Goods Storage;

Table 1 lists the quantities of dangerous goods and clinical wastes which would be generated, stored or transported at the NCCC & AATC Stage 2. Note that the labs and IP suites will store small amounts or minor amounts of dangerous goods, the quantity of which would generally be at or below NSW Workcover minor storage quantities.
These dangerous goods include;

- Ethanol 70% 4-6 litres
- Concentrated HCL acid 37.5%. 1 – 2 litres
- Sodium hydroxide (pellets)
- Sulphuric acid – 1 -2 litres (lab only)
- Nirogen will be supplied from a cylinder and reticulated (lab only)

Material	DG Class	Qty (t)	NSW DoPI Thres Qty	Vehicle Move Per Annum	Conclusion / Action
Class 6.2 Clinical Wastes	6.2	0.5	0.5	20	Not considered potentially hazardous given controls. Refer to NSW DoPI for comment.
Class 7 Radioactive Wastes	7		Any	Any	Not considered potentially hazardous given controls. Refer to NSW DoPI for comment.
Note: Truck movements associated with clinical waste removal are subject to stringent POWH and UNSW regulations and protocols.					

Table 1 - Dangerous Goods Storage quantities proposed at the NCCC & AATC Stage 2

2.5. SEPP 33 Screening Findings

The Director-General's Requirements for the proposed NCCC & AATC Stage 2 require consideration of SEPP 33 - Hazardous and Offensive Development. In order to address the requirements of SEPP 33, a SEPP 33 screening analysis was undertaken to Confirm whether or not the project falls under the definition of "potentially hazardous industry" under SEPP 33 - Hazardous and Offensive Development, which is as follows:

> *"Potentially hazardous industry" means a development for the purposes of any industry which, if the development were to operate without employing any measures (including, for example, isolation from existing or likely future development on other land) to reduce or minimise its impact in the locality or on the existing or likely future development on other land, would pose a significant risk in relation to the locality:*
>
> *(a) to human health, life or property, or (b) to the biophysical environment, and includes a hazardous industry and a hazardous storage establishment."*

The types, quantities and storage of dangerous goods and wastes provided in table 1 are compared against the General Screening Threshold Quantities provided in Table 2, and 3. As a result, and erring on the conservative, a PHA is required due to the quantity of Class 6.2 clinical waste stored and transported, and any quantity of Class 7 Radioactive material associated with the Stage 1 or 2 operations in accordance with the NSW DoPI class definitions as follows;

Class 6.2 — infectious substances, includes clinical wastes: substances containing viable micro-organisms including a bacterium, virus, rickettsia, parasite, fungus, or a recombinant, hybrid or mutant, that are known or reasonably believed to cause disease in humans or animals. Example: vaccines, pathology specimens.

Class 7 – Radioactive Substances - covers radioactive substances which are adequately covered by national regulations and guidelines. The consent authority may wish to require details of compliance.

The clinical waste storage provided within Stage 2 may exceed 0.5 tonnes, with up to 20 vehicle movements of clinical waste per annum envisaged. Therefore a PHA is required under SEPP 33 to demonstrate compliance with Australian codes and Health requirements. Further, Clause 12 of SEPP 33 requires the PHA to be prepared in accordance with the "Hazardous Industry Planning Advisory Paper No. 6 - Hazard Analysis".

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 or16 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

Table 2 – General Screening Threshold Quantities

Note: The classes used in the table are referred to in the Australian Dangerous Goods Code.

	Vehicle Movements		Minimum quantity* per load (tonne)	
	Cumulative	Peak		
Class	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	

Note: *Where proposals include materials of class 1, 6.2 or 7, the Department of Planning should be contacted for advice. Classes used are those referred to in the Dangerous Goods Code and are explained in Appendix 7.*

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

Table 3 – Transportation Screening Thresholds

3. Risk Analysis Methodology

The methodology proposed for assessment of the risks is that prescribed in HIPAP No.6, Guidelines for Hazard Analysis (1992), published by the NSW Department for Planning and Infrastructure (NSW DoPI) (Reference 1).

Essentially the study will follow the requirements for a Level 1 Preliminary Risk Assessment, and provide a qualitative assessment of the proposed handling and storage of dangerous goods and hazardous materials. This analysis then only covers the class 6.2 – Clinical and Bio-hazardous wastes generated by the NCCC & AATC (as determined by the SEPP 33 screening analysis), and that radioactive devices are built and operated to Australian Standards.

For this study SKM's risk based approach was adopted to establish existing risk levels, compare these with relevant risk criteria, and recommend risk reduction measures where risk levels are found to be excessive. SKM utilise a 5x 5 risk matrix to identify and assess risks.

The SKM risk assessment process adopted for this study follows the Australian Standard AS / NZS ISO 31000: 2009 "Risk Management – Principles and Guidelines". The process adopted is depicted in Figure 2– Risk Assessment Methodology.

The methodology proposed for use is as follows:

- **Establishing the context –** Information was supplied by Thinc Architects and NSW Health in respect of the nature and quantity of dangerous goods, particularly clinical wastes stored and transported to and from the NCCC & AATC.
- **Risk Identification -** An important stage of any Risk Assessment is to systematically and comprehensively identify potential hazards or risks associated with operation of the facility. This can be done via a range of tools and techniques. For this study a desktop review utilising the brainstorming technique was carried out by a small team of SKM personnel. Discussions included reference to the findings of the site survey and were recorded using a tabular format.
- **Risk Analysis** – The hazards associated with the storage and handling of dangerous goods and hazardous materials (small quantities of biological or cyctotoxic wastes , and radioactive sources) will be identified and qualitatively assessed using SKM's Risk Analysis Procedure [Ref. 11] using (an initial list as prepared by HI is provided in Table 1). The SKM procedure provides a method for assigning relative risk ranking for Risk Issues (sometimes referred to as hazards, losses or loss scenarios). The ranking of risk requires the determination of consequences and then the likelihood of both the risk occurring and then resulting in the stated consequence. These two parameters are then combined in a risk analysis matrix to produce a risk rating or risk ranking.

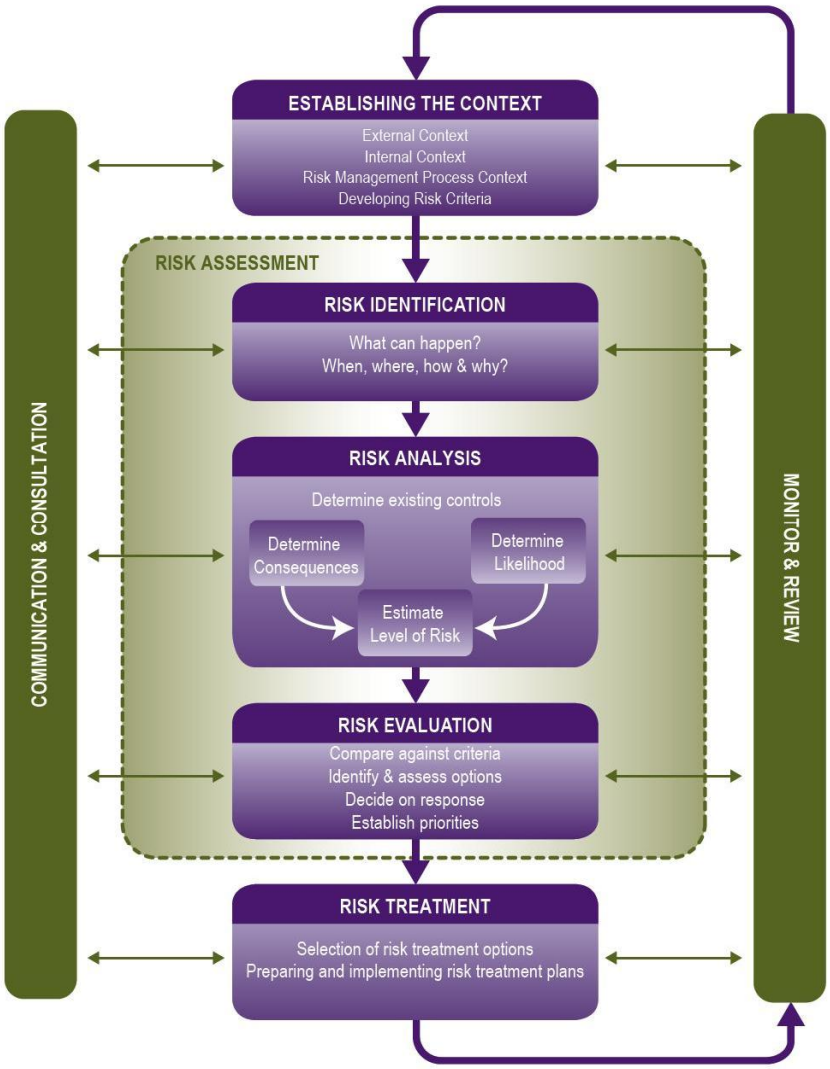

Figure 2– Risk Assessment Methodology

Where available, the Clients' risk analysis criteria are applied to projects. SKM's own risk criteria have been used in the absence of a client standard. It is noted that in the absence of a client risk analysis criteria, the procedure may be applied however it is recommended that the consequence, likelihood and risk criteria are reviewed and agreed by the client to ensure they are applicable to the context of this study.

The SKM procedure is consistent with AS/NZS 4360:2004 Risk Management and AS/NZS /ISO 31000 Risk Management.

The following paragraphs describe the procedure used in this study.

- **Consequence Assessment and Ranking** – the consequences of selected events will then be assessed. Impacts to the personnel will then be assessed based on the movement / transport of cytotoxic and clinical wastes, and safe handling of radioactive sources.

For a given risk scenario select the consequence rank that best fits the most likely level of impact, taking into account the existing controls that are in place and their potential effectiveness. Control measures are rarely 100% effective hence there will typically be a level of residual risk.

The table below provides a definition of consequence ratings for Health & Safety Risks for Personnel.

Consequence Rank	Category	Definition of Ranking
1	Severe	Single fatality or permanent disability
2	Major	Extensive injuries or chronic health issues including disease pandemic
3	Moderate	Lost Time Injury (off work recovery required) or short / medium term health issues
4	Minor	Medical treatment required or short term acute health effects.
5	Insignificant	Local treatment with short recovery - minor short term health effects.

Likelihood Assessment – Those impacts identified to have fatality consequences will be assessed for frequency, including likelihood of failure as a result of each identified failure mode. With reference to the likelihood table below choose a description that best fits the likelihood of the risk issue or hazardous scenario occurring and resulting in the consequence defined in the previous stage.

Select from only one column that provides the best description of the likelihood given the data and information that is available.

Note that the frequency is **not** the frequency of the risk only. It is the frequency of the risk occurring and the probability of the controls failing to work and resulting in the selected consequence.

The following table provides the definition of likelihood ratings for Health & Safety Risks for Personnel.

Likelihood Rank	Category	Project Frequency	Frequency	Probability
A	Almost certain	More than once during the project.	More than once per year.	>0.5
B	Probable	Once during the project.	Once every one to 10 years.	0.1 - 0.5
C	Possible	Could happen during the project life.	Once every 10 to 100 years.	0.01 - 0.1
D	Unlikely	Unlikely to occur during project life.	Once every 100 to 1000 years.	0.001 - 0.01
E	Very unlikely	Very unlikely to occur during the project life.	Less than once every 1,000 years.	<0.001

Risk Assessment and Ranking – The consequence and frequency results will be qualitatively combined to determine the acceptability of the risk. Risk analysis is the process of combining the consequence and likelihood ranks to determine a level of risk; this can be done using the following risk matrix. The acceptability of this risk level and the required action statements are then applied.

LIKELIHOOD	CONSEQUENCE 5	4	3	2	1
A	Medium	High	Very High	Very High	Very High
B	Medium	Medium	High	Very High	Very High
C	Low	Medium	Medium	High	Very High
D	Low	Low	Medium	Medium	High
E	Low	Low	Low	Medium	Medium

The criteria for acceptability of risks are defined as follows:

- Very High risks are intolerable for EH&S. Do not commence or continue at this risk level for EH&S risks. Implement control measures to ensure the risk level is reduced. Communicate and consult thoroughly on non-EH&S risks to ensure the positive benefits out-weigh the negative impacts.
- High risk is undesirable and represents a band where the failure of any likelihood or consequence controls will place the risk into the "very high" category. Verify, and where possible quantify, the accuracy and certainty for the existing risk level. Implement control measures to ensure the risk level is reduced or is confirmed to be ALARP.
- Medium risks are only tolerable if examination proves them to be ALARP. Implement controls to prevent and/or mitigate the risk and monitor for change. Reduce to Low Risk if the benefits outweigh the cost of the additional controls.
- Low risks are acceptable. These are managed by normal business processes. Review at next review interval.

Risk Review and Reduction – the assessed risks will then be compared to the risk criteria to determine whether the risks posed by the NCCC & AATC Stage 2 will result in an excessive risk profile to the surrounding land uses. Where the risk is identified to exceed the criteria, the major risk contributors will be identified and risk reduction measures will be developed. The effectiveness of the proposed risk reduction measures will then be assessed to ensure risks are reduced to below the acceptable risk criteria nominated by the NSW DoPI.

4. Preliminary Risk Analysis

4.1 Clinical Storage and Transport Risks

A qualitative risk review was briefly undertaken with senior consultants and Health Professionals.

The team comprised;

- Mr Matthew von Bertouch – Health Consultant, Thinc Health
- Mr Leonard Gawecki (SKM) – Senior Risk Consultant
- Ms Elizabeth Browne – POWH
- MS Lisa Nelson – Health Consultant , UNSW

The team reviewed the;

- Infection and Prevention Control measures
- Waste Storage and fire prevention/protection
- Transportation risks
- Security Arrangements
- Radiation Sources

The causes and consequences of each incident and the existing controls in place were reviewed and assessed by the team. The Detailed findings are provided in Appendix A – Preliminary Risk Analysis Findings.

Essentially, given the controls in place the inherent risk to the community is regarded as low for the incidents considered.

The only recommendation made was to advise NSW DoPI of the Class 6.2 – Cytotoxic and biological waste storage arrangements and waste vehicle movements. This is to be undertaken as part of the assessment process and prior to the resolution of the DA.

5. Summary Conclusions and Recommendations

In summary, there were no postulated incidents identified that posed unacceptable community risks, given the strict NSW and Federal Department of Health controls to be provided.

5.1. Contact NSW DoPI

The SEPP 33 guidelines require that Thinc Architects and/or the proponent contact the NSW DoPI for advice on the frequency of transport movements, and the quantity of wastes stored as a result of the new NCCC & AATC – Stage 2.

In this context waste refers to Class 6.2 – Infectious waste substances – i.e. substances containing micro-organisms, bacteria, and viruses etc that are believed to cause disease in humans or animals. The generation of such wastes are anticipated to be greater than 0.5 tonne per annum.

6. References

1. Hazardous Industry Planning Advisory Paper No.6 – Guidelines for Hazard Analysis, Department of Planning, NSW, 1992.
2. State Environmental Planning Policy No.33 – Hazardous and Offensive Development Application Guidelines (1994), "Applying SEPP 33", Department of Planning NSW.
3. Multi-Level Risk Assessment, Department of Infrastructure, Planning and Natural Resources – 1997.
4. The Australian Code for the Transport of Dangerous Goods by Road and Rail (known as the Australian Dangerous Goods Code or ADG 7), Federal office of Road Safety, Canberra.
5. AS1940-2004, "The Storage and Handling of Flammable and Combustible Liquids", Standards Association of Australia, Sydney
6. AS2444-2000, "Fire Extinguishers and Fire Blankets – Selection and Location", Standards Association of Australia, Sydney.
7. Occupational Health and Safety Act 2000 and Regulations (Dangerous Goods Amendment)– 2005, WorkCover, NSW
8. AS4332 - The Storage and Handling of Gases in Cylinders, Standards Association of Australia,
9. Hazardous Industry Planning Advisory paper No.4, "Risk Criteria for Land Use Safety Planning", NSW Department of Infrastructure, Planning and Natural Resources (1992)
10. SKM Risk Analysis Procedure, Chris Beale, PMSTDDS-GLOB-MR-PE-0003, Rev 0
11. ARPANZA – Security of Radioactive Sources, Volume 11.
12. Prince of Wales Hospital – CCBDC Redevelopment – Stage 1 - Preliminary Risk Analysis, Document # NB11384 Rev 0, March 2012, Prepared by SKM.

Ref. No:	Risk Area	Risk Issue	Causes	Consequences		Existing Controls	Control Effectiveness	Risk Analysis with controls				Recommendations
								Type	C	L	Risk Level	
1.10	Infection Prevention and Control	Waste spreads bacteria / disease if not treated and people come into contact with untreated waste.	people come into contact with untreated waste	spread of disease or contaminated waste		Waste is segregated into waste streams. Waste is held in secured containers in a dedicated fire rated and secure store. Handled by professional waste contractors and staff with correct PPE. Waste audits are conducted twice annually by Infection Control Officer. All staff are covered by mandatory staff immunisation program. Waste is then transported to Steri-Health where it is steam sterilised and disposed of in accordance with NSW Health requirements.	Adequate	H&S	5	C	Low	Thinc Architects/ proponent to contact NSW DOPI to confirm procedures / waste vehicle movements represent a low risk to the community.
1.20	Waste storage fire	toxic smoke / runoff	people come into contact with untreated waste	fire , fire spread , toxic smoke		Waste held in secured containers. Fire detection / protection systems to BCA standards. All waste contained in fire rated and secure room.	Adequate	H&S	5	C	Low	Thinc Architects/ proponent to contact NSW DOPI to confirm procedures / waste vehicle movements represent a low risk to the community.
1.30	Transport Accident	Waste spreads bacteria / disease if not treated and	people come into contact with untreated waste	spread of disease or contaminated waste		Waste held in secured containers. Handled by professional waste contractors and staff with correct PPE. OH&S consultant undertakes a annual transport and site inspection audit of external licensed contractor.	Adequate	H&S	5	C	Low	Thinc Architects/ proponent to contact NSW DOPI to confirm procedures / waste vehicle movements represent a low risk to the community.