

Department of Infrastructure, Planning and Natural Resources

Proposal by Redox Chemicals Pty Ltd to Construct and Operate a Chemical Storage and Distribution Facility at Lot 171 Swettenham Road, Minto, Campbelltown Local Government Area

Assessment Report

Department of Infrastructure, Planning and Natural Resources

August 2003

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1. INTRODUCTION

On 31 October 2002, the Department received a development application from Redox Chemicals Pty Ltd (the Applicant) to construct and operate a chemical storage and distribution facility, located at Lot 171 Swettenham Road, Campbelltown, in the Campbelltown local government area.

The proposed development is classified as 'State Significant' development under section 76(A)(7)(b)(iii) of the *Environmental Planning and Assessment Act 1979* and the Minister for Infrastructure and Planning is the consent authority for the development application (DA).

On 20 January 2002, the then Minister for Planning directed that a Commission of Inquiry be held into all environmental aspects of the proposed development, in accordance with section 119 of the *Environmental Planning and Assessment Act 1979*.

1.1 Background

The Applicant is proposing to construct a chemical storage and distribution facility in four stages over a five-year period. At the completion of the development, the proposed facility would consist of two large segmented warehouses, one flammable goods store and two administration buildings. This facility would enable the Applicant to consolidate and expand its NSW operations, and would act as the administrative headquarters for its Australian and New Zealand operations.

The proposed development involves a capital investment of \$13 million and would create 189 full time positions at the facility. 116 of the 189 employment positions supported by the proposed development would be new positions, with the remainder relocated from existing Wetherill Park operations.

1.2 Commission of Inquiry

On 20 January 2002, the then Minister for Planning directed that a Commission of Inquiry be held into all environmental aspects of the proposed development, in accordance with section 119 of the *Environmental Planning and Assessment Act 1979*. The Minister appointed Dr Mark Carleton to constitute the Commission of Inquiry.

In June 2003, Commissioner Carleton presented his findings to the Minister for Infrastructure and Planning, stating that:

The Commission is satisfied that environmental considerations are not such as to preclude approval of the proposed chemical storage and distribution facility subject to the deletion of the soda ash operation and removal of the transportation of, and decanting of Class 5.1 and 6.1 products.

Following the presentation of the Commissioner's findings to the Minister, the Department exhibited the draft recommended conditions between 5 August 2003 and 20 August 2003 to enable to community to comment on the Department's recommendations. During this exhibition period, the Department received four submissions from the general public. With the exception of one submission, the submissions raised no specific concern with the recommendations, however reiterated their continued objection to the proposed development.

This report represents the Department's assessment of the proposed development, and the Department's consideration of the Commissioner's recommendations and comments from the public regarding the recommended conditions of consent. The Department recommends approval of the development application subject to a number of conditions.

2. SITE CONTEXT

2.1 Site Description

The proposed development is located at Lot 171 Swettenham Road, Minto, in the Campbelltown local government area, as shown in Figure 1. Located within the Minto Industrial Estate, the site is zoned 4(b) – Industry B and is currently vacant.

The proposed development site has been extensively disturbed by earthworks undertaken to enable the site to be suitable for industrial purposes, and has limited vegetation cover at the site to the western and eastern property boundaries. Campbelltown Council granted consent for the earthworks and vegetation removal on 10 January 1997, in preparation for redevelopment.

As a result of the earthworks, the 6 hectare site has been levelled to create a two "platform" configuration, with a smaller platform located at the Swettenham Road entrance and a larger elongated platform at the lower eastern portion of the site. A steep batter along the majority of the western boundary visually separates the lower platform of the site from the existing commercial premises located along Swettenham Road and residential premises along Campbelltown Road. An additional batter along the eastern boundary elevates the lower platform above the Bow Bowing Canal, and restricts any potential risk for flooding.

2.2 Surrounding Land Uses

The proposed development site is in the Minto Industrial Estate, and is surrounded by a number of landuses ranging from industrial, commercial and residential.

Directly adjoining the site is the Bow Bowing Canal to the east, several factory and retail units to the north, vacant land to the south and a range of commercial premises, including the New Generation Child Care centre, to the west.

Beyond the site boundaries, development surrounding the proposed site consists of a mix of industrial manufacturing and warehousing developments, commercial premises, the residential suburbs of St. Andrews and Minto, and several recreational and educational facilities (refer to Figure 1). The closest residences are located along Campbelltown Road in the suburb of St. Andrews, located to the east of the site. Due to the unusual shape of the site, the closest residence from the site boundary varies from 50m (Swettenham Road entrance) to 200m (warehouses at Holmes Road entrance).

3. DEVELOPMENT PROPOSAL

3.1 Background

The Applicant currently operates a chemical storage and distribution facility at Wetherill Park. As past expansions have utilised all available space at this site, the Applicant has been forced to rely on contracted storage facilities off-site to enable the company to expand and meet its storage requirements.

With the continuation of the company's growth and the desire to have direct control of its products, the Applicant is now proposing to relocate its operations to Lot 171 Swettenham Road, Minto. The proposed site would enable the Applicant to restrict its reliance on contracted facilities, consolidate most of its NSW operations and provide sufficient space for any future growth.

The Applicant is proposing to construct and operate the proposed development in four stages. Stages 1, 2 and 3 of the proposed development would involve the construction and operation of storage facilities for packaged goods, while Stage 4 would provide facilities for the receival and dispatch of bulk products. Consent is sought for all four stages.

The proposed development would involve a capital investment of \$13 million and create 189 full time positions at the facility. 116 of the 189 employment positions supported by the proposed development would be new positions, with the remainder relocated from existing Wetherill Park operations.

Figure 1 – Site Location

3.2 Description of Proposed Development

The proposed development involves the construction and operation of a chemical storage and distribution facility. This facility would enable the Applicant to expand and consolidate its NSW operations, and would act as the administrative headquarters for its Australian and New Zealand operations.

Once the proposed development is fully operational, the facility would have a capacity to store approximately 15,845 tonnes of chemicals, consisting of 11,195 tonnes of non-dangerous goods and 4,650 tonnes of dangerous goods (Classes 3, 5.1, 6.1 and 8). The majority of the goods stored on site would be delivered as pre-packaged goods. Expected quantities of dangerous and non-dangerous goods to be located on the site are summarised in Table 1.

Chemical Class	Tonnage	Percentage of Total
Non Dangerous Goods	11,195	70.6%
Class 3 (Flammable)	900	5.7%
Class 5.1 (Oxidizing)	250	1.6%
Class 6.1 (Toxic)	850	5.4%
Class 8 Packages (Corrosive)	2,400	15.1%
Class 8 bulk (Corrosive)	250	1.6%
Total	15,845T	100.0%

Table 1: Breakdown of Chemicals Stored On-site

The Applicant is proposing to construct the facility in four stages over a five-year period. At the completion of the development, the proposed facility would consist of two large segmented warehouses, one flammable goods store and two administration buildings.

Stage one would enable the immediate transfer of the Wetherill Park operations to the proposed development site, and includes:

- the construction of a three-storey administration building at the Swettenham Road entrance;
- the construction of a two-storey transport office near the Holmes Road entrance;
- the construction of a stand alone flammable goods store;
- the construction of the adjoining buildings "C" and "D" for the storage of pre-packaged dangerous and non-dangerous goods respectively;
- the construction of Building "J" for the storage of dangerous goods (Class 5.1);
- the provision of a decanting area;
- the construction of the site entry and access driveways at Swettenham Road and Holmes Road;
- the construction of all hardstand areas; and
- the installation of the first-flush and stormwater isolation valves.

Stage two would enable the Applicant to expand to meet expected future growth by increasing the storage area for palletised goods. This would include the construction of building "E", adjoining the existing "C" & "D" warehouses.

Stage three would enable the Applicant to provide additional storage area for palletised goods. This would involve the construction of Building "I", adjoining the existing building "J". This proposed warehouse was originally intended for the storage, packing and distribution of 7,000 tonnes of bulk soda ash (a non-dangerous good), which was to be delivered to the site over a 72 hour period every 3-4 months. However, the Applicant has removed this component in response to Government, local council and community concerns (see section 3.3).

Stage four would see the completion of the proposed development. This stage would provide the Applicant with additional pallet storage for non-dangerous goods to meet expected company growth (Building "H") and facilities to enable the storage of bulk liquid products in above ground tanks for the decanting and dilution of products.

Figure 2 provides an illustration of the site layout for the proposed development.

Figure 2 – Proposed Development

3.3 Revised Development Application

Following the primary session of the Commission of Inquiry, the Applicant amended the proposal to remove the proposed bulk soda ash component and to eliminate certain chemicals to be received and dispatched from the site. This resulted in an overall reduction in the storage capacity of the proposed facility, decreasing the total tonnage of dangerous and non-dangerous goods stored on-site from 20,500 tonnes to 15,845 tonnes.

The Applicant has proposed to remove these components from the proposal to address Government, Council and community concerns relating to off-site risk, noise, traffic and air quality concerns. Specifically, these amendments involve:

- removal of bulk soda ash storage and dispatch facility, eliminating the need for the proposed 72 hour delivery of bulk soda ash and related activities on-site;
- restriction of decanting operations to Class 8 and non-dangerous goods. No Class 5.1 and 6.1 goods would be decanted on-site;
- restriction of package size of Class 6.1 goods to 205L drums (liquids) and 1000kg bulk bags (solids);
- restriction of storage and handling operations involving Class 5.1 goods to Packing Group (PG) III solids goods only, with no Class 5.1 PG II or Class 5.1 solids to be stored or handled on-site;
- removal of Methanol (Class 3 sub-risk 6.1 liquid) from the proposed operations.
- removal of Intermediate Bulk Containers (IBC) of Class 3 goods from the proposed operations. The largest package size for Class 3 would be restricted to 205 litres;
- restriction of bulk dangerous goods to Class 8 goods;
- restriction of package size of Class 5.1 goods to 1000kg bulk bags (solids); and
- removal of Class 3 with a sub-risk of 6.1 or Class 6.1 of Class 3 will be stored or handled on-site.

4. STATUTORY PLANNING FRAMEWORK

4.1 Permissibility

Under the *Campbelltown (Urban Area) Local Environmental Plan 2002* (CLEP), the proposed development site is zoned 4(b) – Industry B. Clause 13(5) of the CLEP states that "hazardous" storage establishments and "offensive" storage establishments are prohibited within this zone.

The proposed development would not be considered "hazardous" or "offensive" should a Preliminary Hazard Analysis (PHA) for the proposed development demonstrate that the facility would not have a significant off-risk impact, and that the EPA indicates that it would be prepared to issue an Environment Protection Licence for the facility under the *Protection of the Environment Operations Act 1997*.

The Department has reviewed the PHA and the additional information provided by the Applicant in response to concerns raised by the Department at the primary session, and is satisfied that the development does not constitute a 'hazardous' development (refer to Section 6.1). Furthermore, the EPA has indicated that it would issue a licence for the proposed facility, and has accordingly issued its General Terms of Approval for the proposal.

Consequently, the proposal is considered not to constitute a 'hazardous' or 'offensive' storage establishment and is therefore permissible with consent.

Please note that the Commissioner's report to the Minister for Infrastructure and Planning stated that the Department required the preparation of a Final Hazard Analysis (FHA) in order for the Applicant to demonstrate that the proposal did not constitute 'hazardous' development. This is incorrect as the FHA is required by the Department to confirm the findings of the PHA following the detailed design of the facility. This is a standard requirement for any development of this type and is not required to determine if a development is deemed 'hazardous'.

4.2 State Significant Development

The development proposal satisfies the criteria of State significance as stated within *State Environmental Planning Policy No.* 34 - Major Employment Generating Industrial Development (SEPP 34) as it would employ 100 or more people on a full-time basis and is a storage operations associated with chemicals processing. Consequently, the proposal is classified as State Significant Development under section 76(A)(7)(b)(iii) of the Act, and the Minister is the consent authority for the DA.

4.3 Integrated Development

This proposal is integrated development as defined in section 91 of the Act as it requires a licence, permit or approval from three separate approval bodies: the Environment Protection Authority (EPA); the Department of Infrastructure, Planning and Natural Resources (formerly the Department of Land and Water Conservation); and Campbelltown City Council.

Specifically:

- an Environment Protection Licence (EPL) is required from the EPA under the *Protection of the Environment Operations Act 1997*;
- a permit is required from the Department under Part 3A of the *Rivers and Foreshores Improvement Act 1948;* and received
- approval is required from Council under the *Roads Act 1993*.

Please note, that as of 1 July 2003, the former Department of Land and Water Conservation (DLWC) was amalgamated with the Department of Urban Transport and Planning (formerly known as PlanningNSW) to form the Department of Infrastructure, Planning and Natural Resources (the Department). Integrated approvals administrated by the former DLWC, such as approvals under Part 3A of the *Rivers and Foreshores Improvement Act 1948*, would now be issued by the Department independently from the Department's environmental impact assessment of the DA.

4.4 Designated Development

The proposal is classified as designated development Schedule 3 of the *Environmental Planning and Assessment Regulation 2000* as it is a chemical storage facility that involves the storage or package of chemical substances in containers or in bulk with a total storage capacity of 2,000 tonnes of any chemical substance and is located within 40 metres of a natural waterbody or wetland. Consequently, an Environmental Impact Statement was prepared to accompany the development application.

4.5 Commonwealth Legislation

The Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) requires approval from the Commonwealth Minister for the Environment for actions that have a significant impact on matters of national environmental significance. The Applicant identified no matters of national environmental significance with this development application, and hence, the EPBC Act does not apply.

4.6 Relevant Environmental Planning Instruments

The assessment of the proposed development is subject to the following environmental planning instruments:

- State Environmental Planning Policy No. 11 Traffic Generating Developments;
- State Environmental Planning Policy No. 33 Hazardous and Offensive Development;
- State Environmental Planning Policy No. 34 Major Employment Generating Industrial Development;
- Greater Metropolitan Regional Environmental Plan No. 2 Georges River Catchment; and
- Campbelltown Local Environmental Plan 2002.

Consideration of the proposed development in the context of the objectives and provisions of these environmental planning instruments is provided below.

State Environmental Planning Policy No. 11

The proposed development is one to which *State Environmental Planning Policy No. 11 – Traffic Generating Developments* (SEPP 11) applies. This is because it is a type of development listed under paragraph (f) of Schedule 2 of the Policy (that is, a building for the purposes of industry that has a gross floor area of 5000m² or more). In accordance with clause 4 of the SEPP, a copy of the development application was forwarded to the Roads and Traffic Authority. The RTA did not object to the proposed development, but raised some concerns with the site access arrangements.

State Environmental Planning Policy No. 33

The proposed development is "potentially hazardous industry" as defined under *State Environmental Planning Policy No. 33 – Hazardous and Offensive Development* (SEPP 33). In accordance with the requirements of SEPP 33, the Applicant has prepared a Preliminary Hazard Analysis (PHA) as part of

the Environmental Impact Statement. The Department has reviewed the PHA and the additional information provided by the Applicant, and has concluded that the proposed development does not constitute a 'hazardous' development. Details of this assessment are provided in section 5 of this report.

The proposed development is also a "potentially offensive development" as it requires an Environment Protection Licence (EPL) from the Environment Protection Authority (EPA). The EPA has indicated that it could issue an EPL, and has accordingly provided its General Terms of Approval (GTA) for the proposed. Consequently, the proposed development does not constitute a 'offensive' development.

State Environmental Planning Policy No. 34

The proposed development satisfies the criteria in Schedule 1 of the *State Environmental Planning Policy No.34 – Major Employment Generating Industrial Development* as it is for the construction and operation of a chemical storage facility that would employ more than 100 persons on a full-time basis. Consequently, the proposal is classified as State Significant Development under Section 76(A)(7)(b)(iii) of the Act, and the Minister is the consent authority for the DA.

Greater Metropolitan Regional Environmental Plan No.2 – Georges River Catchment

Clauses 5, 8 and 9 of the *Greater Metropolitan Regional Environmental Plan No.2* (GMREP No.2) set out specific aims and objectives for the catchment and a range of planning principles that must be considered in determining a development application. The provisions of this plan are outlined in Appendix A.

The Department is generally satisfied that the proposed development meets the requirements of the GMREP No.2.

Campbelltown (Urban) Local Environmental Plan 2002

The proposed development site is on land zoned 4(b) – Industry B, as defined in the *Campbelltown Local Environmental Plan 2002*. Under this zoning, 'hazardous' and 'offensive' storage facilities are classified as prohibited development. As the Department is satisfied that the proposed development would not constitute 'hazardous' development following its assessment of the PHA, and that the EPA have issued its General Terms of Approval, the proposed development does not constitute 'hazardous' or 'offensive' development, and is therefore permissible with consent (refer to section 0).

The relevant objectives of this zoning are provided in Appendix A.

4.7 Development Control Plans

Campbelltown Development Control Plan No.52 – Off Street Car Parking Policy

Development Control Plan No.52 – Off-Street Car Parking Policy sets out the requirements for off-street car parking for a range of developments. The DCP requires the provision of 1 space per $35m^2$ of Gross Floor Area (GFA) for offices, and $80m^2$ GFA for industrial development. This would require the proposal to provide 246 parking spaces. The proposed development includes the provision of 247 spacers and is therefore consistent with the provisions of the DCP.

Campbelltown Industrial Development Policy

The Industrial Development Policy provides detailed provisions for industrial development in the Campbelltown Local Government Area.

The Department is satisfied that the provisions of the policy are met by the proposed development, based on information provided to date. It should be noted that the proposal would not comply with the minimum side setback requirements of this policy, however the Applicant has indicated that Council has not strictly enforced this requirement should the boundary of the site not adjoin publicly accessible or used land, and Council has not objected to proposed setback. The Department has considered the matter, and is satisfied that the non-compliance of the provision would not result in any significant impacts in terms of overshadowing or amenity impacts.

5. CONSULTATION AND EXHIBITION

In accordance with Division 4, Part 6 and Schedule 2 of the Regulation, the development application and accompanying EIS were publicly exhibited for 31 days. Exhibition of these documents took place between Wednesday 20 November 2002 and Friday 20 December 2002 at the following locations:

- Department of Infrastructure, Planning and Natural Resources, Planning Head Office, Sydney;
- Department of infrastructure, Planning and Natural Resources, Regional Planning Office, Parramatta;
- Campbelltown City Council; and
- Nature Conservation Council, Sydney.

As part of the exhibition process, the Department notified all landowners/occupiers within a selected notification area in writing. The notification area, which included the greater part of St. Andrews, was roughly defined by the Hume Hwy, Ballantrae Ave, Sussex Street, the Southern Railway Line and the Pembury Road. All landowners/occupiers adjacent or within these boundaries were notified of the proposed development.

The Department selected the notification area based on the potential impacts that the proposal could have on the surrounding area and the strong level of interest displayed by the local community during the Applicant's pre-consultation process. Campbelltown City Council was consulted in determining the notification area and indicated to the Department that it was satisfied with the selected area.

In total, approximately 1000 landowners/occupiers were individually notified and invited to make a written submission on the proposal.

The Department arranged for the public notification of the proposed development to be placed in the *Macarthur Advertiser* on Wednesday 20 November 2002 and Wednesday 4 December 2002 and the *Macarthur Chronicle* on Tuesday 26 November 2002 and Tuesday 3 December 2002. All newspaper notifications provided details of the proposal, exhibition locations and dates, and information on how interested parties could make a submission. All notifications were undertaken in accordance with the requirements of the *Environmental Planning and Assessment Regulation 2000*.

In response to the exhibition period, the Department received a total of 37 submissions. Three of these submissions were received after the close of exhibition, but have been considered in this report. These submissions can be grouped as follows:

- 4 submissions from Government agencies, including:
 - Roads and Traffic Authority (Sydney Regional Development Advisory Committee);
 - NSW Department of Education and Training; and
 - NSW Fire Brigades (Risk Management and Logistics Support Divisions x2);
- 33 submissions from the general public.

None of the submissions received from Government agencies did not object to the proposed development, but recommended several issues that the Department should consider in its assessment.

The NSW Department of Education and Training expressed concerns in relation to potential impacts on the health and safety of students at St. Andrews Public and Minto Public schools due to the increase in vehicular traffic and off-site hazardous risk.

NSW Fire Brigades indicated that it was satisfied that sufficient measures had been incorporated into the proposed development to adequately assist the Brigades in combating any fire or other emergency.

The Roads and Traffic Authority (Sydney Regional Development Advisory Committee) indicated that further information should be provided to adequately demonstrate how the proposed Holmes Road boom gates would operate, particularly during an emergency.

Thirty-three submissions were received from the public in relation to the proposed development. One submission comprised a petition totalling 208 signatures. All but one of the submissions received objected to the proposed development.

Issues raised in submissions are considered in detail under the relevant parts of section 6 of this report. The key issues identified by members of the public in their submissions are:

- hazards and risk to human and environmental health, particularly in relation to sensitive land uses and the neighbouring residential areas;
- traffic and transport impacts, particularly in relation to existing congestion problems and road conditions;
- air quality impacts, particularly in relation to health-related effects;
- noise impacts, particularly in relation to noise generated by heavy vehicles during the 24/7 operations;
- surface water impacts, particularly in relation to spills and the possible discharge into the Bow Bowing Canal; and
- socio-economic impacts, particularly land devaluation.

Following the presentation of the Commissioner's findings to the Minister, the Department exhibited the draft recommended conditions between 5 August 2003 and 20 August 2003 to enable interested parties to comment on the Department's recommendations. During this exhibition period, the Department received four submissions from the general public. With the exception of one submission, the submissions raised no specific concern with the recommendations, however reiterated their continued objection to the proposed development. One submission stated that the stormwater quality monitoring parameters should be determined prior to determination and also questioned the independence of some reporting conditions. Council provided no comment on the recommended conditions of consent.

6. CONSIDERATION OF ENVIRONMENTAL ISSUES

The Department has reviewed the Environmental Impact Statement for the proposed development, and duly considered all submissions from Government authorities and the public. The proposed development has been assessed against the relevant provisions of the instruments as described in Section 3.5 of this report. Consideration of each of the issues as they relate to the development is provided from section 6.1 to section 6.9 of this report. The issues have been classified as being of significance or of major significance to environmental planning and assessment.

Issues identified as being of major significance to environmental planning and assessment:

- hazards/risk (and associated health impacts);
- traffic and transport impacts
- water quality impacts;

Issues identified as being of **significance** to environmental planning and assessment:

- noise impacts;
- air quality;
- socio-economic impacts;

Other important issues associated with the proposed development are:

- waste management;
- impacts on flora and fauna; and
- impacts on visual amenity.

6.1 Hazards and Risk

Applicant's Position

The Applicant has developed hazard identification charts to: identify potential hazards associated with the proposed development; consider the consequences of those hazards; and identify measures to mitigate against the hazards. This process was applied to the following areas:

- class 3 warehouse;
- class 5.1 warehouse;
- class 6.1 warehouse;
- class 8 warehouse;
- non-dangerous goods warehouse;
- decanting area;
- tank farm and drumming facility;
- driveway; and
- site generally.

Based on consideration of potential hazards, the Applicant identified a number of hazardous incidents that have the potential for off-site impacts. These incidents were carried forward for further consideration and include:

- a fire involving class 3 materials (Warehouse B);
- a fire involving class 6.1 materials (Warehouses C and E);
- a fire involving class 8 materials (Warehouse E);
- release of toxic gases from warehouse fires; and
- release of corrosive liquids.

Class 3 Warehouse B Fire

The Applicant considered a worst-case fire scenario in the class 3 warehouse involving 450,000 kg of material in a 450 m^2 bunded pool fire. The TNO model and pool fire model were used to assess heat radiation distances, as reproduced in Table 2.

Heat Radiation Intensity	Affectation Distance (m)		
(kWm ⁻²)	TNO Model	Pool Fire Model	
4.7	50.5	29.9	
12.6	31.9	23.5	
23.0	20.5	21.3	

Table 2: Heat Radiation Effects of a Class 3 Warehouse Fire

Note: Heat Radiation Intensity refers to the level of effect on a person or structures exposed to a fire, with 4.7 kWm⁻² representing injury to a person after 30 seconds of exposure and 23.0 kWm⁻² representing likely fatality from extended exposure.

The Applicant highlights that a heat radiation intensity of 23 kWm⁻² (structural damage) will not be exceeded at the site boundary, some 40 metres away from the fire event. The 4.7 kWm⁻² heat contour will not extend to residences some 230 metres away from the class 3 warehouse.

Class 6.1 Warehouse C Fire

A worst-case fire in the class 6.1 warehouse was modelled, assuming a 900m² bund fire of 280,000 kg of dichloromethane. The results of this modelling are reproduced in Table 3.

Table 3: Heat Radiation Effects of a Class 6.1 Warehouse C Fire

Heat Radiation Intensity	Affectation Distance (m)		
(kWm ⁻²)	TNO Model	Pool Fire Model	
4.7	38.3	32.9	
12.6	22.3	31.0	
23.0	-	30.2	

The 23 kWm⁻² heat contour will not extend to the site boundary, or class 3 and class 5.1 storage areas more than 60 metres away. The 4.7 kWm⁻² heat contour will not reach the nearest residences, more than 230 metres from the class 6.1 warehouse.

Class 6.1 Warehouse E Fire

The Applicant undertook a similar class 6.1 fire modelling for Warehouse E as for Warehouse C. The assumed worst-case fire incident involved 280,000 kg of dichloromethane in a 750 m^2 bund fire, with results as indicated below.

Heat Radiation Intensity	Affectation Distance (m)		
(kWm⁻²)	TNO Model	Pool Fire Model	
4.7	35.6	30.2	
12.6	20.4	28.4	
23.0	-	27.7	

Table 4: Heat Radiation Effects of a Class 6.1 Warehouse E Fire

The 23 kWm⁻² heat contour will not encroach on class 3 and class 5.1 warehouses, nor will it meet the site boundary. The 4.7 kWm⁻² heat contour will not reach the nearest off-site residential receptors.

Class 8 Warehouse E Fire

The Applicant considered 700,000 kg of class 8 liquids in a 750m² bind fire. The results of modelling are as follows.

Heat Radiation Intensity	Affectation Distance (m)		
(kWm⁻²)	TNO Model	Pool Fire Model	
4.7	33.7	30.2	
12.6	20.6	28.4	
23.0	-	27.7	

Table 5: Heat Radiation Effects of a Class 8 Warehouse E Fire

The 23 kWm⁻² heat contour will not extend to the site boundary, the class 3 warehouse of the class 5.1 warehouse. Equally, the 4.7 kWm⁻² heat contour will not affect residences.

Toxic Gas Release (Fire Generated)

The Applicant notes that a warehouse fire may include dangerous goods that, when combusted, will generate toxic gases. A number of modelling exercises were conducted and presented in the Preliminary Hazard Analysis (PHA) to assess the potential off-site impacts of a fire generating toxic gases.

In relation to class 6.1 materials, a worst-case situation was assumed, with the combustion of dichloromethane generating hydrogen chloride gas. Air dispersion modelling suggests that the maximum concentration of hydrogen chloride by a fire event involving dichloromethane would be less than 100 ppm (NIOSH IDLH) at a distance of 200 metres from the fire. This 100 ppm value represents the National Institute of Occupational Safety and Health (NIOSH) accepted IDLH level (immediately dangerous to life or health).

The emission of NO_2 from a class 5.1 fire was also modelled. The Applicant notes that a maximum NO_2 concentration less than 20 ppm (NIOSH IDLH) could be expected at a distance of 220 metres from the fire event.

The Applicant concludes that a fire on-site that generates toxic gases would not generate a significant off-site risk impact.

Corrosive Liquid Release

The Applicant notes that a release of corrosive liquid from a tank farm on the site could generate a significant impact on the biophysical environment. Before such a release could leave the site, the corrosive liquid would need to pass the tank farm bund wall, then the site's stormwater isolation valve and/ or pass the site's bund wall. An event tree was developed for potential scenarios that may result in the release of corrosive liquids from the site. Three key series of events were identified that may permit such a release:

- the tank farm bund wall fails and the stormwater isolation valve is open. This incident could occur at a frequency of 1.93 x 10⁻¹⁰ per year;
- the tank farm bund wall fails, and the stormwater isolation valve fails open. This incident could occur at a frequency of 5.92 x 10⁻⁶ per year; and
- the tank farm bund wall fails, and the site bund wall fails. This incident could occur at a frequency of 1.03 x 10⁻⁵.

The total frequency of a release of corrosive liquid from the site is 1.62×10^{-5} per year. The Applicant argues that the surrounding biophysical area cannot be characterised as particularly sensitive, and as such the frequency of a potential corrosive liquid release is not likely to contribute to a significant off-site risk impact.

Societal Risk

The Preliminary Hazard Analysis also presents an analysis of the societal risk (as opposed to the individual risk considerations outlined above) posed by the proposed development. The societal risk analysis highlights that:

- storage of class 3 dangerous goods poses a risk of 8 fatalities per incident at a frequency of 1 x 10⁻⁶ incidents per year; and
- storage of class 6.1 dangerous goods poses a risk of 0.2 fatalities per incident at a frequency of 1 x 10⁻⁴ incidents per year.

Based on commonly accepted societal risk criteria, the Applicant highlights that all societal risks generated by the proposed development fall within the negligible range.

Transport of Hazardous Materials

The Applicant suggests that traffic accidents involving vehicles carrying class 3 or class 6.1 materials have the potential to generate a significant risk impact. A worst-case fires scenario resulting from a class 3 tanker accident was modelled, assuming a spill of xylene and a resultant pool fire. The results of this modelling are presented below.

Heat Radiation Intensity (kWm ⁻²)	Affectation Distance (m)
4.7	13.0
6.0	11.5
12.6	6.8
23.0	3.7

Table 6: Heat Radiation Effects of a Class 3 Tanker Accident

The Applicant highlights that the heat radiation human injury risk criterion (4.7 kWm⁻²) would extend 13 metres from a class 3 tanker fire. Heat radiation of this intensity could be tolerated over a relatively short period and would not cause fatality, although injury is likely with extended exposure. A fire incident such as the one modelled is predicted to last about 9 minutes at maximum radiation levels. The Applicant highlights that class 3 materials will not be transported through residential areas.

The PHA also presents the results of modelling toxic gas releases from a class 6.1 tanker accident and fire. Dichloromethane was modelled, with results suggesting that from a fire involving 12,000 kg of the material, a maximum concentration of hydrogen chloride of 89 ppm after 100 minutes could be expected. This concentration lies below the IDLH (immediately dangerous to life and health) of 100 ppm and the lethal dose of 275 ppm. The Applicant concludes that it is unlikely that a member of the public would be injured in the even to a class 6.1 tanker accident.

Issues Raised in Submissions on the Environmental Impact Statement

Public Submissions

Public submissions raised general concern over the potentially hazardous nature of the proposed development and its proximity to residential areas and sensitive land uses, including a nearby childcare centre. Particular concerns raised involved fire incidents and the potential for incompatible chemicals to mix. Concern was also raised in a number of submissions that a spill of material on site could generate human health impacts off-site.

Government Agency Submissions

In its submission, the NSW Fire Brigades indicated that it considers that the provisions to be implemented, regarding on-site contaminated fire water containment, fire safety services, systems and measures and emergency planning have been satisfactorily addressed.

The Department of Education and Training raised concern in relation to the safety of school communities, and risk impacts posed by the proposed development.

Department's Position – Primary Session

The Department was generally satisfied with the hazards and risk assessment methodology applied by the Applicant to the Preliminary Hazard Analysis (PHA) completed for the proposed development. The methodology generally accords with the Department's *Hazardous Industry Planning Advisory Paper No.* 6 – *Guidelines for Hazard Analysis* (HIPAP 6), *Multi-Level Risk Assessment* and *Applying SEPP 33*.

Notwithstanding, the Department identified a number of issues in the PHA that required further information or clarification to ensure a robust and comprehensive assessment of all risks posed by the proposed development. Until this information was provided, the Department was unable to concur with the Applicant that the proposed development would not constitute a "hazardous" development, as defined under *State Environmental Planning Policy No. 33 – Hazardous and Offensive Development*. However, the Department highlighted that the issues identified did not constitute fundamental flaws with the hazards and risk assessment and that these outstanding matters were technically resolvable.

Department's Position – Session in Reply

Prior to the Session in Reply, the Applicant notified the Department that it removed or restricted certain classes of dangerous goods to reduce off-site risk in response to community concerns. These changes included:

- restriction of decanting operations to Class 8 and non-dangerous goods. No Class 5.1 and 6.1 goods would be decanted on-site;
- restriction of package size of Class 6.1 goods to 205L drums (liquids) and 1000kg bulk bags (solids);
- restriction of storage and handling operations involving Class 5.1 goods to Packing Group (PG) III solids goods only, with no Class 5.1 PG II or Class 5.1 solids to be stored or handled on-site;
- removal of Methanol (Class 3 sub-risk 6.1 liquid) from the proposed operations.
- removal of Intermediate Bulk Containers (IBC) of Class 3 goods from the proposed operations. The largest package size for Class 3 would be restricted to 205 litres;
- restriction of bulk dangerous goods to Class 8 goods;
- restriction of package size of Class 5.1 goods to 1000kg bulk bags (solids); and
- removal of Class 3 with a sub-risk of 6.1 or Class 6.1 of Class 3 will be stored or handled on-site.

Following the Department's initial assessment of the PHA, several issues were identified. These have discussed with consideration with the Applicant's amendments separately below.

Rocketing Drums

The PHA Clause 3.7.4.3 *Rocketing Drums* assumes that the only openings for exit of rocketing drums would be the roller shutter doors and the vents. However, the discussion of the Warehouse B fire scenario on page A-5 states that "the roof is not fire resistant, the roof may collapse" The PHA states that Fire brigade officers have witnessed rocketing drums travelling 300m. A drum rocketing through the roof could enter another store such as the Class 6.1(toxics) store and start a fire by setting the pallets alight.

The Department considered that the likelihood of escalation by rocketing drums should be minimised by requiring the Applicant to construct the roof structure of warehouse B to ensure that rocketing drums in the event of a fire are contained within the warehouse B. Appropriate conditions have been incorporated into the recommended scope of conditions.

Incident Involving a Four Drum Spill

The PHA modelled the spill scenarios using the contents of a single 205 litre drum. Drums are usually handled as a pallet of four. The Applicant subsequently modelled the spill scenario for a four drum spill of representative materials from each of the Classes 3 and 6.1. The spill modelling indicates that the concentrations at the site boundary were below the ERPG -2 level (The maximum concentration in air below which it is believed nearly all individuals could be exposed for up to one hour without experiencing or developing irreversible or other serious health effects or symptoms that could impair their abilities to take protective action). The nearest residential area and the sensitive receptor (The New Generation child Care Centre) are over 200m from these storages.

The Department considered that the concentrations at the these receptors to be even lower with the additional separation distance and therefore acceptable.

Storage of Methanol in the Class 3 Store

Section 3.7.5.1 of the PHA assessed the heat radiation impacts from a fire in the Class 3 Warehouse B. The inventory at attachment 15 appeared to imply that the methanol would be held in the Class 3 store. The toxic impacts in the event of a fire in the Class 3 store needed to be addressed, with particular regard to the behaviour of the toxic plume during times of adverse weather conditions such as temperature inversions, with respect to impacts on far field residential areas.

The Applicant subsequently informed that methanol would not be brought on site. Therefore the issue was no longer relevant.

Transport Accidents Involving Bulk Class 5.1 and 6.1 Liquids

The EIS (page 5-31) lists three potential transport of hazardous materials incidents. The class 3 and 6.1 incidents appeared to assume non-bulk loads. However, Fig 2.-1 (Site Layout) showed Area K as decanting classes 5.1, 6.1 and 8. This implied that isotainers or similar bulk loads would be brought on site. The Applicant was asked to clarify and address bulk load accidents if relevant.

The Applicant subsequently informed that no bulk loads of Class 3, 5.1 or 6.1 will be brought on site. Therefore the issue was no longer relevant.

Fire Incidents Involving Bulk Class 5.1 and 6.1 Liquids in the Decanting Area

Fig 2.-1 (Site Layout) showed Area K as decanting classes 5.1, 6.1 and 8. This implied that isotainers or similar bulk containers containing these materials would be brought on-site. The Applicant was asked to address the fire scenario in the bulk area and assess the toxic impacts from the Class 6.1 (toxics).

The Applicant has subsequently informed that no bulk loads of Class 3, 5.1 or 6.1 will be brought on site. Therefore the issue was no longer relevant.

Modelling of Scenarios

The modelling results initially submitted by the Applicant for the spill scenarios only gave the concentrations at 20m from the spill. The Department requested the complete modelling results including the concentrations at distances to the New Generation Child Care Centre and residential areas.

The detailed modelling results subsequently provided by the Applicant were checked by the Department to be sufficiently low as not to pose an unacceptable level of off site risk, in particular at the residential areas or the Child care centre.

Worst Case Incident near Child Care Centre

The modelling of one credible scenario, for the case of a fire involving the Class 6.1 delivery truck at the site entrance nearest the child care centre, indicated a Hydrogen Chloride concentration of 85 ppm at the site boundary, whereas the ERPG-2 was 20 ppm and the ERPG-3 (The maximum concentration in air below which it is believed nearly all individuals could be exposed for up to one hour without experiencing or developing life-threatening health effects) was 150 ppm. Given that the child care centre

is at an elevation of some 7m above the access road, the concentration at the centre is considered to be in the order of the ERPG-2 level.

Further, the number of trucks transporting a full 12 tonne load of Class 6.1 goods is stated to be 147 per year. Of this 147, only 8 trucks per year will transport dichloromethane which gives the largest effect distance. However, assuming that all 147 trucks transport dichloromethane, with a presence time of 1 minute within effect distance of the centre, the total presence time per year is 147 minutes. That is a presence frequency of 2.7×10^{-4} per year. On a conservative estimate of one in every 100 trucks being involved in a fire and one in 10 fires not being brought under control (the fire station is less than 1 km away), the frequency of a major fire incident outside the centre would be 2.7×10^{-7} per year. This frequency is considered to be sufficiently low as not to result in a fatality risk level exceeding the NSW criteria (0.5×10^{-6} per year) for sensitive receptors.

Conclusion

The Department's assessment of the proposal as initially outlined in the EIS indicated that off site risks could be above the acceptable level. Queries raised with the Applicant led to several reductions in the types and package sizes of dangerous goods that would contribute to a high level of off site risk. An assessment of the revised proposal indicates that the off site risks and in particular the risk levels at the Child care centre and residential areas are lower than the acceptable levels. Further, the consequences of all except one credible scenario as detailed above, have been demonstrated to be such that off site concentrations of emissions likely to affect people are lower the ERPG-2 level. That is, *the maximum concentration in air below which it is believed nearly all individuals could be exposed for up to one hour without experiencing or developing irreversible or other serious health effects or symptoms that could impair their abilities to take protective action.* The off site concentrations were evaluated at the site boundary. Given that the receptors of concern are at least 120 to 200 m from most incident zones, the concentrations at the receptors would be even lower.

Commissioner's Position

The Commissioner is satisfied that the potentially hazardous incidents have been assessed and meet the relevant requirements. Risks and hazards are greatly reduced to very low levels by the removal of flammable and dangerous chemicals identified as a concern by the Commission of Inquiry. The Commission supported the additional modifications including the covering of transfer areas, separation of certain incompatible chemicals within the storage areas and the reduced packaging sizes to further reduce any risk to the community.

The Commissioner subsequently concluded that the evidence provided during the Commission of Inquiry adequately demonstrated that the potential hazards and risks associated with fire/toxic gas release scenarios and transport accident scenarios are within acceptable limits consistent with the relevant guidelines. However, the Commissioner recommended that the conditions of consent, should the Minister determine the proposal, should include a restriction of the certain classes of dangerous goods to provide certainty to the community on the nature of operations at the facility. A number of the Commissioner's recommendations relating to community consultation have been discussed in section 6.6.

Please note that the Commissioner's report to the Minister for Infrastructure and Planning stated that the Department required the preparation of a Final Hazard Analysis (FHA) in order for the Applicant to demonstrate that the proposal did not constitute 'hazardous' development. This is incorrect. The FHA is required by the Department to confirm the findings of the PHA following the detailed design of the facility. This is a standard requirement for any development of this type and is not required to determine if a proposal constitutes a 'hazardous' development.

Concluding Comment

The Department concurs with the Commissioner's findings that the proposed development would be within the acceptable risk criteria as specified in the relevant guidelines. The Department believes that the Commissioner's recommendation to restrict the proposed development to certain classes of dangerous goods to be consistent with the Department's position of providing transparency and certainty to the local community with respect to the nature of the proposed operations. Furthermore, the Department has committed to the majority of the Commissioner's recommendations with respect to community consultation (refer to section 6.6). Consequently, the Department believes that the Applicant should be restricted to those classes of dangerous goods assessed in the revised PHA. This restriction would be complemented by the recommended Community Consultation Strategy, which would provide

the community with an opportunity to remain involved in and aware of the proposed operations (if approved).

In addition to the above recommendations, the Department believes that the Applicant must be required to prepare additional hazards studies to ensure that the residual risk associated with the proposed development is further reduced during the final design stages of the facility. This would entail the preparation of a Final Hazard Analysis, a Fire Safety Study and a Construction Safety Study in accordance with the relevant guidelines prepared by the Department.

The Department notes that the principle concern of the local community is the on-going management of facility, the potential for accidents at the facility or along heavy vehicle routes, and the associated impacts on the surrounding residential areas. While the PHA demonstrated that the risk to the community is within the recommended levels, the Department acknowledges the community's concerns and recommends that the Applicant should be required to prepare a Transport of Hazardous Materials Study, an Emergency Plan and a Safety Management System. The Department is confident that these measures will ensure that the on-going operations at the facility (if approved) are appropriately conducted to reduce residual risk and that appropriate procedures are in place to respond to any emergency on- or off-site. Furthermore, the Department recommends that the Applicant prepare a Security Management Plan to ensure that the safety of the proposed facility is not compromised.

To complement the above recommended conditions, the Department recommends that the Applicant be required to conduct regular Hazard Audits of the facility (if approved) and to establish an Incident Reporting Protocol. These measures will ensure that the operations at the proposed facility are continually improved and that steps are taken to correct any non-compliance.

6.2 Traffic and Transport Impacts

Applicant's Position

Construction

The EIS did not assess the potential impacts of the construction traffic on the local road network.

However, the Applicant has indicated that the expected volumes of traffic are likely to decrease as the proposed stages proceed. It is predicted that the heaviest volumes of traffic during construction would occur during Stage One due to the extent of the sealing required for the site bunding and stormwater detention system. This would involve approximately 800 concrete trucks over a 10-12 month period, with the largest concrete pours involving 100 truck movements over a day. Due to the reduced volume of work involved in the subsequent stages of the development, the Applicant has predicted that only 150 concrete trucks would be generated during the entire construction period of each stage.

The Applicant claims that the expected volume of construction traffic would be significantly less than the worst case scenario modelled for operational traffic. As the traffic assessment of the proposed development has indicated that the facility would not have a significant impact on the network efficiency, the Applicant has concluded that the volumes of construction traffic would not generate any significant impact.

Site Access and Internal Circulation

Site access to the proposed development would be provided from Holmes Road and Swettenham Road. To restrict the number of vehicles accessing the Swettenham Road entrance, and ensure that heavy vehicles only enter the site off Holmes Road, the Applicant is proposing to install an internal boom gate. This gate has been designed to meet the requirements of NSW Fire Brigades to provide adequate emergency access from both site entrances.

Swettenham Road

The Applicant is proposing to construct a 30m deceleration lane to ensure that vehicles entering or leaving the site do not cause obstruction along Swettenham Road. The works associated with the construction of the proposed deceleration lane would require an approval from Council under section 138 of the *Roads Act 1993*. A conceptual location and design of the deceleration lane has been provided, with the Applicant stating that a detailed design of the lane would be determined following consultation with Council.

Holmes Road

To ensure adequate site safety at the proposed Holmes Street access, the Applicant has proposed to install a double gate access system to manage vehicles entering/departing the site. These gates have been designed to provide sufficient space to accommodate a B-Double vehicle.

It should be noted that Holmes Road is not classified as a B-Double route. As the Applicant has proposed to receive B-Doubles during operations, a separate application has been made to the RTA/Council to alter the road classification. As Holmes Road only provides access to industrial land, and has been designed to cater for industrial developments, the Applicant claims that the reclassification would not be an issue. Regardless of this, should the Minister determine to approve the application, the Applicant would be unable to receive B-Doubles until the reclassification application is approved.

Operational Impacts

Due to the nature of the operations and products stored at the facility, the proposed development is expected to generate a significant level of heavy vehicles and passenger vehicles.

The Applicant has predicted that once the proposal is fully operational, the facility would generate approximately 644 daily movements during normal operations. However, as set out in Table 7, only 28% of these daily movements would comprise of heavy vehicle movements.

The Applicant identified two intersections that are likely to be potentially affected by the traffic generated by the proposed development – Swettenham Road/Campbelltown Road and Holmes Road/Ben Lomond Road. Both are roundabout controlled intersections. It should be noted that the following traffic assessment was based on the maximum movements generated during the bulk soda ash delivery periods, which increased heavy vehicle movements to 322. These movements are no longer applicable with the removal of the bulk soda ash component from the proposal, however the assessment has remained to enable a conservative approach towards the traffic impact assessment.

Vehicle	Da	ily	AM	Peak	PM	Peak
	In	Out	In	Out	In	Out
Passenger	189	189	68	0	0	60
Heavy Rigid	71	71	13	13	0	2
Semi-Trailers	7	7	2	0	0	0
B-Doubles	11	11	0	0	0	0
Visitors	44	44	0	2	2	4
Total Heavy	89	89	15	13	0	2
Vehicles						
Total	322	322	83	15	2	66

Table 7: Projected Traffic Volumes Generated at the Completion of Stage 4 (Daily and Peak)

Holmes Road/Ben Lomond Road

Due to internal circulation restrictions, the majority of the traffic associated with the proposed development would access the site from the proposed Holmes Road entrance. Consequently, the Applicant has concluded that the Holmes Road/Ben Lomond Road intersection would be the intersection most likely to be significantly impacted by proposed development.

During the proposed operations, the proposed development would generate 178 heavy vehicle movements, with approximately 16% of these movements during the AM peak and 1% during the PM peak.

To determine the level of potential impact the proposal could have, the Applicant based the assessment on the level of vehicles generated during the worst case scenario. On this assumption, the Applicant concluded that the additional traffic generated by the proposal at this intersection would constitute 2.5% and 4% of traffic to the east and west of Holmes Road respectively. The percentage increase in heavy vehicles travelling through this intersection was not stated.

Based on these predicted volumes, the assessment conducted by the Applicant indicated that the intersection efficiency would only marginally decrease, with the level of service classification of 'B' maintained, and the average delay and degree of saturation marginally increasing (Refer to Table 8). In addition, the Applicant indicated that the intersection is currently operating well below capacity and would continue to do so regardless of the additional traffic generated by the proposal.

The Applicant subsequently concluded that the proposed development would not generate any significant impacts on this intersection, and that the projected increase in traffic may be reduced should the Applicant gain access to the proposed intermodal terminal located in the Minto Industrial Estate.

	Existing Situation		Projected Situation	
	AM PM		AM	PM
Average Delay (sec)	12.6	12.7	12.8	12.9
Degree of Saturation	0.29	0.31	0.31	0.30
Level of Service	В	В	В	В

Table 8: Intersection Performance of Ben Lomond Road and Holmes Road

Swettenham Road/Campbelltown Road/Raby Road

The Swettenham Road/Campbelltown Road/Raby Road intersection currently operates with a level of service of C/D. This indicates that the intersection is operating satisfactorily, but is nearing capacity. During the assessment, the Applicant also observed slight delays at the intersection during AM and PM peak periods, however the queue along Swettenham Road during these periods was considered insignificant (refer to Table 9).

 Table 9: Average Approach Queue Lengths during Peak periods at the Campbelltown Rd/Swettenham

 Rd/Raby Rd

	No of Vehicles			
Approach	AM Peak	PM Peak		
Campbelltown Road (north)	8	12		
Campbelltown Road (south)	7	7		
Raby Road (west)	13	9		
Swettenham Road (east)	2	6		

Due to the restriction of internal circulation, the Applicant states that the proposed development would only generate an additional 17 vehicles daily at the Swettenham Road/Campbelltown Road/Raby Road intersection. While the intersection is nearing capacity, the Applicant concluded that the minor increase in traffic would not alter the performance of the intersection, and that the intersection has sufficient capacity for the additional 17 vehicles.

The Applicant subsequently stated that an assessment of the intersection would not be warranted.

Issues Raised in Submissions on the Environmental Impact Statement

Public Submissions

Twenty-three of the submissions received from the general public opposed the proposed development due to the existing problems along Campbelltown Road resulting from growing congestion from industrial and residential developments, and the poor condition of this road. The submissions were particularly concerned with the impacts of heavy vehicles accessing the site on a 24 hour, seven days a week basis, and the potential impact on amenity and road safety.

Two submissions suggested that the Applicant should utilise rail freight to reduce heavy vehicle volumes.

Government Agency Submissions

The Roads and Traffic Authority (RTA) did not raise any objections to the proposed development on the grounds of the potential impacts on the local road network. However, it did recommend in its submission that the proposed arrangement of the Holmes Road entrance during normal and emergency situations be considered during the Department's assessment.

The Department of Education and Training expressed concerns regarding potential increases in heavy vehicles and the impacts on the safety of the local school community.

Council provided its General Terms of Approval for the proposal at the Primary Session of the Commission of Inquiry. These have been incorporated into the recommended conditions of consent.

Department's Position – Primary Session

Construction Impacts

The Department generally concurred with the Applicant that the volumes of traffic associated with the proposed construction activities are unlikely to generate any significant impacts on the local road network. The Applicant indicated that the majority of the construction traffic associated with the facility would access the site via Holmes Road, with the Swettenham Road entrance to be used during the construction of the proposed commercial facility, the site entrance and associated car parking areas only. Based on these construction access arrangements, the Department was generally satisfied that these intersections would have sufficient capacity for any short-term increase in construction traffic.

However, the Applicant did not indicate the likely direction from which the traffic is likely to originate from or outlined any measures to manage construction traffic. Consequently, should the Minister determine to approve the application, the Department recommended a condition of consent that would require the Applicant to implement a Construction Traffic Management Plan that would outline the volumes, direction and mitigation measures that would implemented to reduce any potential impact on neighbouring residences or commercial premises.

Site Access and Internal Circulation

The Department requested additional information in relation to the proposed boom gates at the Holmes Road access, the proposed internal boom gate and the extent of roadworks at Swettenham Road entrance. The location of these gates and road works was not clearly identified in the provided plans to adequate gauge what potential impact the gates could have during normal and emergency situations. The Department also requested the Applicant respond to the concerns raised by the RTA in its submission and provide further details on the proposed operation of the Holmes Road gates during normal and emergency situations. The Department stated that it was unable to concur with the Applicant's proposed arrangement for site access until this information was provided.

Operational Impacts

Holmes Road/Ben Lomond Road Intersection

As the level of service (B) is maintained and the degree of saturation and average delay would only marginally increase as a result of the proposed development, the Department generally concurred with the Applicant's conclusion that the proposal would not significantly alter the performance of the Holmes Road/Ben Lomond Road intersection. Through the application of worst case scenario traffic volumes in the assessment, the Department was satisfied that the Applicant had sufficiently demonstrated that the intersection performance would not be significantly reduced. The Applicant had also highlighted that the intersection is currently, and would continue to operate well below its designed capacity.

Regional Road Network

The Department acknowledged that the key concern of Council and the local community related to the potential impacts of the proposal on the regional road network. In particular, the community is concerned that the increase in heavy vehicle movements travelling along Campbelltown Road as a result of the proposal would further increase congestion problems, reducing the condition and road safety of this major arterial road. The Department noted that this issue had been an on-going problem for the community and Council, especially in relation to the poor condition of this road, the lack of regular maintenance and the lack of southbound ramps at the F5 within the Minto/Ingleburn region.

While the Applicant's assessment considered the potential impacts on the immediate local intersections, the Department was concerned that the Applicant had not thoroughly considered the potential impacts on the broader regional road network. The Department subsequently requested additional information from the Applicant in order to assess the potential ramifications on the broader network, including an assessment of intersections along the nominated heavy vehicle route and the assessment The Department concluded that until this information was provided, it was unable to concur with the Applicant that the proposed development would not have an adverse impact on the regional road network or if monetary contributions were necessary to alleviate any potential impacts.

Department's Position – Session in Reply

Prior to the commencement of the Session in Reply, the Department was informed by the Applicant that the bulk soda ash component had been removed from the scope of the subject development application. While the elimination of this component would reduce the maximum daily total vehicle movements from 788 to 644, the peak AM/PM movements would not significantly alter from those assessed in the Environmental Impact Statement (given that bulk soda ash deliveries were not to be concentrated in those peak periods).

The Department's key concerns remaining from the Primary Session were in relation to:

- the potential impacts on the broader regional road network, including any requirement for the proposed southbound ramps onto the F5; and
- the potential ramifications on intersections located along the nominated heavy vehicle route.

Regional Traffic Impacts

In order to assess the potential impacts on the broader road network, the Department requested additional information from the Applicant in relation to traffic impact assessment, and from Council in relation to previous investigations into the need for, and the cost of, the proposed F5 ramps.

At the outset, the Department highlighted that in considering any contribution/ donation towards F5 ramps, that such a contribution/ donation comprises two components:

- a component based solely on expenditure that may be associated with the construction of the ramps, and as an off-set, a reduced expenditure on the maintenance of roads such as Campbelltown Road (traffic using the F5 ramps will be displaced from Campbelltown Road); and
- a component based solely on amenity impacts, which may be reduced if traffic associated with the proposed development were able to utilise new F5 ramps, rather than Campbelltown Road.

While consideration to date has focussed on the need for the F5 ramps, and the capital investment required, the net outcome of any determination of a contribution would also need to take into account the positive amenity impact that removal of potential additional traffic from Campbelltown Road would have. As amenity is not easily quantifiable, there is a clear need to establish agreement between the Department, the Applicant and Council in relation to any contribution off-set affect that may be afforded by reduced amenity impacts.

The Department noted that the submission made by Council to the primary session suggested that the Applicant should contribute \$600,000 to the construction of additional ramps onto the F5. Council's position was based on its consideration of the potential for heavy vehicle movements generated by the proposed development and two other State significant developments in the area to significantly impact the local and regional road network. The Department was not aware of the exact algorithm applied by Council in determining the suggested quantum of the contribution from the proposed development to the F5 on-/off-ramp construction. However, at the primary session of the Inquiry, the Department highlighted that for the Minister to require the Applicant to contribute to the cost of the on-ramps, a clear and reasonable nexus would need to be identified between the likely impact of the proposed development and the need for the on-ramps. In the event that such a nexus were identified, an appropriate contribution could be established commensurate with the contribution of the proposed development to the need for the on-ramps. Further, the Department indicated that it could concur with neither the Applicant's position nor Council's position in relation to the quantum of any contribution until sufficient information had been provided to establish whether a clear and reasonable nexus existed.

The Department reviewed the provided information and noted that the Applicant argues that the proposed development is expected to contribute approximately 1.4% of the total vehicles that would utilise the on-/off-ramps, if constructed. The Applicant established this contribution to traffic volumes based on full development of the proposal (noting the intention to construct and operate the development in stages) by the year 2015. The Applicant applied a number of assumptions as part of its consideration, including the assumptions that 30% of passenger vehicles and 5% of heavy vehicles would approach the site from the south. Of these vehicles, the Applicant assumed that only 50% of the vehicles would actually utilise the subject F5 ramps. While the information provided to the Department did not extend to the consideration of this matter to quantification of a contribution towards the ramps, the Department noted that information provided by the Applicant to Council does indicate a dollar value to be "donated" to Council for the purpose of ramp construction. In the document prepared by the Applicant and provided to Council, the Applicant suggested that a clear and reasonable nexus does not exist, however, it is prepared to provide \$23,100, being some 0.7% of the estimated cost to Council to

construct the ramps of \$3.3 million (noting a two-thirds contribution by the Commonwealth Government).

The Department recognised the Applicant's commitment to providing some funding to Council to assist in covering the capital cost of the F5 ramps. However, the Department could not conclusively support the application of a number of the assumptions in the Applicant's calculations. The Department did not necessarily suggest that these assumptions are inaccurate or inappropriate, but highlighted that little justification has been provided to support each of the assumptions. It was emphasised, however, that the information provided by the Applicant would suggest that some traffic from the proposed development would utilise the proposed ramps, and as such, the Department considered that there would be a nexus between the proposed development and the need for the ramps. The issue of quantifying this nexus, and assigning an appropriate monetary value is a matter that required further consideration.

The Department suggested that this matter had been largely resolved, given that it was agreed that a contribution/donation would be made. The Department recommended that this matter could be appropriately addressed through conditions of consent, should the Minister determine to approve the proposed development. However, the Department recognised that further discussions would be required to reach a general agreement between the parties on the exact level of any contribution (rather than on a need for a contribution/donation, which has already been established).

Intersection Performance

In response to the request by the Department for additional information, the Applicant provided an assessment on three key intersections along the heavy vehicle route (refer to Table 10). The assessment indicated that the performance of these intersections would be maintained with acceptable increases in the delay and degree of saturation. Furthermore, a sensitivity analysis conducted for the Rose Payten Drive intersection indicated that any deviation in vehicle movements would not significantly alter the predicted performance for this intersection (refer to Table 11).

In light of this information, the Department was satisfied that the predicted heavy vehicle movements are unlikely to adversely impact the performance intersections located within the immediate vicinity of the site.

	Existing Conditions		Projected	I Conditions			
	AM Peak	PM Peak	AM Peak	PM Peak			
Campbelltown Road a	Campbelltown Road and Rose Payten Drive						
Delay	23.5	26.0	23.6	26.3			
Degree of Saturation	0.74	0.83	0.76	0.83			
Level of Service	С	С	С	С			
Rose Payten Drive an	d Airds Road						
Delay	8.6	9.1	8.8	9.1			
Degree of Saturation	0.40	0.30	0.42	0.31			
Level of Service	A	А	A	A			
Ben Lomond Road an	d Airds Road						
Delay	9.6	9.7	9.8	9.8			
Degree of Saturation	0.36	0.35	0.39	0.35			
Level of Service	A	А	А	A			

Table 10: Additional Intersection Assessment along the Nominated Heavy Vehicle Route

Table 11: Sensitivity	Analysis for the	Campbelltown Roa	d and Rose Pay	ten Drive Intersection
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	Scenario 1		Scen	ario 2	Scenario 3	
	AM	PM	AM	PM	AM	PM
Delay	23.6	26.3	23.9	26.3	23.6	26.3
Degree of Saturation	0.76	0.83	0.74	0.83	0.74	0.83
Level of Service	С	С	С	С	С	С

Note: Scenario 1: 50/50 split of heavy vehicles travelling north and south, Scenario 2: All heavy vehicles travelling to and from the south, Scenario 3: All heavy vehicles travelling to and from the north

Site Access

At the reply session of the Commission of Inquiry, the Applicant proposed a number of measures dealing with the operation of the proposed gates during normal and emergency situations. The Department has considered these measures, and is generally satisfied that it addresses the issues raised in the submissions. However, the Department recommended that the Applicant should be required to prepare and implement a Security Management Plan for the proposal, should the Minister determine to approve the application. This plan would be required to detail the security infrastructure at the facility, including the finalised details for the operation of the Holmes Road entrance, and other internal boom gates. The Department is satisfied that this would ensure the proposed security gates operate in a manner that does not generate any impacts along Holmes Road and that adequate access is provided during emergency.

Commissioner's Position

The Commissioner found that the predicted increase in heavy vehicle movements generated by the proposed development would not significantly impact on the local and regional road network. It was acknowledged that the proposal would result in a reduction in capacity and slight increases in the delay at certain major intersections, however this is considered to be acceptable. The Commissioner supported the Applicant's nominated heavy vehicle routes, but recommended strict conditions, monitoring and auditing to ensure compliance with the nominated route.

The Commissioner noted the Applicant's 'donation' towards road improvements, but highlighted the need for further discussion and negotiations between the Department, Council and the Applicant to resolve the specific contribution amount.

Concluding Comment

The Department concurs with the Commissioner's findings, and has recommended a number of conditions to ensure the minimisation of potential impacts on the surrounding road network. These conditions, which include the General Terms of Approval issued by Council, include:

- Restriction of heavy vehicle access to the site via Holmes Road during normal operations;
- Preparation and implementation of a road hierarchy for heavy vehicles to ensure movements are restricted from residential areas;
- Preparation of a Transport Code of Conduct that outlines the management of traffic impacts associated with the development;
- Submission of a Transport Audit of each stage (and as directed by the Director-General) to ensure heavy vehicle movements are restricted to the nominated haulage route;
- Construction of the deceleration lane in accordance with Council's requirements and the provision of a compensatory footpath along Swettenham Road; and
- Preparation and implementation of Construction and Operational Traffic Management Plans to ensure the proper management of vehicles associated with the development.

The Department is satisfied that these measures will ensure that potential impacts within the vicinity of the site and along the nominated heavy vehicle route are effectively minimised during the proposed construction and operational phases of the proposal (if approved).

With regards to the contribution/donation towards road improvements, the Department recommends that should the Minister determine to approve the proposal, that the Applicant should enter negotiations with Council to determine an appropriate level of contribution/donation towards road improvements as part of a Community Enhancement Program. The Department recommends that should a negotiated outcome not be reached, Council or the Applicant may refer the matter to the Minister for determination. The Minister's determination would take into account any submission by either party in relation to their estimate of the contribution based on the level of nexus between the proposal and the benefits of the proposed road improvements. The Department is satisfied that this approach will facilitate the resolution of this matter prior to the commencement of operations, and ensure that the potential amenity impacts associated with the proposed development are further reduced.

6.3 Soil and Water Quality

Applicant's Position

Construction

The extensive disturbance, the removal of vegetation and the steep topography of the site has significantly increased the potential for erosion during the construction of the proposed development. The Applicant identified a number of sediment control measures to ensure that the impact of erosion and threat of sediment discharge into the adjoining canal is sufficiently reduced and managed.

As the consent for the earthworks required several erosion controls to be implemented, the Applicant proposed to maintain these controls for the duration of the Stage 1 construction works. This included the installation of a sediment trap system comprising of an inner and outer silt fence running parallel to the Bow Bowing Canal to minimise the potential for the sedimentation of this waterway. The Applicant claimed that the continuation of these controls would ensure that the proposed development would comply with the Department of Housing *Manual Managing Urban Stormwater – Soils and Construction*.

The Applicant indicated that less extensive controls would be required during the construction of the subsequent stages, as the completion of the stormwater detention system and the sealing of the majority of the site would reduce any potential for erosion or discharge of contaminated runoff.

Operation

Water Quality

Due to the nature of the operations and the range of chemicals stored within the proposed facility, the proposed development poses a risk to the water quality of Bow Bowing Canal. In particular, dangerous goods stored within the proposed warehouses are known to be hazardous to aquatic flora and fauna.

The Applicant identified this issue as one of high importance, and as such proposed a number of controls and management procedures to capture contaminated stormwater, spills and contaminated fire fighting water that would otherwise be discharged untreated.

The key mitigation measure proposed by the Applicant is the triple-bunded stormwater system that would collect and contain contaminated stormwater, contaminated fire-fighting water and any chemical spills. The triple-bunding stormwater system would comprise the following:

- 1. The warehouse floors are below driveway level and bunded at the warehouse entry, to enable fire fighting water or spills to be contained within the building
- 2. Three large bunds which extend across the site to isolate containment to one of three areas on the site. Any contaminated water may be transferred from one part of the site to another should the capacity be required; and
- 3. The site perimeter which would be bunded by a kerb.

This would involve the sealing of the majority of the site and would be designed to cater for a volume equivalent to 90 minutes of fire fighting water, with some spare capacity (Refer to Table 12). The required volume was determined in accordance with the *Hazardous Industry Planning Advisory Paper No.2 – Fire Safety Study Guidelines* (Department of Planning 1993) and the *Best Practice Guidelines* for *Contaminated Water Retention and Treatment Systems* (Hazardous Materials Policy Co-ordinating Committee 1994).

Table 12: Capacity of the Triple-Bunding System

Total Containment Required	Volume		
Fire Hydrant (x12) 54,000L every 90 minutes	648,000L		
Hose Reels (x14) 2,430L every 90 minutes	34,020L		
Total fire fighting containment required	682,020L		
Total containment provided on site	885,000L		

This system would also include a minimum of two stormwater isolation values to ensure that no unauthorised discharge into the stormwater system would occur. The Applicant has indicated that the valves would remain closed during normal operations, and that should any stormwater, spill or contaminated fire-fighting water be collected in the system, the content would be visually inspected, and if necessary, tested to ensure it meets *Australian Water Quality Guidelines for Fresh and Marine Waters* (1992) prior to discharge in the stormwater system. Should the content not comply with the guidelines it

would be removed by a licensed contractor. Should a storm event occur, and the capacity of the system is unable to cope with the volume, the liquid would be removed by a licensed contractor regardless of the water quality.

A first flush system is also proposed to collect the first 10mm of rainwater from the dirty areas on site. This water would be stored in on-site storage tanks and will undergo minimal treatment to enable the water to be used during landscape irrigation. The areas collected would include the decanting area, the tanker loading/unloading areas and the driveway areas at the bulk warehouse.

The Applicant has subsequently concluded that the proposed stormwater system would be more than sufficient to manage stormwater contamination and any unforeseen spill or fire emergency. However, the Applicant has recommended a number of management procedures that would assist in protecting water quality. This includes the regular use of a road sweeper (with vacuum), particularly at the entrance/exit to the bulk soda ash warehouse, the provision of awnings at the unloading/loading areas to minimise any site runoff, installation and maintenance of sedimentation pits and gross pollutant trap, and the provision of spill kits in the vicinity of all handling areas

Consequently, the Applicant concluded that the proposed development presents no significant risk to the water quality of Bow Bowing Canal, and no further additional controls would be required.

Soil and Groundwater

The Applicant states that the potential for soil and groundwater impacts would be minimal due to the extensive sealing and bunding of the site, restricting any risk of exposure of contaminants to the soil and groundwater. Regardless of this, the Applicant has proposed to install a protective membrane underneath the concrete hardstand area to act of an additional environmental safeguard.

The Applicant subsequently concluded that the proposed development would not generate any significant risk to groundwater or soil quality, and therefore no additional measures would be required.

Flooding

The Applicant states that the proposed development would not be subject to flooding as it would be 8 metres above the 1 in 100 year ARI flood level, and that only the lower existing embankment would be inundated by flood waters. With the exception of the Applicant's proposal to stabilise and landscape this area, the Applicant has proposed no further controls.

Issues Raised in Submissions on the Environmental Impact Statement

Public Submissions

Nine submissions from the general public raised general concerns regarding the potential for spills and the discharge of chemicals into the adjacent Bow Bowing Canal, and the environmental impacts of these discharges on the aquatic ecosystem.

Some submissions highlighted the potential for spills generated during transportation due to the location of a roundabout at the Holmes Road/Ben Lomond Road entrance (it should be noted that this issue has been considered in Section 6.1 of this report).

One submission from the general public questioned the ability of the proposed development to capture 100% of stormwater and contaminated firewater generated at the site, and questioned the capacity of off-site facilities to treat wastewater unsuitable for stormwater disposal.

One submission received expressed concerns with potential soil and groundwater contamination.

Government Agencies

The EPA identified a number of issues relating to construction and operational water quality impacts that required additional information in order to issue its General Terms of Approval. The Applicant has since provided this information during the Commission of Inquiry. The EPA has reviewed this information, and has granted its General Terms of Approval of the facility. The EPA in its submission to the reply session of the Commission of Inquiry also noted that the proposed development may be subject to flooding as a result of a Council policy of not requiring on-site detention of stormwater during peak storm events.

The Department (formerly Department of Land and Water Conservation) requested additional maps detailing the location of the proposed development in relation to the Bow Bowing Canal to enable it to proceed with its assessment. The Applicant has since provided this information and Department (formerly Department of Land and Water Conservation) has issued its General Terms of Approval for the proposal. These GTAs included a requirement to establish a riparian zone between the canal and the proposed development to improve slope stability and reduce water quality impacts. These requirements have been incorporated into the recommended conditions of consent.

Department's Position – Primary Session

Construction

The Department was generally satisfied that the maintenance of existing erosion controls at the site would ensure that the discharge of contaminated runoff from the site would be effectively minimised and/or managed during construction activities. The Department acknowledged the EPA's request for additional information to demonstrate compliance with the Department of Housing's *Managing Urban Stormwater – Soils and Construction.* However, the Department was satisfied that this detailed information could be addressed via the implementation of a detailed Soil and Water Construction Management Plan, which would be subject to a separate approval from the former DLWC (now the Department) as part of its General Terms of Approval.

Operation

Water Quality

The Department considered the Applicant's position, and generally concurred that the installation of a triple bunding and first-flush system would ensure that any stormwater, spills or fire fighting water could be adequately captured to eliminate any potential for the discharge of contaminated runoff into the Bow Bowing Canal.

However, the Department requested clarification on the storage volume of the triple bunding system to ensure that the design capacity provides for the containment of the largest stored volume within the bund and worst case scenario fire fighting water generation. This was of particular concern to the Department as if sufficient bunding for chemicals has not been considered in the site design, the system could be overwhelmed during a major accident causing chemicals to enter the canal.

The Department acknowledged the EPA's request for the additional information regarding the capture and discharge of stormwater from the site. While the Department believed that some of the additional information requested could be dealt under an Operational Soil and Water Management Plan, the Department considered that the overall content of the information requested to be essential in verifying the Applicant's conclusion that the proposal complies with the Bow Bowing Canal and overall catchment water quality objectives and policy requirements.

Department's Position – Reply Session

Construction

As part of the Commission of Inquiry process, it was identified that the existing controls implemented under the Council consent were insufficient to adequately mitigate and manage the potential erosion and sedimentation impacts at the proposed development site. In response to these concerns expressed by the EPA, the Applicant highlighted that it was currently implementing a revised Council-approved erosion plan that would be continued during the construction of the proposed development.

The Department noted the Applicant's position on this issue, and recommended that should the development consent be granted for the proposal, that the plan would need to be updated to reflect the requirements of any relevant conditions of consent, if granted, and approved by the Director-General prior to implementation to those works the subject of the Minister's consent (if granted). This would include any requirements of the General Terms of Approval issued by the former Department of Land and Water Conservation (now part of the Department).

Operation

The outstanding issues from the primary session of the Commission of Inquiry, related to the following:

- the separation of uncontaminated runoff from neighbouring properties and various 'clean' areas of the site from potentially contaminated surfaces;
- the storage and containment of contaminated runoff during normal and emergency situations;
- the management of stormwater entering from neighbouring properties; and
- the treatment and monitoring of discharges into the Bow Bowing Canal, particularly in relation to materials that could pose a hazard to aquatic flora and fauna.

In response to the questions put forward by the Department, EPA and Council, the Applicant proposed to modify the original application to remove any potential for contaminated runoff to come into contact with 'clean' runoff at the site. This would be achieved through the following:

- the construction of awnings over the 'dirty' areas, which includes the proposed decanting area and tank farm;
- the micro-grading of areas at all dirty areas and unloading/loading areas to enable runoff to collected at blind sumps. Runoff collected would be held within a dedicated tank for off-site or on-site disposal (depending on suitability); and
- the storage of all packaging within bunded areas to remove any potential for residue chemicals to enter the stormwater system.

With the removal of any potential sources of contaminants, the Applicant proposed to maintain the discharge of 'clean' runoff into Bow Bowing Canal after analysis for a range of pollutants and parameters. Furthermore, to avoid any potential for the system to be overloaded by off-site stormwater, the Applicant proposed to discharge stormwater collected along the western perimeter, roofs and the office areas directly into Bow Bowing Canal. According to the Applicant, correspondence from Council indicated that this is a permitted practice within the area.

The Department generally supported the Applicant's proposed modifications to the original conceptual design of the development to address surface water issues. The segregation of all potentially contaminated areas from the main stormwater system would minimise any risk of residual chemicals entering Bow Bowing Canal. However, the Department argued that the disposal of this stormwater onsite or to Bow Bowing Canal would require rigorous testing prior to discharge to ensure that the soil and water quality of the area is not contaminated by these practices. While the exact details of these testing procedures for the runoff had not been developed by the Applicant at the time of the Session in Reply, the Department was satisfied that any testing protocol could be determined in consultation with the various agencies prior to construction (should the Minister issue an approval). Monitoring requirements would need to be established in the context of any General Terms of Approval that may be issued by the EPA.

With regards to the proposed fire fighting water containment issues, please refer to Section 6.1.

Soil Contamination

The EPA raised concerns that contaminated fill observed on the site had been used during the earthwork activities approved by Council. The Applicant subsequently removed this material on site, and conducted investigations to determine if this fill had been used. Information present to the Inquiry by the Applicant stated that all contaminated fill had been removed from the site and lower batter, and that the site was suitable for commercial/industrial purposes. However, the EPA recommended that the Applicant be required to demonstrate that the site is appropriate for the intended future use.

The Department considered the EPA's concerns, and the subsequent information provided by the Applicant, and recommended a number of conditions that would require the Applicant to provide documentary evidence demonstrating the suitability of the site, and if need be, the preparation of a Soil Contamination Protocol to manage soil contamination during site preparation works. The Department was satisfied that these recommended measures would be sufficient to manage any residual site contamination issues, should the Minister approved the application.

It should also be noted that any use of contaminated fill during the site preparation works is a noncompliance issue that is under Council's jurisdiction as consent authority for that DA.

Flooding

The Department acknowledged the EPA's concerns and Council policy for development within the Local Government Area (LGA). At present, the stormwater measures proposed by the Applicant are designed to adequately manage stormwater flows during peak storm events and are in accordance with Council policy. However, as development within the LGA continues, it would be under Council's jurisdiction as consent authority for any future development application to take into consideration the potential ramifications of a proposal on developments downstream.

Commissioner's Position

The Commissioner acknowledged that the additional water controls proposed by the Applicant and the implementation of stringent conditions would be sufficient to avoid any off-site impacts on water quality. No specific controls were recommended, however the Commissioner recommended that the frequency of the water quality monitoring take into consideration Council's requirements. The Commissioner also found that the proposed development site would not be subject to flooding due to the elevation of the proposed development.

Concluding Comment

The Department concurs with the Commissioner's findings, satisfied that the proposed measures would be sufficient to mitigate any potential water quality impacts. However, to ensure the long-term management of the stormwater discharges from the proposed facility and the protection of the Bow Bowing Canal, the Department has recommended the following conditions be imposed (should the proposal be approved):

- preparation and implementation of a Stormwater Quality Monitoring Plan that meets the requirements of the Clean Water Regulation. This plan would be prepared in consultation with Council;
- preparation and implementation of a Vegetation Construction Environmental Management Plan in order to establish and maintain a designated riparian zone between the proposal and the canal; and
- preparation and implementation of a Stormwater Operational Environmental Management Plan to ensure all stormwater flows are adequately catered for during normal operations, peak storm events or emergencies.

The Department is satisfied that these controls, combined with the proposed amendments to the stormwater system, will ensure the proposed development would not result in any significant water quality impacts on the neighbouring Bow Bowing Canal.

6.4 Noise

Applicant's Position

Construction

The Applicant is proposing to construct the proposed facility in four stages. With the majority of works to be undertaken as part of Stage 1, the Applicant claimed that the level of potential noise generated during construction activities would peak during this stage, with levels during subsequent stages significantly lower.

As the length of the four construction periods is unknown at this stage, the Applicant set the noise criteria for construction work at +5dB(A) above the existing background level, the most stringent criterion for construction work set in the EPA's *Environmental Noise Control Manual*. Construction work would be conducted between 7am – 6pm Monday to Friday and Saturday 7am to 4pm. These hours would be outside the specified construction hours set in the EPA's *Environmental Noise Control Manual*. No justification for conducting this work outside normal hours was provided.

The noise criteria for the construction works was set by determining the background levels at the five locations most likely to experience elevated noise levels during construction activities. This included the childcare centre on Swettenham Road and the residential areas west and east of the site. From these levels, the Applicant applied a noise limit of 46db(A) to all the proposed construction works, which represented the lowest construction noise criteria of the five locations. This is a departure from the normal methods for assessment specified in the EPA's *Environmental Noise Control Manual*. However, the Applicant claimed that this approach has been taken to ensure that the most stringent criteria would be applied to all locations to demonstrate that the proposed activities would not generate any significant impacts

The Applicant did not specify what equipment or activities are likely to generate noise during construction work, indicating that equipment would be expected to satisfy noise levels in the range of 75 – 81dB(A) at 7 metres, and that internal activities would be attenuated by the facades of the buildings. Based on these assumptions, the Applicant concluded that construction noise would comply with the set criteria at all locations (refer to Table 13), and that no mitigation measures would be required.

Location	Noise Criteria dB(A)	Predicted Noise Levels (Still)
32 Minto Road	46	38
23 Harding Place	46	36
26 Galloway Crescent	46	38
67 Stromeferry Street	46	32
30 Swettenham Road	46	46

Table 13: Predicted Worst Case Noise Impacts - Construction Works

Traffic Noise

The EPA's *Environmental Criteria for Road Traffic Noise* sets out the noise criteria for traffic noise generated by new developments (refer to Table 14). Should the existing road network already exceed the recommended noise levels, the Applicant is required to demonstrate that the proposed development would not lead to an increase in existing noise levels of more than 2dB(A).

Table 14: Traffic Noise Criteria Adopted for the Proposed Development

	Criteria (dB(A))			
Type of development	Day (7am – 10pm)	Night (10pm – 7am)		
Land use developments with potential to create additional traffic on existing freeways/arterials	L _{Aeq(15hr)} 60	L _{Aeq(9hr)} 55		

The Applicant has nominated a number of heavy vehicle routes in order to avoid residential areas where possible, and has proposed to ensure that traffic associated with the proposed development would avoid the stretch of Campbelltown Road between Ben Lomond Road and the northbound onramp to the M5. In addition, the Applicant has indicated that it would attempt to ensure that the majority of deliveries/dispatches would occur during the day. The Applicant claims that these measures would ensure that the residential areas would not be subject to significant levels of traffic noise.

Based on existing traffic flows obtained from the RTA's *Traffic Volume Data for Sydney Region 1999*, the Applicant modelled traffic noise generated by the proposed development under the following three scenarios:

- Scenario 1 representing the traffic levels generated during Stage 1 operations;
- Scenario 2 representing traffic generated once the proposed facility is fully operational; and
- Scenario 3 representing traffic generated during the delivery of soda ash and the facility at full
 operational capacity (note: this component has since been removed).

Hourly Total dB(A)	Existing dB(A)	Scenario 1 Stage 1		Scenario 2 – Stage 4		Scenario 3 – Soda Ash Delivery	
		dB(A)	Increase	dB(A)	Increase	dB(A)	Increase
Day-Time (L _{Aeq(15hr)}	73.4	73.4	0	73.5	0.1	73.6	0.2
Night-time (L _{Aeq(9hr))}	67.9	68.2	0.3	68.7	0.8	68.9	1.0

Table 15: Predicted Noise Level Impacts – Traffic Noise

The results of the assessment, as set out in Table 15, demonstrates that the predicted increases in noise would be well within the permitted 2dB(A) increase during day and night periods.

The Applicant subsequently concluded that while the existing noise levels significantly exceed the recommended noise levels, the proposed development would not generate any significant impacts on the local community as it would be well below the permitted 2dB(A) increase. The Applicant believes that this conclusion is further supported by the fact that the development would only gradually increase traffic volumes on the local road network, and therefore would not subject the local community to immediate increases in traffic noise.

Based on this conclusion, the Applicant did not consider that any mitigation measures would be necessary and that an Operational Traffic Management Plan was not warranted.

Operational Noise

The Applicant is seeking to operate the proposed facility on a 24 hours, seven days a week basis, with only minor or occasional activities to be conducted on-site during the night-time periods.

To determine what levels of impact the proposal could have, the Applicant established site-specific criteria for the development in accordance with the EPA's *Industrial Noise Policy*. The criteria were selected by determining the amenity, intrusiveness and sleep disturbance criteria at five locations within the vicinity of the development, and selecting the most stringent for each time period. This set of criteria was then applied to each of the locations in the assessment, regardless of higher criteria existing for any particular location. This is a departure from normal practice, and requires the Applicant to comply with a stricter set of criteria than what would otherwise be applied to the development. However the Applicant has taken this approach to conservatively assess the proposal, and demonstrate that the proposed development would not generate any significant impact on the surrounding residential areas.

The Applicant states that a combination of noise attenuation by the western earth batter and constructed warehouses, and the internalisation of most activities, would ensure that noise generated during normal and bulk delivery operations would be significantly reduced. The Applicant subsequently concluded that the noise sources from the site would be limited to external equipment, such as pumps and silo vents, and vehicular movements, including forklift movements during loading/unloading activities. Air brake releases and the accidental dropping of containers by forklifts have been identified as the sources likely to potentially cause sleep disturbance. Results of noise modelling at local receptors, under various weather conditions and during the day, evening and night, are presented in Table 16.

	Still (L _{Aeq})		Wind Affected (L _{Aeq})			Sleep Disturbance (L _{A1})			
	Day	Evening	Night	Day	Evening	Night	Still	Wind Affected	
Criteria	46	42	36	46 42 36			50		
Receiver B – 32 Minto Rd		31.5			36		43	38	
Receiver C – 23 Harding Pl		30			34		41	36	
Receiver D – 26 Galloway Cres		32			36		43	38	
Receiver E – 67 Stromeferry St		27			31		37	32	
Receiver F – 30 Swettenham Rd (Child Care Centre)		39*			44*		N/A	N/A	

* - The childcare centre is not inhabited at evening/day time periods.

The results of the modelling, as set out in Table 16, indicate that the proposed development would be well below the site-specific criteria at all locations, regardless of the dominant environmental conditions. The Applicant subsequently concluded that the proposed development would not result in any significant impact on the surrounding residential areas and/or sensitive receptors, and that no further noise mitigation measures would be required.

Issues Raised in Submissions on the Environmental Impact Statement

Public Submissions

Fourteen of the submissions received from the general public opposed the proposed development due to the potential adverse noise impacts on neighbouring residential areas and the local childcare facility. In particular, the submissions focused on concerns relating to sleep disturbance and amenity impacts resulting from the noise generated by heavy vehicles during the proposed 24 hour 7 day a week operation. It should be noted that the majority of the submissions appeared to be under the impression that the 24-hour operation would be throughout the year, and not for the periodic delivery of soda-ash.

Government Agency Submissions

The EPA indicated that the information provided in the EIS is insufficient to enable it to finalise its assessment and requested additional information in relation to operational, construction and traffic noise.

These concerns were addressed by the Applicant during the Commission of Inquiry process, or were eliminated with the removal of the bulk soda ash component. Consequently, the EPA has since issued its General Terms of Approval for the proposal, which includes operational and construction noise limits, traffic noise management plans and noise auditing. These GTAs have been incorporated into the recommended conditions of consent.

Department's Position – Primary Session

Construction

While the construction noise modelling indicates that the proposed construction work would be well within the set criteria, the Department requested additional information to verify or clarify assumptions made by the Applicant in the assessment. This included information on the expected sources of construction noise and justification for conducting construction work outside the normal recommended periods.

Operational Noise

The Department generally concurred with the Applicant's position that the proposed development during normal operations would not create any significant impacts on the surrounding residential areas or sensitive land uses. In the EIS, the Applicant had taken unprecedented steps to demonstrate that the proposed development would have a minimal impact by applying unusually stringent criteria to the facility at all five locations, including the New Generation Child Care Centre. By demonstrating compliance with these criteria at all five locations, the Department was satisfied that the noise generated by the proposed development would be well within the permitted noise levels, and as such would generate minimal environmental impacts. The Department was also confident that the steep batter located along the western boundary would provide a natural noise attenuation barrier for the proposed operation, and would enable the proposed facility to operate without any significant impact on the residential premises located only 200m from the proposed warehouse operations.

The Department did request additional information in relation to the noise assessment during the bulk delivery period. However, this information was no longer required following the removal of the bulk soda ash component.

Traffic Noise

The Department considered the Applicant's assessment of the potential traffic noise impacts, and concurred that the proposed development would be within the 2dB(A) increase permitted under the EPA's *Environmental Criteria for Road Traffic Noise*. However, as this potential impact is of primary concern to the local community, and that current noise levels already significantly exceed the recommended criteria, the Department requested the Applicant provide additional information on measures the Applicant could implement during operations to further reduce this impact.

Department's Position – Session in Reply

Construction Noise

In light of the provided information, the Department was satisfied that the proposed construction activities would not generate any significant impact on the neighbouring residents. Consequently, the Department recommended that should the Minister determine to approve the proposal, that the Applicant would be required to comply with set noise criteria and implement a Noise Construction Environmental Management Plan. The Department noted that the recommended consent would also include the EPA's General Terms of Approval.

Operational Noise

Prior to the Session in Reply, the Applicant informed the Department that the bulk soda ash component of the proposed development was to be excluded from the subject development application. As the Department's key concern related to the potential impacts on neighbouring properties during the 72-hour soda ash delivery period, the issues raised by the Department at the primary session in relation to operational noise were no longer relevant.

Traffic Noise

Following the primary session of the Commission of Inquiry, the effective implementation and compliance with the nominated heavy vehicle route was a key issue for the Department, Council and the local community.

As discussed at the primary session, conditions restricting the use of certain roads have been imposed for other Sate significant developments, although it is recognised that in reality, ensuring compliance with such conditions can be difficult. This is because haulage is often contracted-out by Applicants to other parties, vehicles associated with a particular development are not necessarily easily distinguishable from other vehicles, and traffic impacts are more broadly spread that environmental impacts that may be directly linked to a development (for example, air emissions that can be monitored at a fixed point of discharge). Council questioned the robustness of the suggested condition at the primary session, suggesting that the reliability of contracted drivers to adhere to the nominated route would be minimal. However, with the removal of the bulk soda ash component, the need for restricting truck movements during night-time periods has been diminished with the majority of truck movements associated with the proposal restricted to 6am - 8pm. The resultant traffic noise impact is therefore also likely to reduce, however, the Department considered that there is still some scope for management measures to be implemented to minimise traffic impacts and the associated noise implications.

The Department recognised that traffic noise associated with the proposed development complies with relevant traffic noise policies. However, should the Minister determine to approve the proposal, the Department recommended that the Applicant be required to develop a traffic management regime for the development. This regime would include a formal Traffic Management Plan, and a Transport Code of Conduct. The Code would specifically outline requirements for both staff and contractors in relation to haulage routes, haulage times, road safety and vehicle maintenance. The Traffic Management Plan could include an appropriate system for the Applicant to undertake auditing of traffic movements associated with the development, a mechanism to address situations in which vehicles may not be in compliance with the Transport Code of Conduct.

Commissioner's Position

The Commissioner acknowledged that the removal of the soda bulk ash component would significantly reduce the noise levels generated during the proposed operations and heavy vehicles. While the Commissioner noted that the proposed development would be within the noise limits, he recognised that nearby residents may occasionally hear the proposed development.

Consequently, the Commissioner recommended that stringent controls should be included in the consent, should the proposal be approved, to ensure the minimisation of amenity impacts on surrounding residential areas. This would include management plans, the monitoring of heavy vehicle movements, and the establishment of a responsive complaints system for the proposed facility.

The Commissioner noted that the recommended operational noise limits stated in the Department's were inconsistent with the EPA's General Terms of Approval. As suggested in the Commissioner's report, this was an error and has been rectified.

Concluding Comment

The Department concurs with the Commissioner's recommendations, and has recommended a number of mitigation and management measures should the Minister approve the development application. These conditions, which incorporate the EPA's General Terms of Approval, include:

- set noise criteria for construction and operational activities;
- preparation of a Noise Construction and Operational Environmental Management Plan;
- provision of a Noise Construction Audit and Noise Operational Audit to confirm predictions and implement additional measures, should any non-compliance be detected.

With regards to traffic noise, the Department has incorporated the recommendations put forward at the session in reply into the recommended conditions of consent. In addition, the Department has recommended that the Applicant conduct a Transport Audit of the operations following the completion of each stage (and as required by the Director-General). This would require the Applicant to report to the Department, demonstrating compliance with the nominated route and ensure that additional measures are implemented to correct any non-compliance.

The Department is confident that these measures will mitigate and/or manage the short and long-term noise emissions from the proposed facility, and will ensure that the amenity of the surrounding areas is protected from heavy vehicles associated with the facility.

6.5 Air Quality

Applicant's Position

Construction

Due to the disturbed nature of the site following extensive earthworks, and the extent of construction work required for Stage 1, the construction activities do have potential to generate significant levels of dust. To minimise dust generated at the site, the earthworks development consent, granted by Council on 10 January 1997, required the Applicant to plant over 4000 plants along the steep batters shaped by the approved works. In combination with the proposed mitigation measures for the proposed development, which include the use of water trucks and the construction of a temporary access lane to restrict erosion by construction traffic, the Applicant claimed that the proposed development would not result in any significant off-site impacts on air quality during Stage 1.

The Applicant stated that since the majority of the site would be sealed at the completion of Stage 1, the construction of the subsequent stages would generate minimal levels of dust However, the Applicant indicated that measures would be implemented as part of a Construction Environmental Management Plan to ensure that any potential for dust generation would be minimal should the Minister determine to approve the proposal.

Operation

<u>Dust</u>

The principal air quality associated with the operation of the proposed development, as originally lodged, was associated with the discharge of fugitive dust emissions during the handling of soda ash and the dust discharged from the dust extraction system installed on the soda ash handling area. As the bulk soda ash component of the proposed development has since been removed in response to Government, Council and community concerns with a range of impacts associated with this activity. Consequently, this assessment and findings are no longer relevant and will not be discussed any further.

<u>Odour</u>

The proposed development has the potential to generate odours as a result of decanting and diluting activities at the site. The Applicant claimed that these activities could potentially generate mild levels of odour, however these emissions would not be detected beyond the site boundaries. In addition, the current Wetherill Park operations have not caused any complaints due to off-site odour impacts. Consequently, the Applicant concluded that an odour assessment of the proposed development was not required.

Issues Raised in the Submissions on the Environmental Impact Statement

Public Submissions

Two submissions from the general public raised concerns regarding the potential for chemical odours to be detected at nearby residential areas, and the potential health impacts resulting from this.

Thirteen submissions from the general public opposed the proposed development on the grounds that it would generate air quality impacts and would adversely impact on the health of the local community. Most submissions referred to general air pollution, with a few specifically identifying vehicle emissions, dust emissions and odour emissions as of key concern.

Government Agency Submissions

None of the submissions from the government agencies had concerns regarding the potential odour impact of the proposed facility.

The EPA identified several issues in relation to the Applicant's assessment of the potential dust impacts associated with bulk soda ash activities, and requested additional information to verify assumptions or justify the conclusions made in the assessment. However, with the removal of the soda ash component from the proposal, this request was no longer relevant.

Department's Position – Primary Session

Construction Air Quality

The Department concurred with the Applicant that the greatest air quality risk associated with construction work would be limited to Stage 1 of the proposed development, and that these impacts could be effectively managed through the implementation of effective mitigation measures. The Department is satisfied the measures required under the Erosion and Sedimentation Construction Environmental Management Plan would be adequate in managing this impact in conjunction with the measures proposed by the Applicant.

Operational Air Quality

Without additional information, the Department was unable to concur with the Applicant's conclusion that the proposed development would not create odours detectable at nearby residences. Consequently, the Department requested the Applicant provide further justification for not undertaking an odour assessment, including the specific details of the decanting operations and the consideration of possible cumulative odour impacts.

The Department also sought additional information relating to the bulk soda ash assessment; however this information was no longer required following the removal of this component.

Department's Position – Session in Reply

Construction Air Quality

The Department's position in relation to construction air quality impacts did not alter from the Primary Session to the Session in Reply.

Operational Air Quality

In light of the additional information provided by the Applicant, the Department concurred with the Applicant that the proposed decanting activities would not have any significant odour impacts on neighbouring residents during normal operations due to the nature of the chemicals involved and the distance to nearby sensitive receptors. However, the Applicant did indicate that a fume capture system and scrubber might be required to satisfy Occupational Health and Safety requirements. The Department noted that due to the size of the proposed scrubber, any off-site impacts from this component would be negligible, and no specific addition mitigation, monitoring or management measures were recommended. However, the Department highlighted that the fume capture system and scrubber, if installed, may be the subject of specific provisions in the EPA's General Terms of Approval (GTA). If so, the Department stated that the GTA's would be incorporated into the instrument of consent, if the Minister determines to approve the proposal.

Commissioner's Position

The Commissioner concluded that with the removal of the bulk soda ash operations the proposed development was unlikely to generate any unacceptable air quality impacts on neighbouring sensitive receptors. Recommendations made by the Commissioner related only to the management of spills during an emergency. These have been considered in section 6.1 of this report.

Concluding Comment

The Department concurs with the Commissioner's findings that the proposed development would have minimal impact on air quality within the vicinity of the site. However, the Department and the EPA have recommended a number of controls relating to the acetic acid scrubber to ensure that this component complies with the relevant air quality limits. This includes a requirement for the Applicant to undertake an audit on the scrubber and to undertake periodic monitoring to ensure emissions comply with the limits specified in the Environment Protection Licence issued by the EPA. The Department is satisfied that these recommended conditions of consent will ensure the on-going management and monitoring of air quality during the proposed operations, should the Minister approve the proposal.

6.6 Socio-Economic Impacts

Applicant's Position

Employment Generation and Investment

The proposed development will employ over 189 people on a full-time basis during operation, with 116 of these positions will be new jobs, while 73 will be relocated from the Applicant's existing operation at Wetherill Park. The proposal will also involve a capital investment of some \$13 million.

The Applicant suggests that the proposed development will generate significant positive socio-economic impacts, through direct employment and investment, as well as flow-on effects.

Community Consultation

The Applicant undertook a number of community engagement activities during the preparation of the Environmental Impact Statement for the proposed development. These activities included:

- community information nights, held on 18, 19 and 20 February 2002. The public was notified of these information nights through advertisements in two local papers and letters sent to some 790 properties; and
- provision of telephone, email and standard mail contacts for inquiries.

Issues raised at community information nights were noted and addressed in the Environmental Impact Statement.

Issues Raised in Submissions on the Environmental Impact Statement

Public Submissions

A number of submissions received by the Department in response to the exhibition of the subject development application and Environmental Impact Statement raised socio-economic impacts of the proposal as being an issue of concern. Particularly, submissions suggested that should the proposal be granted consent, land in the vicinity of the proposed development site would devalue significantly.

Government Agency Submissions

The Department did not receive any submissions from Government agencies or local councils that raised socio-economic impacts as an issue of concern.

Department's Position – Primary Session

Employment and Investment

The Department concurred with the Applicant's position that the proposed development represents a significant employment and capital investment in the area. While some of the employment positions supported by the proposed development will simply be a relocation of the Applicant's existing employees, the Department noted that a large number (116) of new jobs will be created. Employment generation on this scale will boost both the local and regional economies, and provide flow-on effects to the State as a whole.

Relocation of the Applicant's operations will permit expansion and further growth of the company, with associated economic benefits. The Department expected that the proposed development will also have flow-on effects, particularly the relocation or development of support industries and infrastructure. This will further magnify the potential positive socio-economic impacts of the proposal.

Community Consultation

From the information provided in the Environmental Impact Statement, the Department considered that the Applicant has made a reasonable attempt to consult with the local community and to address the community's concerns.

Further to this, the Department highlighted that the community has been afforded an opportunity to comment on the proposed development as part of the public exhibition process under the *Environmental Planning and Assessment Regulation 2000.* The Minister has also directed that a Commission of Inquiry (COI) be held into all environmental aspects of the proposed development. The COI process includes a further exhibition period during which concerned and/ or interested members of the public may provide comments on the proposed development. These members of the public may also wish to present their submissions at the Inquiry.

The Department considered that, in addition to the Applicant's adequate community consultation activities, significant opportunity has been provided/ will be provided for community information and

participation through the requirements of the *Environmental Planning and Assessment Act* 1979 and the COI process.

Impacts on Land Values

The Department appreciated the significant level of concern felt by members of the community in relation to the potential impacts of the proposed development on local land values.

The Department noted that land values may be affected by the environmental impacts associated with the proposed development. In light of the additional information provided by the Applicant, the Department concluded that the proposed development could operate within the permitted environmental and risk criteria. The Department subsequently concluded that the proposed development was unlikely to have a significant impact on land values.

Department's Position – Session in Reply

The Department's position in relation to socio-economic impacts did not alter from the Primary Session to the Session in Reply.

Commissioner's Position

The Commissioner concluded the hazards and risk assessment by the Applicant satisfactorily demonstrated that the proposed development would not generate any adverse socio-economic impacts the local community. However, the Commissioner recommended a number of measures to enable the on-going participation of the community with the proposed operations. This included the restriction of products to certain classes, the provision of a list of chemical products stored on-site to the community and a requirement to gain the Department's approval for any significant changes to the inventory.

Concluding Comment

The Department concurs generally with the Commissioner, and has recommended a number of conditions that require the Applicant to develop a Community Communication Strategy and complaints register to enable the community to remain involved during the proposed operations, should the Minister determine to approve the proposal. It will also facilitate the provision of information to the community regarding the nature and operational performance of any future operations (if approved).

With regards to the Commissioner's recommendation of requiring consent from the Department to enable the Applicant to significantly vary the product inventory, the Department does not consider this to be required. Any significant change that could affect the hazards and risks associated with the development would automatically require the Applicant to submit a modification application to the Department for the Minister's approval. Furthermore, the Department has recommended a condition of consent that restricts the Applicant to certain classes of dangerous goods as assessed in the Environmental Impact Statement and subsequent additional information. Consequently, the Department considers the existing legislative requirements and recommended hazards conditions would sufficiently address any possible future changes in the types of products stored at the proposed facility (if approved).

6.7 Waste

Applicant's Position

The Applicant has implemented a detailed Waste Minimisation Strategy at its existing Wetherill Park premises, and has proposed to continue these practices at the proposed development. This strategy includes:

- Utilisation of exchangeable Intermediate Bulk Containers (IBC) for liquid products to eliminate the level of packaging sent to landfill;
- Receiving empty packaging from customers for reuse as bulk powder packaging;
- Repackaging and/or sealing of 'damaged' product packaging for possible reclassification to a lower chemical grade or returning the product to the supplier to return it to its original specification;
- Regrading product rejected by customers due to contamination for reuse in an alternative industry;
- Only disposing of waste at an accredited facility if all available recycling options are exhausted.

The Applicant claimed that this strategy at the existing facility has significantly reduced industrial waste disposed of during its operations and currently represents only 0.02% of the product dispatched over the past 12 months. The Applicant stated that 75% of this waste consists of non-dangerous goods.

Issues Raised in the Submissions on the Environmental Impact Statement

No issues were raised in relation to waste disposal in any of the submissions received by the Department.

Department's Position – Primary Session

The Department was satisfied with the proposed continuation of the proposed waste minimisation strategy. The legislative requirements for the disposal of industrial waste would ensure that any impacts associated with the waste are sufficiently met and managed without any significant level of impact. Should the Minister determine to approve the proposal, the Department recommended a condition of consent that requires the Applicant to prepare and implement a detailed Operational Waste Management Plan to outline the volumes, disposal procedures and measures to minimise any potential impacts. The Department is confident that this condition would ensure adequate measures are in place to sufficiently manage operational waste.

Department's Position – Session in Reply

The Department's position in relation to waste impacts did not alter from the Primary Session to the Session in Reply. These impacts were adequately addressed at the time of the Primary Session. However, as part of the Department submission to the Reply Session, a number of measures were recommended to reflect the EPA's draft General Terms of Approval that restricted the volumes and types of waste stored by the Applicant on-site.

Commissioner's Position

The Commissioner acknowledged the need for limits to be placed on the proposed development, however it was recommended that an additional condition of consent be included to enable the Applicant to exceed the recommended volume limits during exceptional circumstances. This is to cater for circumstances arising from a mass contamination of product during shipping and to ensure that the Applicant does not breach any conditions of consent during such cases (should the proposal be approved).

Concluding Comment

The Department has consulted with the EPA and the Applicant regarding the Commissioner's recommendations and the recommended waste conditions, as stipulated in the draft General Terms of Approval provided at the Session in Reply. Following the provision of additional information, the EPA varied its General Terms of Approval to reflect the types of wastes likely to be generated and to account for any mass contaminations. These changes have been incorporated into the recommended conditions of consent.

As these limits have been determined in consideration of the potential for mass contaminations, the Department no longer believes that an additional condition to enable the Applicant to exceed the waste limits, as recommended by the Commissioner, is required. However, the Department recommends that the Applicant still be required to develop a Waste Operational Environmental Management Plan to ensure appropriate management procedures are in place during the proposed operations, should the Minister determine to approve the proposal.

6.8 Flora and Fauna

Applicant's Position

To enable the site to be suitable for industrial purposes, the proposed development site has been substantially cleared and levelled as part of a separate Council approved DA. Consequently, vegetation at the site was restricted to the western and eastern boundaries. The Applicant indicated that the proposed site is within the published distribution area of Cumberland Plains Woodland – Shale Plains Woodland and Sydney Coastal Riverflat Forest, and stated that the remaining vegetation could represent remnants of these ecological communities.

To assess the potential impacts of the proposed development on the flora and fauna, the Applicant conducted a targeted survey at the site for species and communities listed under the *Threatened Species Conservation Act 1995* (TSC Act) and whose distributions are known cover the proposed site. An "eight-part test" was also conducted for these species.

From this process, the Applicant concluded that the remaining habitat on the site or species listed under the TSC Act would not be adversely effected by the proposed development as:

- the nature and placement of the vegetation, and the presence and dominance of introduced grasses, indicated that the remaining vegetation appeared to be part of a rehabilitation program and was unlikely to be remnant vegetation or regrowth of the original ecological communities;
- the remaining habitat at the site was too immature, too modified or unsuitable for the targeted fauna species;
- the target flora survey did not detect any of the threatened or endangered flora species whose distributions cover the site;
- the proposed development would not require the removal of these remaining vegetation stands, and would involve the planting of species representative of the community to complement the existing vegetation and communities; and
- management procedures have been identified to ensure adequate operational safety while improving the ecological value of these areas.

The Applicant did identify that the Georges River Catchment, which has high conservation value, could be adversely impacted by the proposed development should hazardous substances be discharged into the Bow Bowing Canal or the leaching of contaminants in the soil. The Applicant however, concluded that the likelihood of this would be limited due to the proposed contaminated stormwater system, the internalisation of operations and the sealing of the majority of the site.

Issues Raised in Submissions on the Environmental Impact Statement

Public Submissions

One submission from the general public raised concerns regarding the potential risk to flora and fauna in local National Parks due to encroachment of industrial developments. However, the proposed development is not located near any National Park, and as such, the Department did not believe that the proposed development would pose a significant risk to the areas as identified in the submission.

One submission from the general public objected to the proposed development on the grounds that it would result in further land clearing. However, the proposed development site has already been subjected to extensive land clearing under a development application approved by Council in 1997. As the Applicant is not proposing to clear any of the remaining vegetation, the Department does not consider this to be an issue.

Several submissions objected to the proposed development due to the potential water quality impacts on the Bow Bowing Canal. The Department has considered the issues raised by these submissions in the Section 6.3 of this report.

Government Agency Submissions

The EPA requested additional information in regards to stormwater management. This request has been discussed in Section 6.3 of this report.

Department's Position – Primary Session

As the proposed development site has been heavily disturbed by earthworks, and that the remaining vegetation appears to be a result of a past rehabilitation program, the Department concurred with the Applicant's assessment that the proposed development would not result in any significant impact on the remaining habitat or species present at the site. The Department also agreed with the Applicant that the proposed development is likely to enhance the ecological value of the site through the incorporation of endemic species into the proposed landscape plan. Consequently, should the Minister determine to approved the proposal, the Department recommended that the Applicant should be required to prepare a Landscape Management Plan that incorporates endemic species. This would also require the Applicant to outline measures for the on-going maintenance of landscaping areas for the life of the development to ensure that the proposal would not have any impact on local flora and fauna.

Section 6.3 of this report discusses the potential water quality impacts on the Bow Bowing Canal.

Department's Position – Session in Reply

The Department's position in relation to flora and fauna impacts did not alter from the Primary Session to the Session in Reply. These impacts were adequately addressed at the time of the Primary Session.

Commissioner's Position

The Commissioner made no comment on the potential impacts on terrestrial flora and fauna. Consideration by the Commissioner with regards to the potential impacts on aquatic flora and fauna are discussed in Section 6.3 of this report.

Concluding Comment

The Department maintains its position that proposed development presents minimal potential impacts on the surrounding flora and fauna of the site due to its current disturbed state. The Department is satisfied that the recommended Landscape Construction Environmental Management Plan, which has been included in the recommended conditions of consent, would assist in improving the condition of the site and enhancing the ecological value of the site through the planting of endemic species.

6.9 Visual

Applicant's Position

At the completion of the development, the proposed facility would consist of two large segmented warehouses, one flammable goods store and two administration buildings.

Due to the configuration and elevations of the site, there is limited opportunity for the proposed development to be visible from residential areas and is unlikely to generate any significant impact on visual amenity. The Applicant claims that the proposed office building along Swettenham Road would be the only structure visible from residences along Campbelltown Road. This building would consist of three storeys, which due to the site elevations would only comprise of two-storeys along its Swettenham Road frontage. However, the proposed building would be significantly distanced from the Campbelltown Road frontage, has been adequately landscaped, and is generally consistent with the general character of the commercial premises along Swettenham Road.

The proposed warehouses and associated structures along the lower platform of the site will only be visible from the east. However, the proposal is consistent with the nature of the surrounding development and is therefore not considered to be intrusive. Consequently, the Applicant claims that with the implementation of a Landscape Plan, the proposal would not generate any impact on visual amenity.

Issues Raised in Submissions on the Environmental Impact Statement

The Department did not receive any submissions in relation to visual amenity impacts.

Department's Position – Primary Session

The Department concurs with the Applicant that the proposal would not generate any significant impact on visual amenity. The Department is confident that the implementation of the proposed Landscape Plan would provide an adequate screen for the development from the east and that that the western batter would significantly reduce any impact on residents to the west. Should the Minister determine to approve the proposal, the Department would recommend a condition of consent that would require the Applicant to implement a Landscape Management Plan to ensure the maintenance of the landscaping areas for the life of the development. The Department is satisfied that this would ensure the preservation of the visual screen for all residential and industrial users.

Department's Position – Session in Reply

The Department's position in relation to visual amenity impacts did not alter from the Primary Session to the Session in Reply. These impacts were adequately addressed at the time of the Primary Session. In the Department's submission, a number measures were recommended relating to landscaping, building design, and lighting to ensure that the residual impacts are further reduced.

Commissioner's Position

The Commissioner concluded that the site elevations of the site and surrounding existing development would sufficiently shield the proposed development when viewed from neighbouring residential areas. Furthermore, the proposed landscaping would provide an additional shielding to surrounding properties.

Concluding Comment

The Department agrees with the Commissioner's findings that the proposed development would have a minimal visual amenity impacts. The recommended measures stated in the Department's submission to the Session in Reply have been incorporated in the recommended conditions of consent, should the Minister determine to approve the development application.

7. SECTION 79C CONSIDERATIONS

Section 79C of the *Environmental Planning and Assessment Act 1979* sets out matters that a consent authority must take into consideration when determining a development application. The Department has assessed the development application in the context of Section 79C of the Act, having regard to the identified heads of consideration. This consideration is provided in Appendix A. The Department is satisfied that the merits of the proposed development warrant approval subject to the recommended instrument of consent.

8. RECOMMENDED CONDITIONS OF CONSENT

Should the Minister determine to approve the development application, the Department recommends that a number of conditions be included with the aims of controlling and monitoring the future environmental performance of the proposed chemical storage and distribution facility. The recommended conditions take into account the issues raised in submissions from the public, Council and government authorities.

The recommended conditions include the key issues identified below:

- Hazards and Risk the Applicant should be required be prepare and submit several preconstruction and pre-operational hazard studies, including a Final Hazard Analysis, Transport of Hazards Materials Study and Emergency Plan, to further reduce the residual risk of the proposal. To complement these studies, the Applicant should be required to submit regular independent Hazard Audits of the proposal to ensure the safety of the facility is continually improved and the risk reduced.
- Traffic and Transport impacts the Applicant should be required to prepare and implement a Transport Management Plan for both construction and operational phases of the facility. In addition, the Department recommends that the Applicant be required to enter into a Community Enhancement Program which following further negotiations between the Applicant and Council would provide a contribution towards regional road improvements.
- Water quality impacts the Applicant should be required to implement and prepare a Construction Erosion and Sediment Control Plan to ensure the management of sediment during the construction phases. Furthermore, the Applicant should be required to prepare a stormwater monitoring plan in conjunction with a Stormwater Operational Environmental Management Plan to monitor and appropriately manage all stormwater and wastewater generated and collected on-site. This will ensure off-site water quality impacts on Bow Bowing Canal do not eventuate during construction or operational activities.
- Noise impacts the Applicant should be required to prepare and submit an Operational Noise Audit of each stage of the operations to ensure that noise levels meet the set operational noise criteria. Should this audit detect any non-compliance, the Applicant would be required to implement additional measures. In addition, the Applicant should be required to submit a Transport Audit to confirm compliance with the nominated haulage routes for heavy vehicles associated with each stage of the development. This would be in conjunction with the Transport Operational Environmental Management Plan, which will require the implementation of measures to manage transport noise, including a Transport Code of Conduct.

As stated by the Department at the reply session of the Commission of Inquiry, the Department exhibited the recommended conditions of consent to enable interested parties to comment on the Department's recommendations. During this period, the Department received four submissions from the general public. All except one of these submissions did not state any specific comment on the recommendations, but reiterated their continued objection to the proposed development. One submission stated that the stormwater quality monitoring parameters should be determined prior to determination and also questioned the independence of some reporting conditions. Council provided no comment on the recommended conditions of consent.

The Department considers that the recommended instrument of consent will mitigate the environmental impacts of the proposal to an appropriate and acceptable level

9. COMMISSIONER'S FINDINGS AND RECOMMENDATIONS

At the reply session of the Commission of Inquiry, the Department presented its scope of recommended measures for the proposal to the Commission for consideration when formulating its recommendations to the Minister.

The Commissioner has reviewed the Department's recommended measures and has stated that it supports the majority of the draft approval measures as recommended by the Department. However, the Commissioner stated that the general nature of the recommendations limited the opportunity to recommend any specific change to these measures. The Commissioner subsequently made a number of general recommendations, the majority of which contained no specific details or conditions to achieve these recommendations.

The Department has considered the Commissioner's recommendations and generally concurs with the majority of these recommendations. The Department has incorporated these into the recommended conditions or is satisfied that the content of the recommended conditions fulfils the Commissioner's general statements calling for stringent operational management procedures.

Those recommendations not incorporated into the recommended conditions of consent have been discussed separately below.

Hazards

- Provision of an update listing of chemical products on the Applicant's website.
- As part of the Department's recommended conditions of consent, the Applicant would be required to prepare a Community Communication Strategy to the satisfaction of the Director-General (if approved). This strategy would provide the necessary framework to enable the community to access up-to-date information regarding the nature of the proposed operations at the facility and would include the proposed measures put forward by the Applicant during the Commission of Inquiry. The Department is satisfied that the outcome of this recommended condition would be over and above the outcome of any specific requirement to issue this information electronically.
- Requirement to obtain the Department's approval for any significant changes to the type, volume or storage/packing/decanting methods of product stored on-site. The Department has not incorporated this requirement into the recommended consent as any significant change that could significantly affect the hazards and risks associated with the development (if approved) would automatically require the Applicant to submit a modification application to the Department for the Minister's approval. Furthermore, the Department has recommended a condition of consent that restricts the Applicant to certain classes of dangerous goods as assessed in the Environmental Impact Statement and subsequent additional information. Consequently, the Department considers the existing legislative requirements and recommended hazards conditions would sufficiently address any possible future changes in the types of products stored at the proposed facility (if approved).
- The provision of a Final Hazard Analysis to determine if the proposal constitutes a 'hazardous' development

The Commissioner's report to the Minister for Infrastructure and Planning stated that the Department required the preparation of a Final Hazard Analysis (FHA) in order for the Applicant to demonstrate that the proposal did not constitute 'hazardous' development. This is incorrect as the FHA is required by the Department to confirm the findings of the PHA following the detailed design of the facility. This is a standard requirement for any development of this type and is not required to determine if a development is deemed 'hazardous'

Water Quality

 Frequency of stormwater testing should be conducted on a monthly basis for the initial six months and followed by quarterly testing to meet Council requirements.

The Department has recommended the condition to require the Applicant to prepare a Stormwater Quality Monitoring plan for the development (if approved). This is to be prepared in consultation with Council and should address any requirements that Council may have with regards to the frequency of the monitoring. The Department is satisfied that this condition will meet the Commissioner's recommendation without requiring a specific condition.

<u>Waste</u>

Provision for the Applicant to exceed waste limits during exceptional circumstances.

The Commissioner had recommended this condition to overcome the Applicant's concerns that the proposed development could not comply with the restrictions included in the EPA's draft General Terms of Approval should a mass contamination of product occur during shipping. As the EPA has revised its General Terms of Approval, taking into consideration possible mass contamination, the Department does not believe that the provisions of this recommended condition are required.

10. CONCLUSION

The Department has assessed the DA, the accompanying EIS, the submissions received on the development, and the Commissioner's findings and recommendations.

The Department is satisfied that the proposed development could be constructed within appropriate environmental and safety limits. There are, however, residual environmental impacts that need to be mitigated, monitored and managed to ensure that the proposal not only meets relevant criteria, but performs to best practice standards. Furthermore, the Department recognises the need for on-going consultation with the local community in order to maintain their involvement and awareness of the nature and environmental performance of the proposed operations. To achieve this, the Department has recommended a number of conditions of consent to address the residual impacts associated with the development, should the Minister determine to approve the proposal. These include stringent hazard and risk conditions, and extensive community consultation requirements. The Department is satisfied that these recommended measures will ensure that the proposed development would not have a significant impact on the surrounding residential areas and other sensitive land users.

Consequently, the Department recommends that the Minister approve the development application, subject to conditions.

11. RECOMMENDATIONS

It is RECOMMENDED that the Minister:

- (i) consider the findings and recommendations of the Department's assessment report for DA No. 341-10-2002-i (this document, tagged "D");
- (ii) consider the findings and recommendations from the Commission of Inquiry into all environmental aspects of DA No. 341-10-2002-i (tagged "E");
- (iii) grant consent to development application No. 341-10-2002-i, as submitted by Redox Chemicals Pty Ltd, subject to the conditions set out in the instrument of consent (tagged "A"); and
- (iv) sign the instrument of consent (tagged "A");

Caitlin Bennett Environmental Planning Officer Major Development Assessment

ENDORSED:

Sam Haddad Executive Director Sustainable Development