



SEPP 33 - PRELIMINARY HAZARD ANALYSIS (SCREENING ASSESSMENT)

P&N BEVERAGES PROPOSED BEVERAGE MANUFACTURING FACILITY: BLUETT DRIVE, SMEATON GRANGE

Report Prepared for
Investa Property Group



Cardno (NSW) Pty Ltd

ABN 95 001 145 035

Level 3, 910 Pacific Highway

Gordon New South Wales

2072 Australia

Telephone: 02 9496 7700

Facsimile: 02 9499 3902

International: +61 2 9496 7700

sydney@syd.@cardno.com.au

www.cardno.com.au

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1	Final	4/12/2008	Chris Thompson Andrew Caska	CPT AJC	Louise Collier	LCC

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DECLARATION

It is the conclusion of this Preliminary Hazard Analysis (Screening Assessment) that the proposed development at Lot 300 DP 1117230 (to be subdivided to become Lot 433 DP 1117230) Bluett Drive, Smeaton Grange by Investa Property Group on behalf of P&N Beverages meets all requirements stipulated by NSW Department of Planning under State Environmental Planning Policy Number 33 (SEPP 33) and hence would not be considered to be an offensive or hazardous development.

A handwritten signature in grey ink, appearing to read "Louise Collier".

Louise Collier B.E. M.Eng.Sc. MIEAust MEIANZ
Manager - Sustainability and Climate Change

1. INTRODUCTION

1.1 Site Overview and Project Background

P&N Beverages are a beverage manufacturer and wholesaler. The products produced by P&N Beverages include still water, fruit juices (still and carbonated), cordials and soft drinks. Within NSW, P&N Beverages currently has facilities in Moorebank, Chester Hill and Condell Park. P&N Beverages are seeking to consolidate their current facilities and operate at a single site at Smeaton Grange (currently known as Lot 300 DP 1117230 which is to be subdivided to become Lot 433 DP 1117230) and this is being undertaken by Investa Property Group on behalf of P&N Beverages.

Figure 1 indicates the location of the proposed development site.

In June 2008, a Major Project Application (MP 08_0011) for the proposed P&N Beverages development at Smeaton Grange was submitted to the Department of Planning for assessment under Part 3A of the *Environmental Planning and Assessment Act 1979* (Lockery Planning and Development Solutions Pty Ltd, 2008). As part of the application assessment process, P&N Beverages also provided additional information to the Department of Planning in the form of a preliminary list of 'Dangerous Goods' to be stored on the proposed development site and the indicative amounts of those goods. On the basis of this information provided it was identified by the Department of Planning that a *Preliminary Hazard Analysis* (PHA) under State Environmental Planning Policy (SEPP) number 33 was required to be submitted with the Major Project Application.

State Environmental Planning Policy (SEPP) number 33 is an enabling instrument (that is, it allows for the development of industry), while ensuring that the merits of proposals are properly assessed in relation to off-site risk and offence before being determined by a consent authority. It overcomes the limitations of previous definitions of 'hazardous industry' or 'offensive industry', which were based on industry type. Certain activities may involve handling, storing or processing a range of materials which, in the absence of locational, technical or operational controls, may create an off-site risk or offence to people, property or the environment. Such activities would be defined by SEPP 33 as 'potentially hazardous industry' or 'potentially offensive industry'. SEPP 33 applies to any industrial development proposals which fall within these definitions.

This document has been prepared for Investa Property Group by Cardno to fulfil the requirements of the Department of Planning and Camden Council for the assessment of the accompanying Major Project Application. The assessment has been prepared in accordance with the Department of Planning's *Hazardous Industry Planning Advisory Paper No. 6 - Guidelines for Hazard Analysis* (HIPAP 6) (NSW Government, 1992).

The preparation of the assessment has also been informed by a review of the Major Project Application documentation submitted in June 2008 to the Department of Planning as well as by a site inspection of P&N Beverages current facilities at Condell Park on 2 December 2008.



Figure 1 - Location Map P&N Beverages Proposed Site, Smeaton Grange NSW (Source: Google Maps, Accessed 2 December 2008) (Not to Scale)

1.2 Objective and Scope

The objective of this Preliminary Hazard Analysis (PHA) is to identify the risks posed by the proposed development, to people, property, the surrounding environment and land use, ensuring that the risk is appropriately managed.

This is done in a two step process, where the first step is to:

- Identify the products and chemicals to be used or stored on-site and the expected amounts of those products and chemicals,
- Subject the product and chemicals list and the amounts to a screening process to determine if there is a potential hazard.

The second step, which is triggered if any of the screening thresholds are exceeded, is to:

- Identify the appropriate safeguards, and
- Establish approaches to reduce the risk by minimizing, or eliminating risk by incorporating mitigation measures.

1.3 Report Format

This report is structured in the following manner:

- Section 2 Overview of the Proposed Development
- Section 3 Statutory Requirements
- Section 4 Preliminary Risk Screening

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- Section 5 Operational Safeguards
 - Section 6 Conclusion.

Appendix A contains a series of Material Safety Data Sheets (MSDS) for materials proposed to be held on the site. **Appendix B** contains notes from a site inspection of P&N Beverages Facility at Condell Park on 3 December 2008.

2. OVERVIEW OF THE PROPOSED DEVELOPMENT

The proposed site (currently Lot 300 DP 1117230, to be subdivided to Lot 433 DP 1117230, shown in **Figure 1**) lies within an area known as the Ironbark Industrial Estate situated in the Camden Local Government Area (LGA). The total estate covers approximately 62 ha and is progressively being subdivided to incorporate a range of industrial operations. The proposed development will be a purpose-built manufacturing facility incorporating the production of:

- fruit juice (still and carbonated),
- still mineral water,
- cordials, and
- soft drinks.

The activities that will be undertaken within the proposed development include:

- receiving raw materials (packaging and ingredients),
- preparing syrups and concentrates for further processing,
- manufacturing of plastic bottles for use,
- mixing and bottling beverages into plastic bottles for distribution,
- packaging and palletising,
- warehousing and distributing,
- office and administrative duties (within an ancillary office facility).

The development will combine the activities of the existing operations and will cover an area of approximately 42,000m² (4.2 ha) including provisions for two carpark facilities facilitating 316 spaces. The proposed layout of the site is shown within **Figure 2**.

The new facility will operate 24 hours per day, 7 days per week and will employ a maximum number of 255 staff. Staff will be rotated on a shift basis with 2 x 12 hour shifts per day as follows:

- 70% between 6am and 6pm, and
- 30% between, 6pm and 6am.

The delivery and loading of goods on site will be conducted predominately between the hours of 7am and 10am (Lockery Planning and Development Solutions Pty Ltd, 2008).

2.1 Operations

P&N Beverages manufactures juice and soft drinks for the Australian market. The manufacturing of these beverages requires the input of chemicals in the production, maintenance, warehousing and the cleaning processes.

Liquid sugar, flavours and other chemical additives such as carbon dioxide and phosphoric acid are mixed with water to produce beverages. To support this process, chemicals such as sodium hydroxide, oxonia and hydrogen peroxide are used in the cleaning processes. Maintenance and warehousing operations require the input of chemicals such as Liquefied Petroleum Gas (LPG), white spirits and welding gases. The bottle packaging process requires the use of chemicals such as coding inks, methyl ethyl ketone (MEK) and the like for package identification marking. Anhydrous ammonia is used in the manufacturing process as a refrigerant. This chemical is not an input to the process, but is held on site in a closed loop refrigeration system. Further details are provided in Section 3.

P&N Beverages has been manufacturing juice and soft drinks at their Condell Park facility for over 10 years, and at their Moorebank facility for over 5 years. All of the processes and

chemicals that are proposed for the Smeaton Grange site are currently approved for use at both the Moorebank and Condell Park site.

2.2 Nearest Watercourse Proposed Development Overview

The development is bound by a natural local drainage channel which runs along the south western extent of the site. Works associated with the proposed rehabilitation of this drainage channel will be undertaken in conjunction with the ongoing development of the Ironbark Industrial Estate.

2.3 Nearest Residence

As shown in **Figure 1**, the Ironbark Industrial Estate is bound to the east and south-east by existing residential development. Consequently, the proposed P&N Beverages manufacturing facility will be situated adjacent to an area which is zoned 2(a) Residential under the Camden Local Environment Plan (LEP) (properties in Ashford Circuit). At its closest point the proposed site will be approximately 80m from existing residential development. The local drainage channel described in Section 2.2 forms a buffer between the P&N Beverages site and the residential area.

2.4 Nearest Commercial/Industrial Premises

The site is within the Ironbark Industrial Estate and therefore the nearest industrial premises are surrounding the site, albeit currently undeveloped. The nearest premises are currently located approximately 300m west of the site. However, as further development within the Ironbark Industrial Estate proceeds, this will reduce the proximity of the proposed P&N facility to surrounding industrial operations to become adjacent facilities.

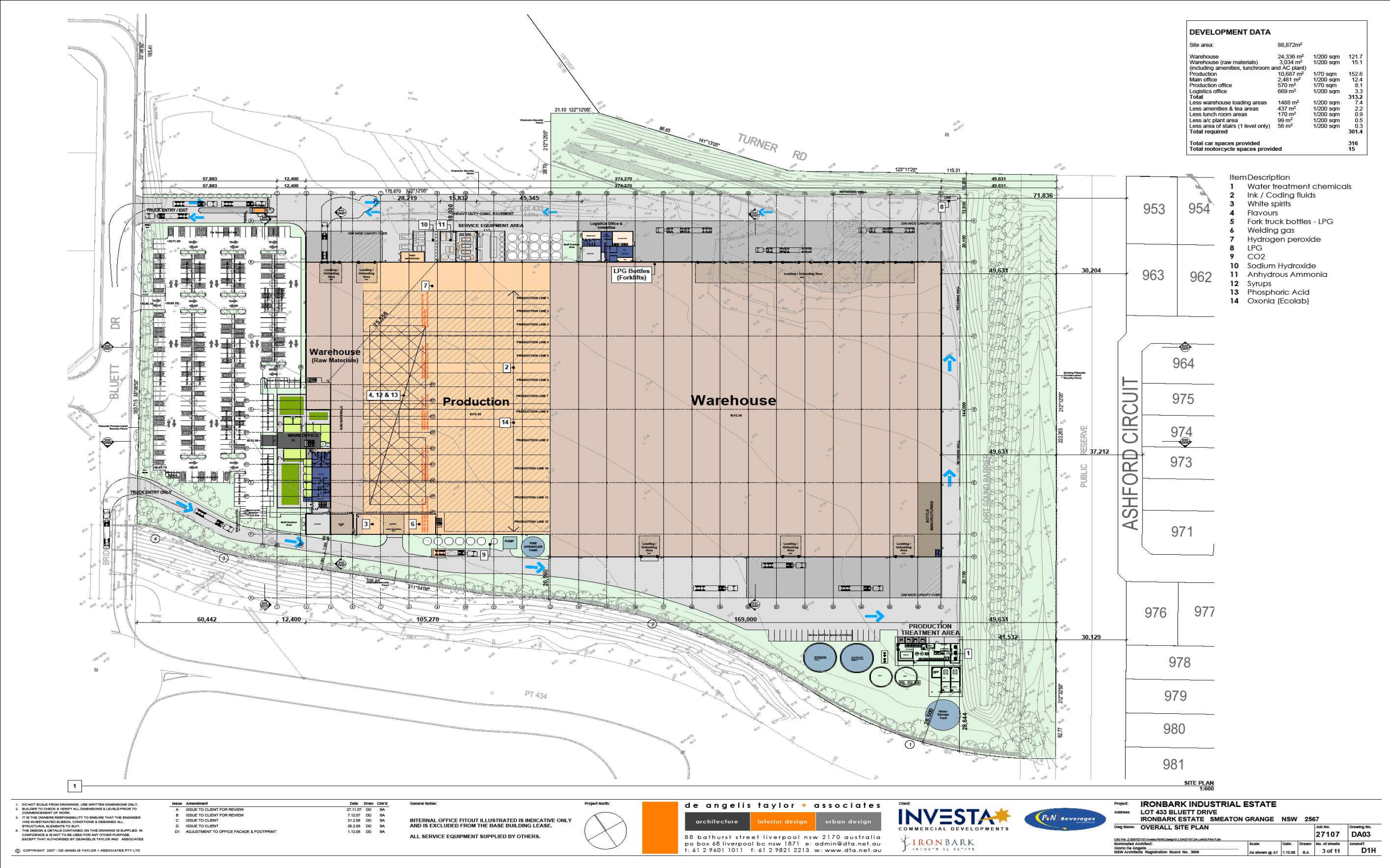


Figure 2 - Site Plan of Proposed P&N Beverages Manufacturing Facility – Smeaton Grange (Source: De Angelis Taylor and Associates drawing DA03, date: 26/11/08)

3. STATUTORY REQUIREMENTS

This document has been prepared to fulfil the requirements of Department of Planning and Camden Council as part of assessing the Development Application related to the proposed development, which requires a PHA, in accordance with SEPP 33.

SEPP 33 is an enabling instrument (that is, it allows for the development of industry), while ensuring that the merits of proposals are properly assessed in relation to off-site risk and offence before being determined by a consent authority. SEPP 33 provides definitions for 'potentially hazardous industry', 'hazardous industry' or 'hazardous storage'. It is understood that the site is a non-designated development with regard to the definitions outlined in Schedule 3 of the *Environmental Planning and Assessment Regulation (2000)* and therefore has been assessed in accordance with the hazard assessment processes flow chart shown in **Figure 3**.

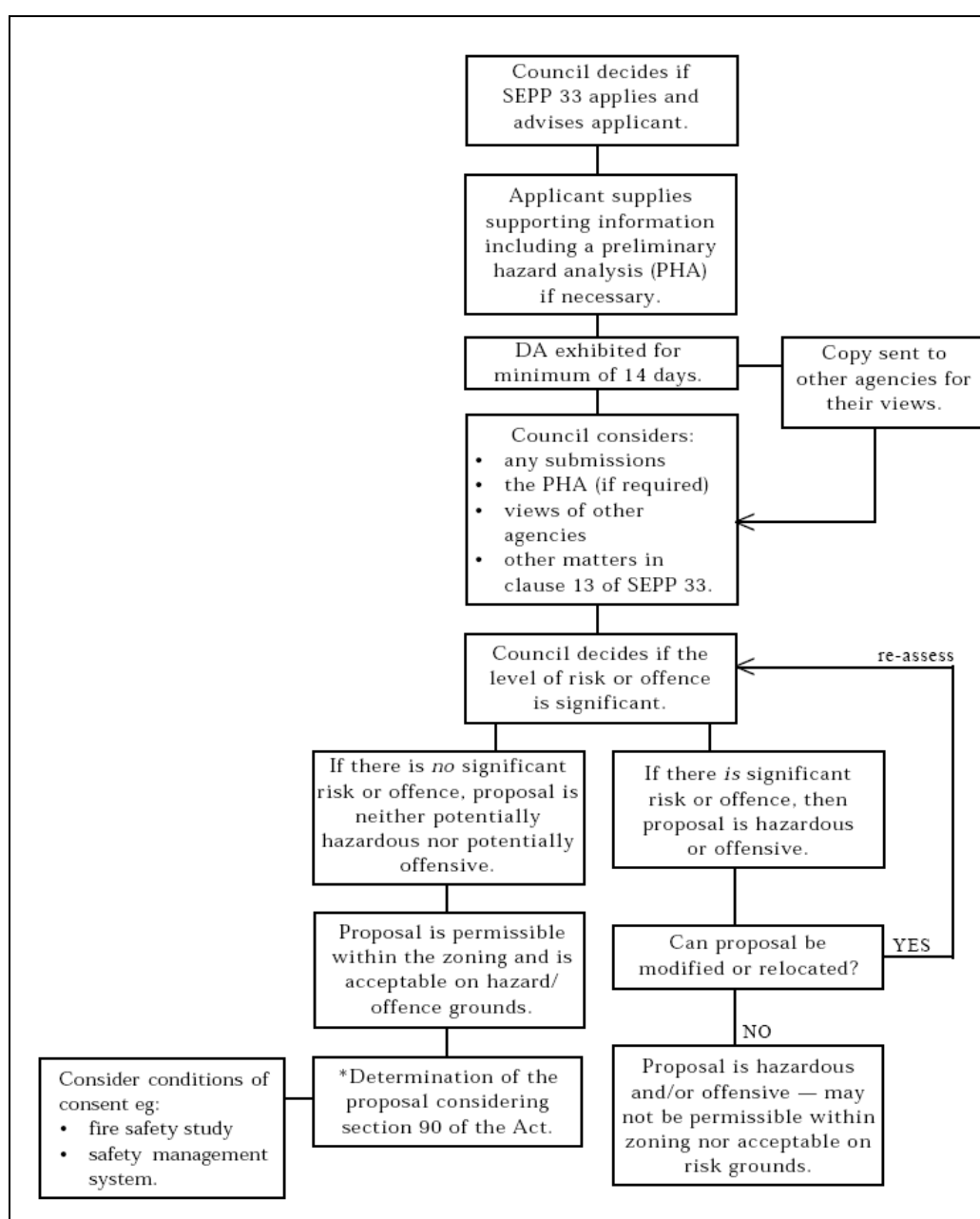


Figure 3 - SEPP 33 Hazard-Related Assessment Process (Source: Department of Urban Affairs and Planning, 1994)

This PHA broadly examines the potential hazards that may occur as a result of a hazardous or offensive development in terms of accidental loss, and the potential for hazardous incidents. The PHA evaluates the likelihood of such hazards occurring and analyses the risk to people, property and the environment in the presence of controls. Should such risk exceed the nominated criteria of acceptability, the development is classified as 'hazardous industry' and may not be permissible within most industrial zonings in NSW.

For developments that are identified as potentially hazardous but manageable such that the proposal is permissible, the minimum requirement is meeting the needs for environmental protection licencing by the Department of Environment and Climate Change (DECC) – formerly the NSW Environmental Protection Authority (EPA). These are stated within the DECC's *Guide to Licensing Under the Protection of the Environment Operations Act 1997*, which details:

- how and where to apply for a licence;
- how much a licence costs; and
- what may need to be done even if a licence is not required.

This assessment was prepared by applying SEPP 33, and generally in accordance with the Department of Planning (DoP) publications:

- *Hazardous Industry Planning Advisory Paper No. 6 - Guidelines for Hazard Analysis* (NSW Government, 1992) (HIPAP 6) and
- *Applying SEPP 33* (DUAP, 1994).

It is important to note that new draft versions of these documents have recently been released for consultation. Consultation with the Department of Planning's Major Hazards Unit (2 December 2008) was undertaken to determine if the current Consultation Draft *Hazardous Industry Advisory Paper 6* (HIPAP) is in fact a working document. It was advised that HIPAP – 6 (1992) is current and should be referenced in accordance with a SEPP 33 analysis.

4. PRELIMINARY RISK SCREENING

4.1 Products to be Stored On-Site

There are a total of 158 products which are proposed to be stored on site at any given time. The full range of products identified to Cardno to be used for the Smeaton Grange operations are listed in **Table 4.1**.

The Material Safety Data Sheets (MSDS) for the chemicals/products listed in **Table 4.1** are provided within **Appendix A**.

Table 4.1 Chemicals and Product Inventory

Group	Product	Supplier	Hazardous? (As per Australian Dangerous Goods Code, ADG7)
Colours, Flavours and Syrups	AC 3 WS 501606	CHR Hansen	N
	Apple Flavour 000332	The Product Makers	Y
	Appleberry Cloudicol Flv NI LIQ WS 175245	Symrise	N
	Aus Passionfruit Compound 60509	Sensient	Y
	Berry Flavour Natural 65687	Sensient	N
	Bitters Natural Flavour DC16534	Hulscher	Y
	Blackcurrant Flavour 000374	The Product Makers	Y
	Boysenberry Juice Concentrate BOYSBJC20	Interaust Foods	N
	Boysenberry Juice Concentrate BOYSBJC274	Interaust Foods	N
	Brewed Ginger Beer SN670394	International Flavours & Frag	N
	Capsecine XXX 08-1662	Kerry Ingredients	Y
	Cloudicol Pineapple Mango Flv 170884	Symrise	N
	Cola Part 1 TW972, KB826	Beverage Research Center	N
	Cola Part 2 TW972, KB826L, KB826	Beverage Research Center	Y
	Cola Part 1	Beverage Research Center	N
	CO-820-WS-AP Water-soluble Acid Stable	CHR Hansen	N
	Colour Beta Carotene 001189	The Product Makers	N
	Cranberry Apple Flavour XF1277 65683	Sensient	Y
	Creaming Soda Imitation Flavour A DC 06873	Hulscher	Y
	Dry Ginger Ale Flavour 08.5107	Kerry Ingredients	Y
	Eurogran Amaranth 319103	Sensient	N
	Eurogran Carmoisine 319008	Sensient	N
	Eurogran Tartrazine 319105	Sensient	N
	Eurogran Sunset Yellow 319107	Sensient	N
	Exberry Shade Cherry Red Clear 153330	Lanxess Pty Ltd	N
	Exberry Shade Lemon Yellow 548310	Lanxess Pty Ltd	N

Group	Product	Supplier	Hazardous? (As per Australian Dangerous Goods Code, ADG7)
Colours, Flavours and Syrups (Cont)	FD&C Red 40 Powder 7700	Sensient	N
	FD&C Blue 1 Granular 5700	Sensient	N
	Forest Fruit Flavour LM 9808	Metarom	N
	Gardenia Extract B-WS	CHR Hansen	N
	Ginger Ale Dry 08-4254	Kerry Ingredients	Y
	Ginger Beer Flavour DC12356	Hulscher	Y
	Grapefruit Flavour SN361747	International Flavours & Frag	Y
	Grapefruit Flavour 65875	Sensient	Y
	Green Tea Flavour SN 362098	International Flavours & Frag	Y
	Lemon Emulsion 1AA06978	International Flavours & Frag	Y
	Lemon Emulsion 1AA08831	International Flavours & Frag	N
	Lemon Emulsion SN595759	International Flavours & Frag	Y
	Lemon Emulsion X 65852	Sensient	Y
	Lemon Flavour SN606335	International Flavours & Frag	Y
	Lemon Flavour 060404	International Flavours & Frag	Y
	Lemon Lime XF1276 65682	Sensient	Y
	Lemon Lime & Orange-1AA06916	International Flavours & Frag	Y
	Lemonade Flavour 443-00624-00	Givaudan Australia	Y
	Lemonade Flavour 1AA08165	International Flavours & Frag	Y
	Lemonade Flavour SN663249	International Flavours & Frag	Y
	Lime Colour Powder Blend 64278	Sensient	N
	Lime Emulsion 1AA04342	International Flavours & Frag	N
	Lime Essence 60517	Sensient	Y
	Lime Flavour 000394	The Product Makers	Y
	Lime Flavour SAAA2777	International Flavours & Frag	Y
	Lime Flavour SN625306	International Flavours & Frag	Y
	Lime Juice Flavour 6X Concentrate 254557	International Flavours & Frag	N
	Liquid Sugar 33147	Sugar Australia	N
	Mango 08-4221	Kerry Ingredients	Y
	Mango 591279	Firmenich	N
	Mango Juice Concentrate 65°Brix MANGOJC	Interaust Foods	N
	Mango Flavour 000597	The Product Makers	N
	Melon Flavour 08.3519	Kerry Ingredients	Y
	Nature Identical Soluble Lime Flav SN607107	International Flavours & Frag	Y
	Nature Orange Flavour SN623752	International Flavours & Frag	Y
	Ni Lemonade Flavour 510421A	Givaudan Australia	Y
	Orange Emulsion 1AA06977	International Flavours & Frag	N
	Orange Emulsion 81-2093	Kerry Ingredients	N
	Orange Emulsion 081.2146	Kerry Ingredients	N
	Orange Emulsion X 65653	Sensient	N

Group	Product	Supplier	Hazardous? (As per Australian Dangerous Goods Code, ADG7)
Colours, Flavours and Syrups (Cont)	Orange Flavour 000588	The Product Makers	N
	Orange Flavour 72241	International Flavours & Frag	N
	Orange Flav Soluble 61128	Sensient	Y
	Orthophosphoric Acid A2212	APS Chemicals	Y
	Passionfruit Flavour 000108	The Product Makers	Y
	Passionfruit Flavour Natural 001156	The Product Makers	Y
	Passionfruit SN322941	International Flavours & Frag	N
	Peach LM 3555	Metarom	Y
	Peach Flavour XF0529 X 65539	Sensient	Y
	Pear Flavour 000116	The Product Makers	Y
	Pineapple Flavour 000119	The Product Makers	Y
	Pineapple 505208 C	Firmenich	Y
	Pineapple Cloudicol NI LIQ-WS 168951	Symrise	N
	Plum Ni Flavour 510410A	Givaudan Australia	N
	Plum Cola Flavour QL85811	Hulscher	Y
	Pomegranate Flavour 445-00228-01 C3 M-B	Givaudan Australia	Y
	Quinine Tonic N.I Flavour DC00317	Hulscher	Y
	Raspberry Flavour Rev 1 - 1AA07218	International Flavours & Frag	Y
	Raspberry Flavour 342865	Symrise	Y
	Raspberry Flavour FP10240	Taste Master	Y
	Raspberry Apple Flavour 445-00266-03	Givaudan Australia	Y
	Red Cabbage 30 WSP MSDS	CHR Hansen	N
	Royal Crown Cola Portion 1	Royal Crown	N
	Royal Crown Cola Portion 2	Royal Crown	Y
	Sarsaparilla Flavour08-2067	Kerry Ingredients	Y
	Sucralose Liquid Concentrate	Tate & Lyle	N
	Tumeric Concentrate 633 65073	Sensient	N
	Tropical Fruit Blend Flavour 443-00614-00 C-P	Givaudan Australia	Y
	Tropical Fruit Blend Flavour 443-00614-02	Givaudan Australia	Y
	Tonic Flavour 65879	Sensient	Y
	Vanilla 08-1934	Kerry Ingredients	Y
	Vanilla Flavour 103608 C-P	International Flavours & Frag	Y
	Vanilla Lime Flavour 000322	The Product Makers	Y
	Vanilla Flavour Natural XF1050 65586	Sensient	Y
	Velcorin 011383/21	Lanxess Pty Ltd	Y
	White Sugar Ni Flavour	Givaudan Australia	N
Raw Materials and Powders	AC12r WSP Grape Skin Extract	CHR Hansen	N
	200X Aloe Vera Powder	Australia HI TECH	N

Group	Product	Supplier	Hazardous? (As per Australian Dangerous Goods Code, ADG7)
Raw Materials and Powders (Cont)	Advantra PHC 9256	H.B Fuller	N
	Acesulphame Potassium	Redox Chemicals	N
	Acetic Acid-ACACID89	Redox Chemicals	Y
	AM 1195	H.B Fuller	N
	Ascorbic Acid	Redox Chemicals	N
	Aspartame	Redox Chemicals	N
	Aspartame	Bronson & Jacobs	N
	Caffeine Anhydrous	Beverage Research Center	N
	Caramel N	Redox Chemicals	N
	Citric Acid Anhydrous	Redox Chemicals	N
	Folic Acid	Hellay	N
	HM 0065	H.B Fuller	N
	Inluin	Redox Chemicals	N
	Inluin Powder	Hulscher Ingredients	N
	Malic Acid	Redox Chemicals	N
	Neotame	Bronson & Jacobs	N
	Phosphoric Acid 81%	Redox Chemicals	Y
	Potassium Bicarbonate	Redox Chemicals	N
	Potassium Citrate	Bronson & Jacobs	N
	Potassium Sorbate	Redox Chemicals	N
	Puracal XPRO 140	APS Chemicals	N
	Quinine Hydrochloride	Redox Chemicals	N
	Sodium Benzoate	Redox Chemicals	N
	Sodium Chloride	Redox Chemicals	N
	Sodium Citrate	Redox Chemicals	N
	Sodium Cyclamate	Redox Chemicals	N
	Sodium Metabisulfite	Redox Chemicals	N
	Sodium Saccharin	Redox Chemicals	N
	Tartaric Acid	Redox Chemicals	N
Cleaning and Sanitising	Dow Corning Antifoam 1520-US	APS Chemicals	N
	Dow Corning FG-10 Antifoam Emulsion A6647	APS Chemicals	N
	Epoxy Resin R180-NZ	APS Chemicals	Y
	H180 Standard Hardener	APS Chemicals	Y
	R180 Part A Epoxy Resin F22181	APS Chemicals	N
Aerosols	Stencil Spray Yellow 13304	Signet	Y
Inks and Solvents	Accu Dyne Test Marker Pens	Flexcor	N
	Acetone	APS Chemicals	Y
	MEK Epoxy Solvent F90715	APS Chemicals	Y
	Methyl Ethyl Ketone 10605	APS Chemicals	Y
	SCP 700 Ink	Mattews Australasia	Y

Group	Product	Supplier	Hazardous? (As per Australian Dangerous Goods Code, ADG7)
Inks and Solvents (Cont)	SCP Ink 700C Cleaner	Mattews Australasia	Y
	White Spirit	APS Chemicals	Y
Gases	Acetylene Compressed Dissolved (C2H2)	Air Liquide	N
	Argon Based Compressed Gas Mixtures	Air Liquide	N
	Carbon Dioxide Bulk	BOC Gases	N
	Liquefied Petroleum Gas (LPG)	Kleenheat	Y
	Nitrogen Compressed	BOC Gases	N
	Oxygen Compressed	Air Liquide	N
Lubricants	Lubodry SD	Ecolab Pty Ltd`	Y
	Lubodrive GLF	Ecolab Pty Ltd`	N
	Lubodrive NF	Ecolab Pty Ltd`	Y
Miscellaneous	Bromatrol Rat Blocks	Rentokil	N
	Maxforcepak	Bayer	N
	Non Tox Indicator Blocks	Rentokil	N

4.2 Dangerous Goods Screening

Many of these are mixtures and compounds listed in **Table 4.1** are of a similar composition (i.e. flavouring and syrups). Therefore, for the purpose of this screening assessment a conservative approach has been adopted which includes grouping of these chemicals listed in **Table 4.1** into 14 different categories, corresponding to the 14 different production areas identified across the site in **Figure 2** and assuming the highest probable material classification for those chemicals identified to be hazardous that fall within each of the categories. The categories adopted are described below.

The aggregation of the existing multiple P&N manufacturing facilities to one facility will ultimately result in an increase in the chemicals and products required for beverage processing over what is currently used at any one of the three sites to be aggregated. The projected volumes of dangerous goods to be used and/or stored onsite have therefore been assessed in accordance of class and quantity as listed in **Table 4.2**.

It is important to note that the total volumes of many products listed in **Table 4.2** will vary seasonally and therefore information shown is based on average annual volumes provided to Cardno by P&N Beverages during detailed discussions with the technical/operations manager from P&N Beverages as part of the preparation of this assessment.

The 14 categories adopted for this assessment are:

Category 1 - Wastewater Treatment Chemicals – an onsite waste water treatment plant is proposed for the new development. At this stage it is uncertain as to the exact size and specifications of the treatment facility. However, for the purpose of this assessment the existing wastewater treatment facilities at the Condell Park site have been referenced as a guide.

Category 2 - Ink/coding fluids – these chemicals are used to produce bottle labels and markings and are used at intervals throughout the production and packaging stages.

Category 3 - White spirits – Methyl-based products are used for cleaning purposes, within the manufacturing process. Such chemicals are typically used to remove glue which is used to attach bottle labels.

Category 4 - Flavours – used to produce the various beverages that are manufactured at the P&N facilities, these include; soft drinks, fruit juices and cordials. The production of flavoured beverages is subject to seasonal variations and is further dictated by market trends and demands. As a result the amount and type of flavouring that is required to be stored on site and throughout the production process will vary. Flavours are typically up to 99% ethanol based and therefore for the purpose of this screening assessment it has been assumed that all favours are 99% ethanol based.

Category 5 - Forklift LPG – numerous LPG operated forklifts will be utilised for logistical purposes including the loading and unloading of trucks. LPG containers weighing approximately 43kg each are attached at the rear of each forklift. Some replacement containers are likely to be stored on site.

Category 6 - Welding gas (Oxy Acetylene, Argon) – used for maintenance purposes.

Category 7 - Hydrogen Peroxide – used for sanitisation and cleaning purposes within the manufacturing facility and the ancillary offices.

Category 8 - LPG Bulk Storage – an above ground bulk storage tank is proposed for the new site and will be primarily used for the refuelling of forklifts.

Category 9 - CO2 – used in the carbonation process associated with soft drinks.

Category 10 - Sodium Hydroxide – a water treatment facility has been proposed for the new development which will utilise sodium hydroxide for treatment of raw water supplied to the plant.

Category 11 - Anhydrous Ammonia – used as a refrigerant, Anhydrous ammonia is compressed and decompressed in a closed loop system which is interlinked throughout the production line and cooling rooms.

Category 12 - Syrups – used in conjunction with flavouring as a component of the beverage production process. These are also subjected to seasonal and market variations which will ultimately dictate the total amount stored on site at any given time.

Category 13 - Phosphoric Acid – used as a component of syrup production, carbonisation and as a preservative for packaged beverages. Phosphoric acid is used at various stages throughout the production process.

Category 14 - Oxonia (Peroxyacetic Acid) – used as a sanitising agent throughout the production process.

The projected quantities, class, packaging and threshold levels for the abovementioned categories which will be used and stored on site are shown in **Table 4.2**. Threshold levels and distances shown in **Table 4.2** are an extract from DUAP (1994, Table 3) and DUAP (1994, Figures 8 & 9).

Table 4.2 Dangerous Goods Preliminary Risk Screening

Category (Described in Section 4.2)	Description	UN Code	Class	Packaging Group	Proposed Quantity on P&N Beverages Site	Screening Threshold for Individual Quantities#	Threshold Exceeded by Individual Category Alone?
1	Wastewater treatment chemicals	Various	8 and 3	Assumed 1 for both	3 m ³	If Class 8, 5 tonnes/5 m ³ , If Class 3 Distance < 7m (see Figure 8*)	No (Class 3 materials are 18 m from boundary)
2	Ink / Coding fluids	Various	3	1 (Advised by P&N)	0.6 m ³	Distance < 7 m (see Figure 8*)	No (40 m from boundary)
3	White spirits	1300	3	3 (Advised by P&N)	0.4 m ³	2 m ³ Distance < 1 m (see Figure 9*)	No
4	Flavours	1197	3	2 (Advised by P&N)	25 m ³	Distance < 15 m (see Figure 9*)	No (40 m from boundary)
5	Fork truck bottles – LPG	1075	2.1	None Allocated	50 bottles (Assumed 100L or 0.1 m ³ each) = 5 m ³	16 m ³	No
6	Welding gas (Acetylene)	1001	2.1	None Allocated	30 bottles (Assumed 100L or 0.1 m ³ each) = 3 m ³	16 m ³	No
7	Hydrogen Peroxide	2014	5.1	2 (Source: MSDS)	3 tonnes	5 tonnes	No
8	LPG (Bulk Storage)	1075	2.1	None Allocated	4 m ³	16 m ³	No
9	CO ₂	2187	2.2	None Allocated	100 000 kg	N/A	N/A
10	Sodium Hydroxide	1824	8	2 (Advised by P&N)	10 m ³	25 tonnes/ 25 m ³	No
11	Anhydrous Ammonia	1005	2.3	1 (Source: MSDS)	4.5 tonnes	5 tonnes / 5 m ³	No
12	Syrup	Various	8	3 (Advised by P&N)	9 m ³	50 tonnes / 50 m ³	No
13	Phosphoric Acid	1805	8	3 (Source: MSDS)	8 m ³	50 tonnes / 50 m ³	No
14	Oxonia (Ecolab)	3149	5.1	2 (Advised by P&N)	3 tonnes	5 tonnes	No

Distance refers to distance from boundary. * Figures 8 and 9 of DUAP (1994)

Based upon the information presented in **Table 4.2** and the procedure outlined in *Applying SEPP 33* (DUAP, 1994) each 'Class' of good was systematically examined for each Category (i.e. Classes 2.1, 2.2, 2.3, 3, 5.1 and 8). An analysis of goods within each class identified is provided below along with an indication as to whether or not there is a potential hazard.

Class 2.1

Class 2.1 goods are those that fall into Categories 5, 6 and 8 that represent Bottled LPG, Welding Gas (Acetylene) and Bulk LPG respectively. These goods will have a combined total volume of less than 12 m³ on site. From the site plan shown in **Figure 2** the Bulk LPG storage would be isolated from the Bottled Class 2.1 goods, thus combining the total is conservative. **Table 4.3** indicates the threshold is 16 m³ thus the Class 2.1 component of the proposal is not potentially hazardous.

Class 2.3

The Class 2.3 material on site will be Anhydrous Ammonia (Category 11). This ammonia will be used for the refrigeration system. The maximum capacity for Anhydrous Ammonia on site will be 4.5 tonnes. This is less than the 5 tonne threshold limit and indicates that the Class 2.3 component of the proposal is not potentially hazardous.

Class 3

The Class 3 materials on site will include Categories 1, 2, 3 and 4. These Class 3 materials are from packaging groups (PG) 1, 2 & 3 and therefore are considered in the three packaging groups separately (3PG1, 3PG2 and 3PG3).

Class 3PG1

The total Class 3PG1 goods onsite is 3.6 m³ (Categories 1 and 2). The 3.6 m³ is a combination of Category 1 (Wastewater treatment chemicals) and Category 2 (Ink and labelling products). From Figure 8 of DUAP (1994) the required distance to the boundary from this class of materials is more than 7 metres. **Figure 2** shows Category 1 is greater than 18 metres from the boundary and Category 2 is greater than 40 metres from the site boundary. It should be noted that in both cases, Category 1 and Category 2, the Class 3PG1 goods are stored in isolation (minimum of 45 metres) from other Class 3 goods. As the distances to the boundaries are well in excess of the requirements, as shown in **Table 4.2**, the Class 3PG1 component for the site is not potentially hazardous.

Class 3PG2

Class 3PG2 goods include the ethanol-based flavourings (Category 4) that are used for many of the products produced on site. **Table 4.2** shows that 25 m³ of Class 3PG2 goods will be present on site. From Figure 9 of DUAP (1994) this required a distance to the boundary of more than 15 metres. **Figure 2** shows that Category 4 is 40 metres from the boundary hence Class 3PG2 component of the proposal is not potentially hazardous.

Class 3PG3

Class 3PG3 materials (Category 3) on site are less than 2 m³. Table 1 of DUAP (1994) indicates that this volume is not potentially hazardous.

Class 5.1

The Class 5.1 material on site will be Category 7 (Hydrogen Peroxide) and Category 14 (peroxyacetic acid, *reported here as Oxonia Active*). Both materials are used in cleaning and sanitizing. **Figure 2** shows that Category 7 and Category 14 are separated by a

distance of more than 75 metres thus each material has been treated here as a separate entity. Referring to **Table 4.2** it can be seen that both Category 7 and Category 14 are under the screening threshold limit. Hence it can be considered that Class 5.1 materials, with the site plan layout in **Figure 2**, are not potentially hazardous.

Class 8

The Class 8 materials on site include Phosphoric Acid (Category 13), Flavouring Syrups (Category 12), potential chemicals for the on-site wastewater treatment plant (Category 1) and Sodium Hydroxide (Category 10). These Class 8 materials are from packaging groups (PG) 1, 2 & 3. The Class 8 materials have not been lumped together due to their locations shown in **Figure 2**.

Class 8PG1

There are 3,000 Litres or approximately 3 tonnes of Class 8PG1 materials expected to be located on the site. This is a conservative provision as it is not known at this stage what chemicals will be used for the on-site wastewater treatment plant. The water treatment plant is isolated on the southern end of the site thus these Class 8 materials are not added to the other Class 8 materials proposed on the site. As shown in **Table 4.2**, the Class 8PG1 component of the proposal is not potentially hazardous as the quantity is less than 5 tonnes.

Class 8PG2

There are 10,000 Litres or approximately 10 tonnes of Class 8PG2 materials expected to be held on site. The Class 8PG2 goods on site are wholly comprised of Sodium Hydroxide (Category 10). Category 10 is isolated from the other Class 8 materials on site and the quantity on site expected as shown in **Table 4.2** is less than the threshold. Hence the Class 8PG2 component of the proposal is not potentially hazardous.

Class 8PG3

There are 17,000 Litres or approximately 17 tonnes of Class 8PG3 materials expected on site. The Class 8PG3 goods on site are comprised of Phosphoric Acid (Item 13) and Syrup (Category 12). **Figure 2** shows that Category 12 and 13 will be stored together hence their quantities have been added for this screening assessment. **Table 4.2** shows that the total Class 8PG3 materials proposed to be on site will be less than the threshold. Hence the Class 8PG2 component of the proposal is not potentially hazardous.

4.3 Dangerous Goods Transport Screening

The manufacture of beverage products by the proposed P&N Beverages facility at Smeaton Grange will require transportation of dangerous good to and from the site. To investigate the transportation movements and quantity of material transported, a site inspection and interview with engineering staff was undertaken at the currently operating P&N Beverage facility at Condell Park on 2 December 2008.

The *Applying SEPP 33* guidelines (DUAP, 1994) provides a methodology to determine if the transport of goods results in a potential hazard. **Table 4.3** provides a summary of the threshold total annual and weekly transportation rates extracted from the guidelines.

The paragraphs following **Table 4.3** systematically examine each class of goods and indicate whether or not the need for a transport study has been triggered.

Table 4.3 Dangerous Goods Transport Screening Thresholds (Extract from DUAP (1994))

Class	Cumulative Annual Vehicle Movements	Cumulative Weekly Vehicle Movements	Minimum Quantity Bulk (tonnes)	Minimum Packages Bulk (tonnes)
2.1	>500	>30	2	5
2.3	>100	>6	1	2
3 PGI	>500	>30	1	1
3 PGII	>750	>45	3	10
3 PGIII	>1000	>60	10	No limit
5.1	>500	>30	2	5
8	>500	>30	2	5

Class 2.1 Goods

There will be less than 500 movements per year of Class 2.1 goods at the P&N Beverages Smeaton Grange site. These movements will only involve the re-filling of an onsite LPG and welding gas (Acetylene). From **Table 4.3** the threshold values are not exceeded and therefore this does not trigger the need for a transportation study.

Class 2.3

There will be less than 15 movements per year of Class 2.3. These movements will only involve Anhydrous Ammonia that will be used for the refrigeration system. The refrigeration system is a closed loop, thus it is unlikely that Anhydrous Ammonia will be frequently transported. The input of additional Anhydrous ammonia will only be required under the circumstances of a leak or system malfunction. From **Table 4.3** the threshold values are not exceeded and therefore does not trigger then need for a transportation study.

Class 3PG1

Based on current operations projections there will be much less than 500 movements per year of Class 3PG1. These movements will typically involve the delivery of inks used for labelling of bottles and potentially some chemicals for the proposed on-site waste water treatment plant. These products are only transported in small quantities that are less than 1 tonne. From **Table 4.3** the threshold values are not exceeded and therefore does not trigger then need for a transportation study.

Class 3PG2

Class 3PG2 materials include the ethanol-based flavourings that are used for many of the products produced on site. Discussions with the National Engineering Manager at P&N Beverages concluded that the majority of transport movements were approximately 1.5 tonnes or less. **Table 4.3** indicates that this quantity is not significant and as such the threshold values are not exceeded and therefore does not trigger then need for a transportation study.

Class 3PG3

Class 3PG3 materials include white spirits that are used in cleaning. Discussions with the National Engineering Manager at P&N Beverages concluded that there would be less than the 1000 annual movements, being the threshold listed in **Table 4.3**. As such the threshold values are not exceeded and therefore does not trigger then need for a transportation study.

Class 5.1

The Class 5.1 materials proposed for the site are peroxyacetic acid (*known here as Oxonia Active*) and Hydrogen Peroxide. Both materials are used in cleaning and sanitizing. Discussions with the National Engineering Manager at P&N Beverages concluded that the proposed plant will not require transport resulting in more than 500 movements annually of Class 5.1 goods. **Table 4.3** indicates that this quantity is not significant and as such the threshold values are not exceeded and therefore does not trigger then need for a transportation study.

Class 8

The Class 8 material proposed for the site includes Phosphoric Acid, Flavouring Syrups, potential chemicals for the on-site wastewater treatment plant and Sodium Hydroxide. Discussions with the National Engineering Manager at P&N Beverages concluded that the proposed plant will not require transport resulting in more than 500 movements annually of Class 8 chemicals. **Table 4.3** indicates that this quantity is not significant and as such the threshold values are not exceeded and therefore does not trigger then need for a transportation study.

4.4 Level of Impact Assessment

SEPP 33 declares that if any of the screening thresholds are exceeded then the proposed development should be considered *potentially hazardous*, and a PHA is required. Also, if the amounts of substances to be stored onsite or transported are close to the recommended thresholds then the proposed development is also considered *potentially hazardous*, and a PHA is required.

Based on the above screening and analysis the P&N Beverages proposed development at Smeaton Grange does not require any further hazard assessment.

5. OPERATIONAL SAFEGUARDS

The proposed new Smeaton Grange development will include significant advances in operational safeguards in comparison to the current manufacturing facilities at Condell Park, Moorebank and Chester Hill. The new facility will utilise many of the existing management procedures in regards to the storage, handling and use of chemicals and potentially hazardous products. However, changes will be implemented to reflect the nature and function of the updated manufacturing equipment.

The new P&N Beverages manufacturing facility will include provisions for a refrigeration system which will regulate the temperature of ingredients required throughout the production phase. Whilst detailed design is yet to be completed, it is understood that the proposed refrigeration system will be consistent with current operations at Condell Park, and therefore require the use of Anhydrous ammonia. The increased capacity of operations at the Smeaton Grange facility will ultimately require a larger refrigeration system. It is understood that the Anhydrous ammonia poses a potential environmental risk and is considered hazardous under the *Australian Code for the Transport of Dangerous Goods By Road and Rail* (2007). As outlined in **Section 4.2** and **Section 4.3** the projected volume of Anhydrous ammonia proposed to be stored and used on site does not exceed the threshold of 5000 kg as outlined by DUAP (1994). Therefore, further assessment of this matter is not required. Nonetheless, consultation with P&N Beverages and Gordon Brothers Industry Pty Ltd (who are contracted to undertake the design of the proposed refrigeration unit), has identified the safety management elements which will be implemented.

The plant will be designed to comply with AS1677.2 Refrigerating Systems, including the following:

- The plant room will be constructed so that it is segregated from the remainder of the factory and fitted with adequate ventilation.
- Personnel ammonia detectors (0 to 1000 ppm) will be fitted to warn of an ammonia leak in the plant area.
- A 'lower explosive limit' (LEL) ammonia detector will be included to shutdown all power to the plant room in the event of a high level (3,600 ppm) ammonia concentration being detected.
- Adequately sized relief valves will be fitted to all pressure vessels, with properly routed relief pipework to an area outside of the plant room.
- All oil draining points will be fitted with spring loaded 'dead-man' valves to prevent accidental failure to close valves after oil draining is completed.
- Adequate personnel protective equipment (PPE) will be supplied to cover the event of a minor ammonia leak.
- Sight glasses will be fitted with guarding to comply with the code.

Signage, drawings and documentation will be supplied to detail the installation. Furthermore, the refrigeration unit will be operating in a closed loop system and will not require the input of additional Anhydrous ammonia except under the circumstances of a leak or system malfunction. As this will be a new system with updated technology, malfunctions and leaks are unlikely.

6. CONCLUSION

The SEPP 33 analysis has found that the proposed development Lot 433 DP 1117230, Smeaton Grange by P&N Beverages meets the criteria prescribed by the relevant guidelines. The onsite quantity screening process found no goods on site to be potentially hazardous. The transportation movements screening process found that a transportation study is not required for the proposed development.

It may then be concluded that the sites proposed operations are not considered an offensive or hazardous industry based on applying NSW Planning guidelines.

7. QUALIFICATIONS

This Preliminary Hazard Analysis takes into account an initial risk screening which has been based on information provided to Cardno by P&N Beverages and Investa. Such information is based on projections for the Smeaton Grange site by P&N engineering staff based on current operations. Cardno has assumed the provided information to be true and correct and accepts no liability (except that required by law) where provided information is incorrect or misleading.

Cardno services for this project has been carried out in accordance with our current professional standards for site assessment and investigations and the scope of work necessary for the preparation of this report. No guarantees are either expressed or implied.

This report has been prepared for Investa Pty Ltd, as per our agreement for providing environmental assessment services. Although due care has been taken in the preparation of this report, no warranty is given, nor liability (except that required by law) in relation to the information contained within this report.

Investa Pty Ltd are entitled to rely upon the findings in this report within the scope of work described in this report. No responsibility is accepted for the use of any part in any other context or for any other purpose.

Opinions and judgements expressed herein, which are based on our understanding and interpretation of current regulatory standards, should not be construed as legal opinion.

8. REFERENCES

Australian Government (2007) *Australian Code for the Transport of Dangerous Goods by Road and Rail (Seventh Edition)* (ADG7 Code).

Lockery Planning and Development Solutions Pty Ltd (2008) *Environmental Assessment Report – Project Application 08_0011 to the Department of Planning – P&N Beverages Lot 300 in DP 1117230 Bluett Drive, Ironbark Industrial Estate, Smeaton Grange*, Prepared on behalf of Investa Commercial Developments, June.

NSW Department of Urban Affairs and Planning (1994) *Applying SEPP 33*. NSW Government.

NSW Government (1992) *Hazardous Industry Planning Advisory Paper No. 6 - Guidelines for Hazard Analysis (HIPAP 6)*.

NSW Government. (1979) *Environmental Planning & Assessment Act 1979*.

NSW Government (1992) *State Environmental Planning Policy No. 33 – Hazardous and Offensive Development (SEPP 33)*.

APPENDIX A

Material Safety Data Sheets

APPENDIX B

Notes from Site Inspection 2 December 2008 at P&N Beverages Facility at Condell Park

Meeting Minutes

Subject: Clarifying quantities, transport movements and operations at the Proposed P&N Beverage facility at Smeaton Grange.

Date: 2/12/2008

Location: P&N Beverage facility at Condell Park

Present: Riccardo Alloggia 'RA' (Investa), David Pryor 'DP' (P&N Beverages), Chris Thompson 'CT' (Cardno Environment), Andrew Caska 'AC' (Cardno Environment).

Item #	Comments	Action	Date Due / Task status
1	Assessor for the P&N Smeaton plant from Department of Planning is Sohan Fernando – 9228-6151	Noted	N/A
2	Waste water treatment plant is in concept for only – the Class of goods and quantities are estimates supplied by DP.	DP to send CT, AC MSDS sheets for all goods on the proposed site.	Complete
3	DP advised that quantities of colours/flavour vary seasonally to the market conditions. Flavours are 95 – 99% Ethanol – assume all flavours are 99% Ethanol to be conservative.	Noted	N/A
4	The facility is simply to mix sugar, water and flavour and bottle and package beverages.	Noted	N/A
5	The quantity of goods (Flavour, Syrup, Cleaning products, CO ₂) onsite may vary, however, the estimates made are considered to encompass the quantities for the proposed plant at Smeaton Grange.	Noted	N/A
6	Welding Gas stored in cages (80% Argon Gas, 20% Oxy Acetylene)	Noted	N/A
7	Hydrogen Peroxide use in cleaning	Noted	N/A
8	DP to provide to Cardno paragraphs about the plant processes for inclusion in SEPP33 analysis.	DP	complete
9	The new facility is approximately 3 times the size of the facility at Condell Park. Estimate of quantities and transport movements are based on this.	Noted	N/A
10	Anhydrous Ammonia on site onsite capacity is 4.5 tonnes. This has been estimated from scaling of current operations. The WorkCover 'Dangerous Goods on Premises' were sighted for current operations and supplied to CT/AC.	Noted	N/A
11	The Sodium hydroxide onsite has been estimated to be 10,000 L.	Noted	N/A

Item #	Comments	Action	Date Due / Task status
12	Phosphoric Acid, used for Cola, is Standard 81% Class 3.	Noted	N/A
13	Cleaning products include white spirits, Sodium Hydroxide and Oxonia.	Noted	N/A
14	AC and DP to create a spreadsheet to estimate the transport quantities and frequency of movements. This will be used in the screening process.	AC/DP	completed
15	Bulk LPG is stored separately onsite for the purpose of filling smaller Fork-lift bottles	Noted	N/A
16	All goods in the agreed 14 classification categories were reviewed and MSDS sheets checked. The quantities of the 14 classifications were reviewed by DP as a being representative of the proposed operations at Smeaton Grange.	Noted	N/A
17	Site inspection undertaken at the existing Condell Park facility to gain insight into the proposed new development at Smeaton Grange.	N/A	N/A