Preliminary Risk Analysis

BEGA VALLEY HEALTH SERVICE REDEVELOPMENT

SOUTHERN NSW LOCAL HEALTH DISTRICT

22nd January, 2013

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Contents

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1. Introduction

1.1. Background

Health Infrastructure NSW (HI) has commissioned Sinclair Knight Merz S2F (SKM) to provide risk services to support Development Applications (DA) for a new integrated health service with 136 beds in Bega, Bega Valley Shire Council (BVSC), NSW.

Health services in the region are delivered by Bega Valley Health Service (BVHS) which forms part of the Southern NSW Local Health District. The Service has two public hospitals, located at Bega and Pambula plus a range of community health and outreach centres. The proposed hospital consolidates existing facilities in Bega and Pambula. The existing facilities are expected to close, post occupation of the Bega Valley Health Services Hospital (BVHS Hospital), and it is likely that services will be transferred on a phased basis.

Two DAs will be submitted in respect of the BVHS development;

- the first for early enabling works (Stage 1) and
- the second for the construction of the hospital building (Stage 2).

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 BVHS development, a preliminary risk assessment (PRA) was prepared as part of the overall environmental assessment for the proposal. This PRA has been prepared in support of the DA submitted in respect of the BVHS main construction works as outlined in the Director Generals requirements for Stage 2.

Johnstaff Projects Pty (NSW) on behalf of Health Infrastructure (HI) has commissioned Sinclair Knight Merz and S2F (SKM) to prepare and document the preliminary risk assessment. The PRA was prepared in accordance with SEPP 33 and HIPAP 6.

This PRA report details the objectives, scope of work, methodology and project management for the preliminary risk assessment for the BVHS development.

In particular the report covers the risk implications of the storage and handling of dangerous goods, and clinical wastes.

1.2. Objectives

To prepare a PRA study of the proposed BVHS development, NSW, in accordance with the requirements of SEPP 33 and the Hazardous Industry Planning Advisory Paper (HIPAP) No.6, Hazard Analysis Guidelines, and to report on the findings of the study for submission to the regulator in support of the Environmental Assessment Study.

The objectives of the study are to:

- Assess the risks associated with the expansion of the BVHS Hospital in respect of dangerous goods and hazardous materials storage and handling
- Determine whether the risks exceed the accepted risk criteria or ; 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 is to update the PRA for the proposed redevelopment of the BVHS, NSW, is in accordance with HIPAP No.6 and SEPP 33.

This PRA report covers the risk implications of the storage and handling of dangerous goods, and biological wastes generated by the proposed development, and cover the bulk medical gas storages (oxygen, carbon dioxide, etc) and the bulk storage of LP Gases on site.

2. Project Location

2.1 Site Description

The BVHS Hospital site is located 2km south east of Bega town centre, and the existing Bega Hospital as shown in Figure 1.

The new hospital site is bounded to the west by Tathra Road, to the north and east by agricultural land and to the south by a small private holding, as depicted in Figure 2.The proposed BVHS site is currently green field and within the site boundary there are opportunities for 'other' developments relating to health and education facilities.

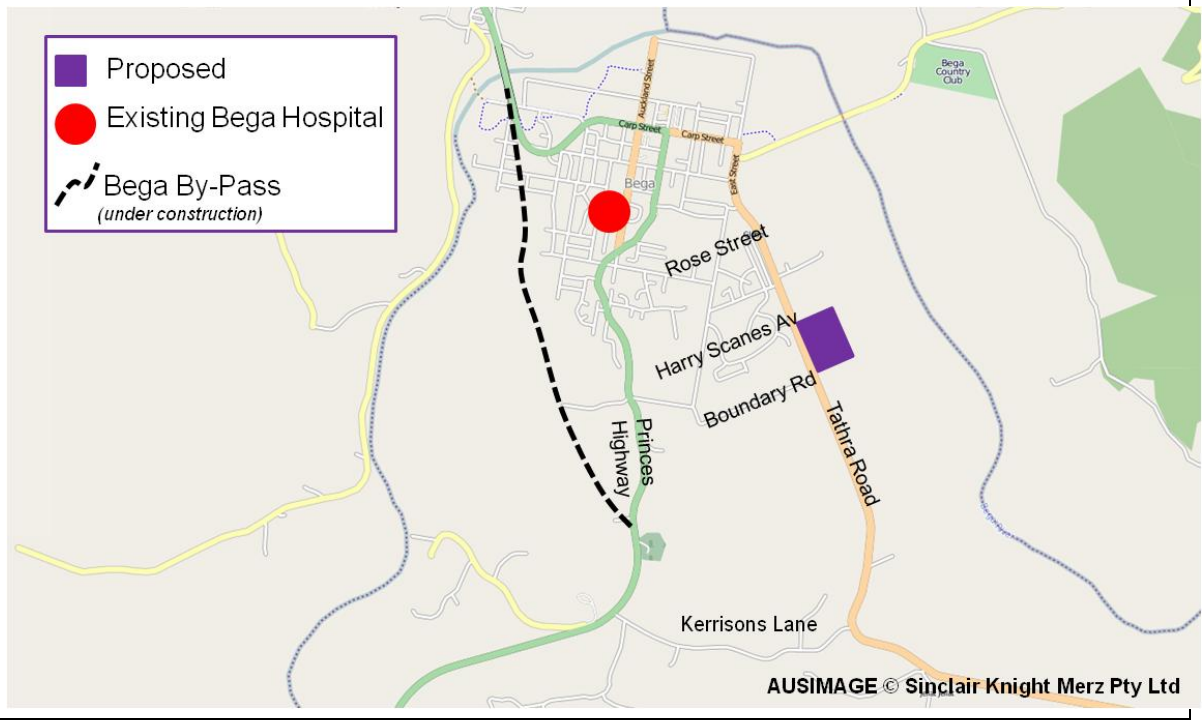


Figure 1 – Regional Map – BVHS redevelopment

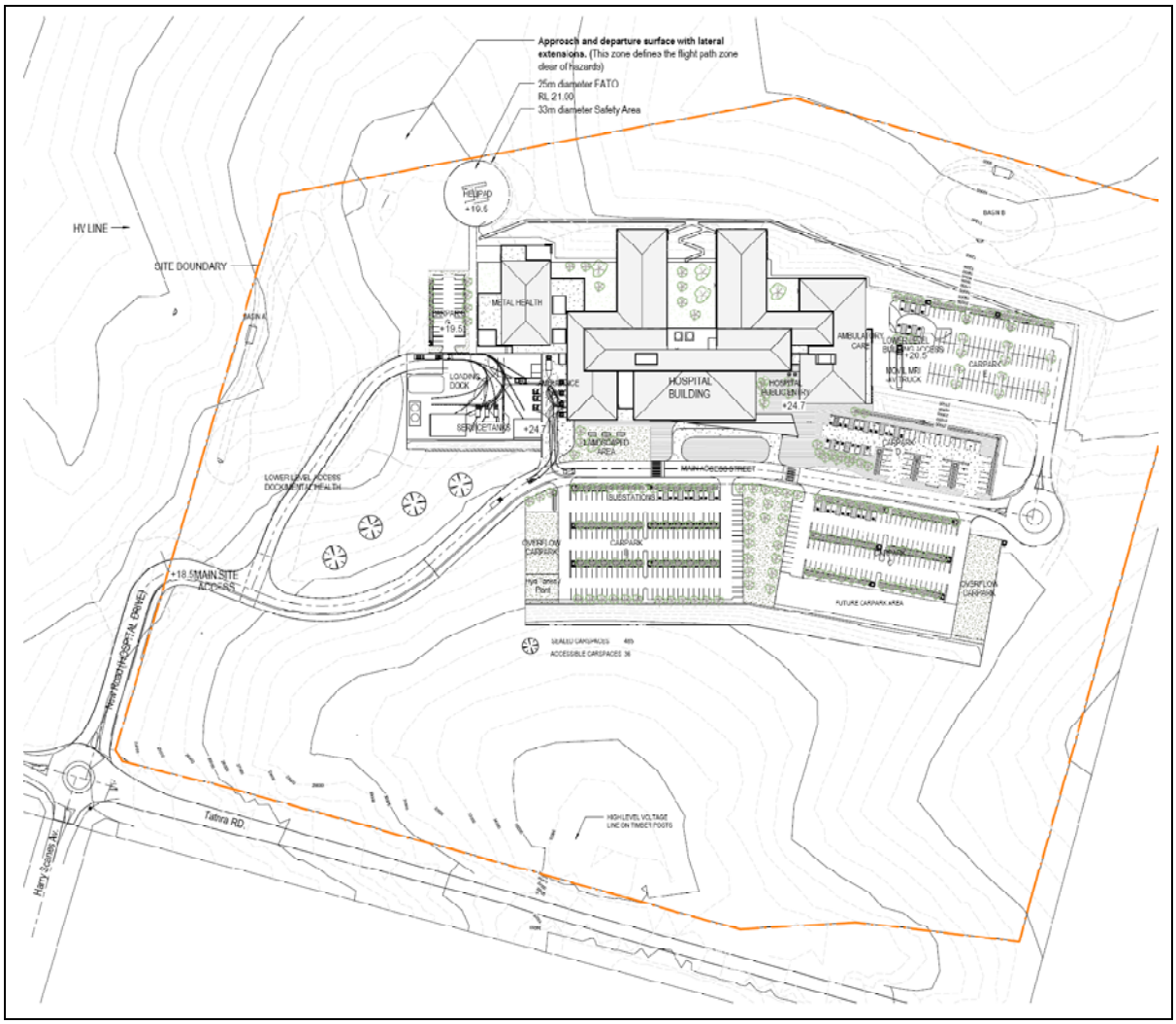


Figure 2 – BVHS redevelopment – Site Plan

3. Description of Operations

This section outlines the BVHS development proposal comprising Stage 1 and Stage 2. Detailed site plans showing the BVHS development by floor plate are provided in Appendix A. Shown also are the proposed clinical waste and dangerous goods storage areas within the hospital precinct – Ground Level only shown, as much of the bulk storage will be at this precinct level.

A description of the clinical waste arrangements and control measures in place to manage risk follows.

3.1. BVHS Operations

The proposed BVHS will serve the Bega Valley region as well as providing speciality services in a hub and spoke model to surrounding communities in Eurobodalla, Cooma-Monaro and Bombala.

3.2. Description of Clinical Waste arrangements

Class 6.2 Infectious substances will comprise clinical and related wastes, and General clinical wastes, human tissue, as described in the following 3 sections.

Clinical and Related Wastes

Each department will have a dedicated Waste Collection Room or “Dirty Area” to contain clinical wastes. These will allow for segregation, bagging and securing of wastes for transfer to the main collection room.

All clinical wastes will be handled, segregated and secured in accordance with AS/NZS 3816:1998 Management of clinical and related wastes.

The main Waste Collection Room will be secured using an electronic access card system.

When transporting clinical and biological waste to centralised decontamination areas, the waste shall be contained in accordance with Health Infrastructure (HI) WH&S policy. Circulation routes between the point at which the waste is generated and the point at which it is decontaminated and disposed of will be as discreet and direct as possible.

Clinical Wastes

Liquid contaminated wastes shall be treated with a chemical disinfectant, and then disposed of to sewer. If proposed volumes of sterilised liquid waste is large or ongoing (e.g. more than 20 litres per week) then approval must be sought from Sydney Water prior to commencing the proposed process and an internal sump will be required to allow separation before entry to sewer.

The main collection room will require storage space for Clinical Waste bins of 240 litres capacity to facilitate a total waste holding capacity of up to 4000 kg / or litres (i.e. 4 m^3).

3.3. 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 Health Infrastructure (and summarised in Table 1). In that regard anticipated dangerous goods storages include

- 2 X 7,500 Litre LPG tanks situated at the South/West corner of the site, adjacent to the main loading dock of the hospital.
- 1 x 7000 litre liquid oxygen tank, again adjacent to the main loading dock of the hospital.
- 1 x 15,000 litre Diesel tank for the emergency back-up Diesel generator
- Minimal amounts of flammable liquids such as Methylated Spirits (4 litres) & Mineral Turpentine (4 Litres) will be kept in the “Flammable Goods Cabinets” (i.e., less than 250 litres per cabinet)
- There will be storage of compressed gases such as Acetylene cylinders that are part of oxy/act welding sets. The compressed gas store is located on the South/West boundary of the site adjacent to the fire Sprinkler Room. This Compressed gas store will have Restricted access. Transport to the site will be by Local BOC agent in a small utility (typically)
- Class 6.2 - Cytotoxic and clinical waste will total around 4000 kilos per month, (based on clinical wastes generated in the existing Bega and Pambula Hospital) with storage collected in 240 litre bins. Currently approximately 1000 kg per week.

Table 1 lists the quantities of dangerous goods and clinical wastes which would be generated, stored or transported at BVHS.

Material	DG Class	Qty (t)	NSW DoPI Thres Qty	Vehicle Movts Per Annum	NSW DoP Thres hold Qty	Conclusion
Class 2.1 LP Gas - 2 x 7.5 kL Aboveground tanks	2.1	8	10	50	500	Below threshold – subject to siting arrangements as per AS 1596
Class 2.1 flammable gases - such as acetylene (2 cylinders)	2.1	0.1	10	12	500	Below threshold - proposal is not potentially hazardous
Class 2.2 Exempt, hence no storage limits for argon, nitrogen or rare/inert gases - however must consider sub-classes also – (hence need to cover / check compressed Oxygen or liquid oxygen)	2.2 Sub Class 5.1	7	No limit	12	No Limit	Below threshold - proposal is not potentially hazardous
Class 2.3 - minor quantities of Nitrous Oxide (up to 10 cylinders)	2.3	0.5	5	48	100	Below threshold - proposal is not potentially hazardous
Class 3 – PG 1 (BP < 35 o C) includes MATERAILS WITH UN NO . 1993, and 1263	3 PG 1		2	10	500	Below threshold - proposal is not potentially hazardous
Class 3 – PG II includes X55, methanol, kerosene, & turpentine)	3 PG II	0.01	5	24	750	Below threshold - proposal is not potentially hazardous
Class 3 – PG III includes mineral turpentine, Shell solvents and Oils	3 PG III		5	24	1000	Below threshold - proposal is not potentially hazardous
Diesel Fuel	C1	15	No Limit	12	No Limit	Below threshold - proposal is not potentially hazardous
Class 6.2 Clinical Wastes	6.2	4	0.5	50	Refer to DoPI	Above threshold but Not considered potentially hazardous given controls – See Appendix A.
Class 7 – Radioactive material	7	NA				NA
Class 8 PG II includes mild caustic washes in drums	Class 8 PG II		25	NA		NA
Note : The bulk of the truck movements are dedicated to clinical waste removal – which are subject to stringent Health regulations and protocols.						

Table 1: Dangerous Goods Storage and Transport quantities proposed at the new BVHS

2.3 SEPP 33 Screening Findings

The Director-General's Requirements for the proposed South East Regional Hospital (BVHS) 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 earring on the conservative, a PRA is required due to the quantity of Class 6.2 clinical waste stored and transported (anticipated to be around 4 m^3 per month).The site storage will probably exceed 0.5 tonnes, and up to 50 trips per annum are envisaged.

Note also the proposed storage of 2 x 7.5 kL LP Gas tanks (equivalent to around 8 tonnes) is below the SEPP 33 threshold of 10 tonnes. Hence this PRA need not address the LP Gas arrangements and the location of the tanks, except to add that the separation distances, safety systems and land use controls are provided in AS 1596 – The LP Gas code, and will need to be considered as part of the DG application and licensing to Workcover NSW.

Therefore a PRA level 1 is required under SEPP 33. Further, Clause 12 of SEPP 33 requires the PRA 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 Threshold

4. 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 of Planning and Infrastructure.

As the SEPP 33 screening exercise identified that a PRA is required to specifically cover the Class 6.2 Clinical waste.

Then this is best achieved as a qualitative risk analysis approach as required under Clause 12.

In this instance we will utilise SKM's 5x 5 risk matrix to identify and assess the transport and storage of clinical wastes, and LP Gas.

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 BVHS (as determined by the SEPP 33 screening analysis).

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.

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.

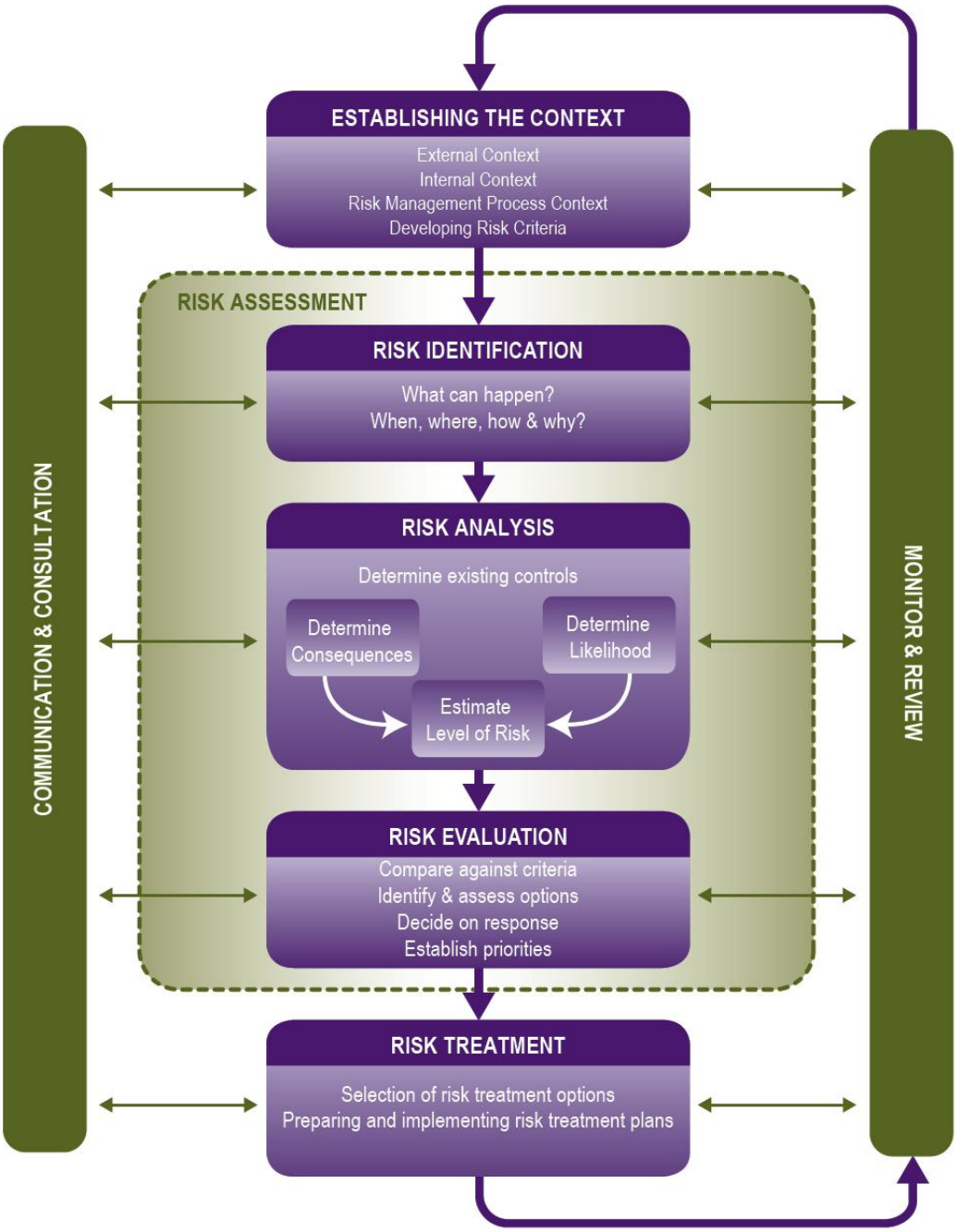


Figure 2– Risk Assessment Methodology

The methodology proposed for use is as follows:

- **Establishing the context –** Information was supplied by Johnson Health and Health Infrastructure (HI) NSW in respect of the nature and quantity of dangerous goods stored and transported to and from BVHS.
- **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 (mainly biological wastes) 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.

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 ISO/AS/NZS 31000:2009 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, excluding LP Gas storage failure events (as these will be covered in the detailed design phase and in the DG licensing to Workcover NSW). Impacts to the personnel will then be assessed based on the movement / transport of cytotoxic and clinical wastes.

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 proposed BVHSs 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.

5. Preliminary Risk Analysis Findings

The qualitative risk analysis findings are documented in Appendix B – Preliminary Risk Analysis Findings.

In summary, there were no postulated incidents identified that exceeded the NSW DoPI consequence or risks criteria outlined in SEPP 33 or HIPAP 6.

The SEPP 33 guidelines require the BVHS and NSW Health to contact the NSW DoPI for advice on any transport movements of Class 6.2 – Infectious Substances – Note that class 6.2 - Infectious Substances also includes Clinical Wastes, cyctotoxic and bio hazardous wastes. i.e. substances containing micro-organisms, bacteria, viruses etc that are believed to cause disease in humans or animals.

The proposed storage of 2 x 7.5 kL LP Gas tanks (equivalent to around 8 tonnes) is below the SEPP 33 threshold of 10 tonnes. Hence this PRA need not address the LP Gas arrangements and the location of the tanks, except to add that the separation distances, safety systems and land use controls are as provided in AS 1596 – The LP Gas code, and will need to be considered as part of the DG application and licensing to Workcover NSW.

Finally, the safe storage and operation of the bulk oxygen tank and reticulation system be specifically addressed for disaster planning, as required under AS 1894. In the unlikely event of a pipe rupture or valve malfunction around the VIE, the release of oxygen into the atmosphere at high pressure causes a vapour cloud which could impact on patient, staff as well as general site safety in the hospital. Such eventualities are to be covered under a comprehensive emergency response and disaster recovery plan.

Conclusions and Recommendations

In conclusion, there were no postulated incidents identified that exceeded the NSW DoPI consequence or risks criteria outlined in SEPP 33 or HIPAP 6.

Recommendation 1 - That the LP Gas tanks be located in accordance with AS 1596 – The LP Gas code, and will need to be considered as part of the DG application and licensing to Workcover NSW.

Recommendation 2 - Clause 12 of the SEPP 33 guidelines requires the BVHS and NSW Health to contact the NSW DoPI for advice on any transport movements of Class 6.2 – Infectious Substances. Note that class 6.2 - Infectious Substances also includes Clinical Wastes, cyctotoxic and bio hazardous wastes. i.e. substances containing micro-organisms, bacteria, viruses etc that are believed to cause disease in humans or animals.

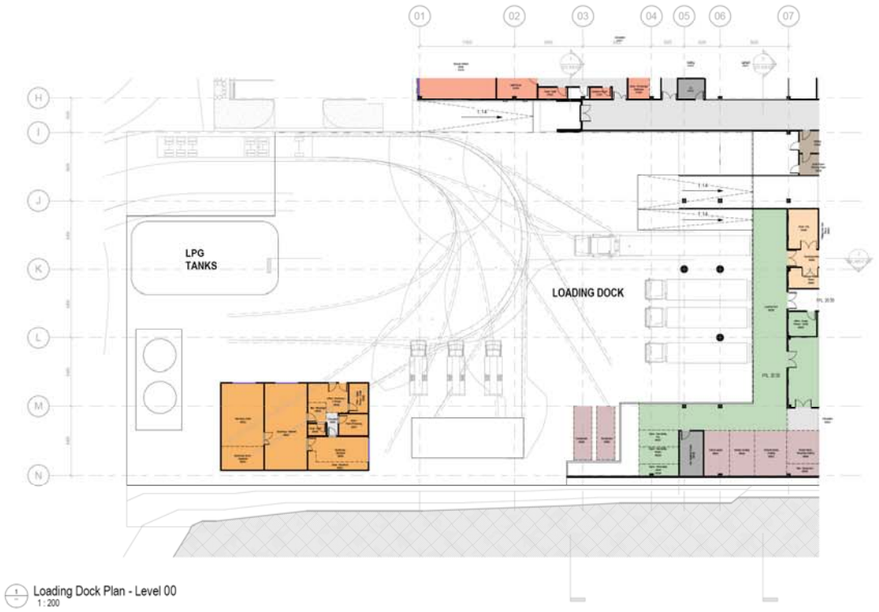
Recommendation 3 - In addition to the requirements of AS 1894 – The Storage and handling of non-flammable cryogenic and refrigerated liquids (oxygen) LP Gas Code that HI address oxygen leakage and response as part of a site based Emergency response and disaster recovery plan . Thereby minimising oxygen storage and handling risks to ALARP levels.

6. References

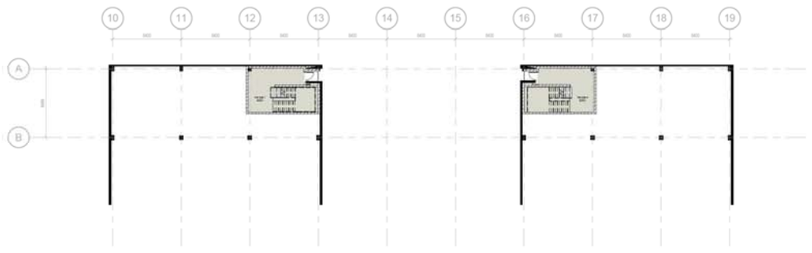
1. Hazardous Industry Planning Advisory Paper No.6 – Guidelines for Hazard Analysis, Department of Planning, NSW, 1992.
2. State Environmental Planning Policy No.33 – Hazardous and Offensive Development Application Guidelines (1994), "Applying SEPP 33", Department of Planning NSW.
3. Multi-Level Risk 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. AS1596-2000, "The Storage and Handling of LP Gas", Standards Association of Australia, Sydney
6. AS1894-1997, "The Storage and Handling of Non-Flammable cryogenic and refrigerated Liquids", 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. AS / NZS/ ISO 31000: 2009 "Risk Management – Principles and Guidelines".
12. AS/NZS 3816:1998 Management of clinical and related wastes.

Appendix A – South East Regional Hospital, Bega NSW - Dangerous Goods Locations (Ground Level)

SINCLAIR KNIGHT MERZ



1 Loading Dock Plan - Level 00
1 : 200



2 Overall Floor Plan - Level B
1 : 200

Departments

BVN

BVNArchitecture

Health Infrastructure

JOHNSTAFF

South East Regional Hospital
Tathra Road, Bega, NSW

Overall Floor Plans - Level 00
Loading Dock & Level B

Schematic Design

BVN-ARC-B1-BX01 | A

Appendix B – Preliminary Risk Analysis Findings

Ref. No:	Risk Area	Risk Issue	Causes	Consequences		Existing Controls	Effectiveness	Type	C	L	Risk Level	Recommendations
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	HI 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	HI 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 aucit of external licensed contractor (SteriHealth).	Adequate	H&S	5	C	Low	HI to contact NSW DOPI to confirm procedures / waste vehicle movements represent a low risk to the community
1.40	LP Gas Storage / Transport Accident	LP Gas release	Leak due to filling / transport accident	Potenttial LP Gas Fire / Explosion		LP Gas filled and serviced by Specialist Vendor (eg ELGAS). / Installation to comply with AS 1596 to include safe shut down systems (E-stops) in case of leakage.	Adequate	H&S	5	C	Low	
1.50	Oxygen Storage / Transport Accident	Oxygen release / fire	Leak due to filling / transport accident	Potenttial Gas Fire / Accelerated combustion		Oxygen filled and serviced by Specialist Vendor (eg BG). / Installation to comply with AS 1596 to include safe shut down systems (E-stops) in case of leakage.	Adequate	H&S	5	C	Low	In addition to the requirements of AS1894-The Storage and handling og non-flammable cryogenic and refrigerated liquids (oxygen) the code requires that HI address oxygen leakage and resposne as part of a site based Emergency response and disaster recovery plan.